DOUGLAS COUNTY COLORADO

PUBLIC HEALTH IMPROVEMENT PLAN

2021 -2026

TABLE OF CONTENTS

BACKGROUND

Part I: Background

In July 2020 the Board of Douglas County Commissioners (the Board) first gave notice of its intent to withdraw from Tri-County Health Department (TCHD). The Board finalized that decision in September of 2021 when they voted to leave TCHD and start the Douglas County Health Department (DCHD). The Douglas County Board of Health (BOH) was formed shortly after. The Board also approved an agreement with TCHD to continue providing public health services through the end of 2022 to ensure public health services continued for Douglas County residents while the DCHD was created.

Douglas County contracted with Health Management Associates, Inc. (HMA), a public health and health care research and consulting company to conduct a Community Health Assessment (CHA) and to create a Public Health Improvement Plan (PHIP) specific to Douglas County and its public health needs. Colorado's Public Health Act of 2008 requires the use of CHAs to look at the health of the population, recommend priority health needs and assess public health system capacity. The DCHD completed its CHA in the summer and fall of 2021, delivering the final CHA report to the BOH on December 8, 2021. The Act requires the development of local PHIPs based on the CHA and input from community members. The Colorado Department of Public Health and Environment (CDPHE) provides a process to guide the development of the PHIP. This process is outlined in the Colorado Health Assessment and Planning System (CHAPS) and aligns with the Public Health Accreditation Board (PHAB) requirements for accreditation as a local health department. When the PHIP was completed, HMA followed PHAB Standards and Measures Version 1.5, as an updated version was pending release. DCHD will follow Version 2022 when it applies for accreditation.

Douglas County Community Health Assessment & Public Health Priorities

Data analyzed for the CHA included primary (data collected first-hand through surveys, focus groups, and interviews) and secondary data (data collected by another entity or for another purpose). Data came from local, state, and national sources such as Vital Statistics and Records from the CDPHE, U.S. Census Bureau, Behavioral Risk Factor Surveillance System, Healthy Kids Colorado Survey (HKCS), and Colorado Health Access Survey.

To develop the health priorities, DCHD considered community input, the size and severity of the problem, and the opportunities and challenges that support or complicate the successful achievement of goals to improve the health and safety of Douglas County citizens. Based on these data sources, DCHD looked to answer the following questions:

- What are the health problems in a community?
- Why do health issues exist in a community?
- What factors create or determine health problems?
- What resources are available to address the health problems?
- What are the health needs of the community?[i]

[i] Developing a State Health Improvement Plan: Guidance and Resources. The Association of State and Territorial Health Officials (ASTHO), 2231 Crystal Drive, Suite 450, Arlington, VA 22202. www.astho.org

Key Findings

Overall, Douglas County is healthier than the state. However, after looking at 154 health measures, DCHD found that there are health and safety concerns the County should pay attention to across three priority areas:

- Injury Prevention
- Disease Management and Prevention
- Behavioral Health

Injury Prevention

Injury prevention refers to the prevention of both intentional and unintentional injuries. Intentional injuries are injuries due to an intentional act and include homicide, suicide, interpersonal violence, community violence, and child abuse. Unintentional injuries are injuries that occur without intent. Unintentional injuries include motor vehicle crashes, falls, drownings, poisonings, sports or recreational-related injuries, and suffocation.

Injury and violence create significant challenges to well-being and quality of life. In addition to physical harm, injuries can lead to long-term disability, trauma, and mental health issues for both victims and those close to them.

Overall, between 2016-2020, the injury death rate per 100,000 was significantly lower in Douglas County at 65.7 compared to 80.0 in Colorado.[i][ii] Similarly, the unintentional injury rate was significantly lower in Douglas County at 48.1 compared to 52.9 in Colorado. In Douglas County, the leading types of injury death are falls (which is significantly higher at 27.8 per 100,000 compared to Colorado at 16.1 per 100,000), followed by suicide (15.2 per 100,000), motor vehicle injuries (4.9 per 100,000) and homicides (1.4 per 100,000).

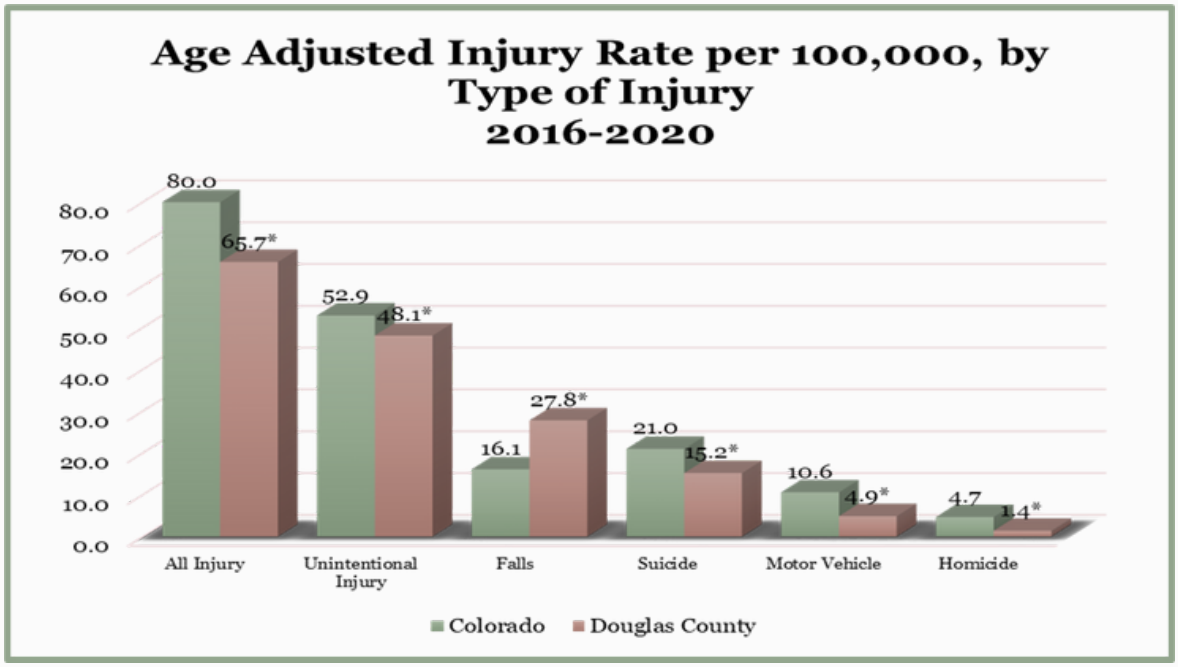


Figure 1 Injury by Type, Age Adjusted Rate, Douglas County & Colorado, 2016 – 2020
* Significantly different compared to Colorado

[i] Significance was assessed using confidence intervals of two groups of data (i.e., year by year, age group, etc.) and the extent to which they were overlapping. Confidence intervals are a range of values among which the true value likely lies in.
[ii] Injury Epidemiology Program, Colorado Department of Public Health and Environment. Injuries in Colorado Dashboard. Accessed 10/2021.

Over time, in Douglas County:

- The rate of suicide mortality remained stable, with a non-statistically significant decrease from 17.4 in 2016 to 12.3 per 100,000 residents in 2020.
- The crude rate of deaths due to firearms per year significantly decreased in Douglas County between 2016 at 12.2 per 100,000 and 2020 at 7.6 per 100,000.
- The rate of falls in Douglas County remained stable between 2016 and 2020.[i]

Overall, the average annual age-adjusted rate of emergency department (ED) visits mentioning any injury per 100,000 residents was lower in Douglas County (4,896.1) compared to Colorado (6,493.8). Among injuries, fall related injuries were the leading cause of ED utilization at 1,802.5 per 100,000 residents, followed by motor vehicle crashes (148.4), poisoning due to drugs (143.7), assault (118.7), intentional self-harm (109.1), and child or adult abuse (21.2). Since 2016, ED visits due to injury increased for falls, poisoning due to drugs, assault, intentional self-harm, and child or adult abuse. Motor vehicle related injuries was one exception among the leading types of injury related ED visits, which decreased 23 percent from 452.2 in 2016 to 348.2 per 100,000 residents in 2020.[ii]

All communities have substantial, avoidable costs related to injury and violence. The cost of injury and violence and associated consequences cost the United States $840 billion annually – the equivalent of 85 percent of the yearly US federal deficit. The full financial cost is immense when all the medical care, loss of work and productivity, lost life years and criminal legal response are considered. The average medical cost of all fatal injuries was approximately $41,570 per hospitalized patient and $6,880 per ED patient. The average one-year medical cost of all nonfatal injuries per person initially treated in an ED was approximately $6,620. Injuries can cause life-long mental, physical, and financial problems. People treated for nonfatal injuries in an ED lose on average 11 days of work, valued at $1,590 per person.

TABLE 1 AGE ADJUSTED RATES OF ED VISITS PER 100,000 RESIDENTS BY INJURY TYPE

Injury Type	2016	2020	Percent Change
Fall Injuries	1,759.9	1,852.5	5%
Motor Vehicle	452.2	348.4	-23%
Poisoning Due to Drugs	115.3	143.7	25%
Assault	105.6	118.7	12%
Intentional Self Harm	100.3	109.1	9%
Child or Adult Abuse	16.3	21.2	30%

[i] Injury Epidemiology Program, Colorado Department of Public Health and Environment. Injuries in Colorado Dashboard. Accessed 10/2021.
[ii] Ibid.

Disease Management and Prevention

Disease is generally organized into two categories: chronic disease and communicable disease. Chronic diseases can be prevented or controlled by managing known risk factors. To lower the risk of diseases like asthma, heart disease, stroke, diabetes, and arthritis, one can control exposure to poor air quality, lower high blood pressure, and high cholesterol, and improve diet and exercise. Communicable disease spreads from one person to another through a variety of ways, including contact with blood and bodily fluids, breathing in an airborne virus, or by being bitten by an insect.

Chronic Disease

CDC data suggest that chronic diseases such as heart disease, cancer, and diabetes are the leading causes of death and disability in the United States. Chronic diseases are defined broadly as conditions that last one year or more and require ongoing medical attention or limit activities of daily living or both.

In Douglas County, the prevalence of one or more chronic conditions increased slightly between 2013 and 2017 from 58 percent to 63 percent among adults 18 years and older. Approximately one in three adults have two or more chronic conditions.[i]

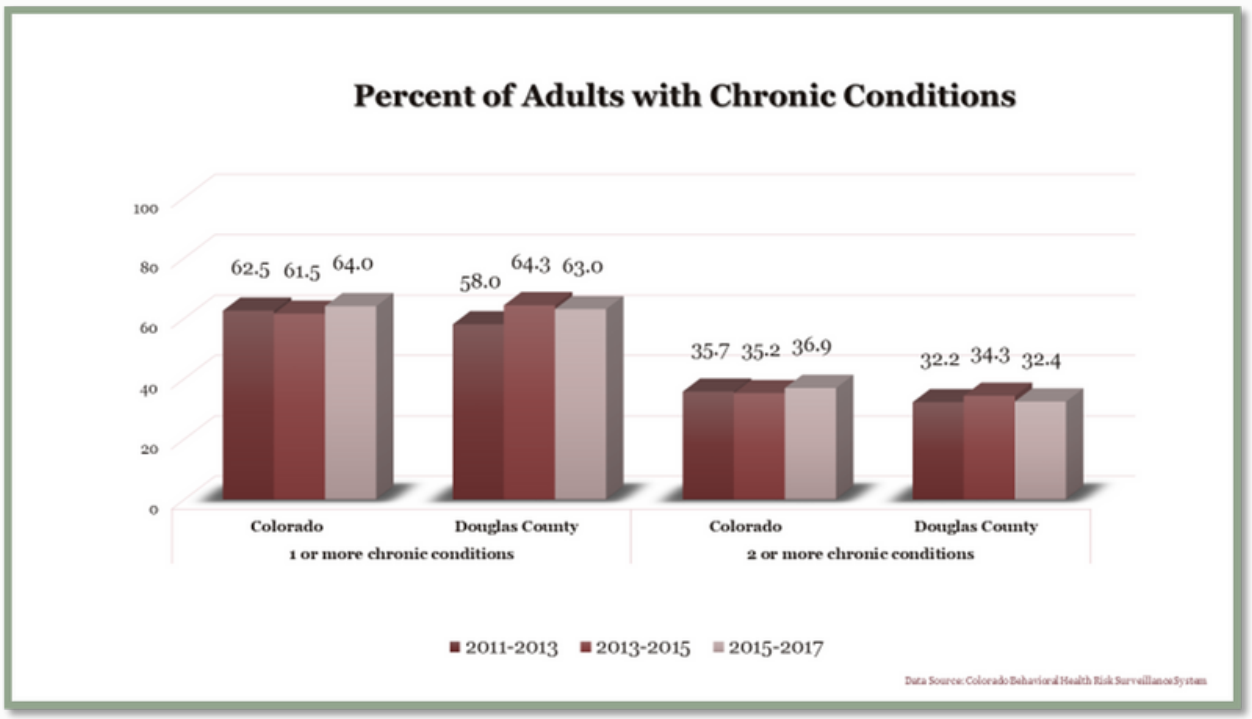


Figure 2 Adults with Chronic Conditions, Douglas County & Colorado

[i] Colorado Behavioral Health Risk Surveillance System, 2018.

Heart Disease

Douglas County has a lower prevalence of heart disease compared to Colorado. However, the percent of adults who have been diagnosed with heart disease shows a non-statistically significant increasing trend, from 1.3 percent in 2013 to 2.1 percent in 2020, while Colorado remains stable at 2.8 percent.[i]

Heart disease is the second leading cause of hospitalization in Douglas County. The 2019 hospitalization rate per 100,000 people was lower in Douglas County (1,968.5 per 100,000) compared to Colorado (2,137.2 per 100,000), and there was a significant improvement between 2015 and 2019.[ii] However, there are significant differences in communities across the county. Compared to Colorado, hospitalization for heart disease was worse than the overall rate in Colorado in 26 percent of the census tracts. Compared to Douglas County, heart disease was worse in 34 percent of the census tracts, followed by heart failure with 30 percent of census tracts.[iii]

Diabetes

Similarly, in 2020, the percent of adults who had ever been diagnosed with diabetes was lower in Douglas County than in Colorado where approximately one in 20 adults (18 years or older) report ever having been diagnosed with diabetes.[iv] In 2013, the percent of adults who had ever been diagnosed with diabetes was at 4.1 percent, which has since increased (non-significantly) 19 percent (to 4.9% in 2020). Comparatively, in Colorado, the rate increased less at 11.0 percent (from 6.5% to 7.2% in 2020).

Overall, Douglas County has lower rates of hospitalizations for diabetes compared to Colorado. For 2015-2019, the age adjusted diabetes hospitalization rate per 100,000 residents was 900.7 in Douglas County compared to 1,281.5 in Colorado. However, there are three communities in Douglas County that had statistically significant higher rates of hospitalization for diabetes compared to Colorado. These communities are Parker, Highlands Ranch and Castle Rock.[vi]

Cancer

The percent of adults who had ever been diagnosed with cancer remained the same in both Douglas County and Colorado between 2013 to 2020. [iv] Rates of skin cancer are reported to be higher compared to other types of cancer. In 2020, skin cancer rates were trending higher in Douglas County at 9.0 percent compared to Colorado at 7.1 percent, although not significantly. [vii]

---

[i]Colorado Behavioral Health Risk Surveillance System, 2018-2020.
[ii] CDPHE Vital Statistics and Colorado Hospital Association, 2015-2019 Combined Estimates. Census tract level. Census tract is a geographic region defined for the purpose of taking a census. Census tracts represent the smallest geography for which population data are available.
[iii] Please see page 92 of the CHA to learn which census tracts are experiencing higher rates of heart disease than Douglas County overall or Colorado. Understanding place-based disparity in health outcomes, such as heart disease, is important because where you live plays a significant role in how healthy you are. Neighborhoods with the best access to health-promoting resources — like quality housing, good jobs, well-maintained parks, healthy food, and excellent schools — aren't accessible to everyone. Therefore, different prevention strategies may be needed in these census tracts (communities) compared to the county overall. Source: Colorado Hospital Association through the CDPHE Health Equity/Environmental Justice Collaborative (2015-2019 Data).
[iv] Colorado Behavioral Health Risk Surveillance System, 2018-2020.
[v] Please see page 92 of the CHA to learn which census tracts are experiencing higher rates of heart disease than Douglas County overall or Colorado.
[vi] Centers for Disease Control and Prevention. (2021, May 19). Cancer screening tests. Centers for Disease Control and Prevention. Retrieved October 5, 2021, from https://www.cdc.gov/cancer/dcpc/prevention/screening.htm
[vii] Colorado Behavioral Health Risk Surveillance System, 2018-2020.

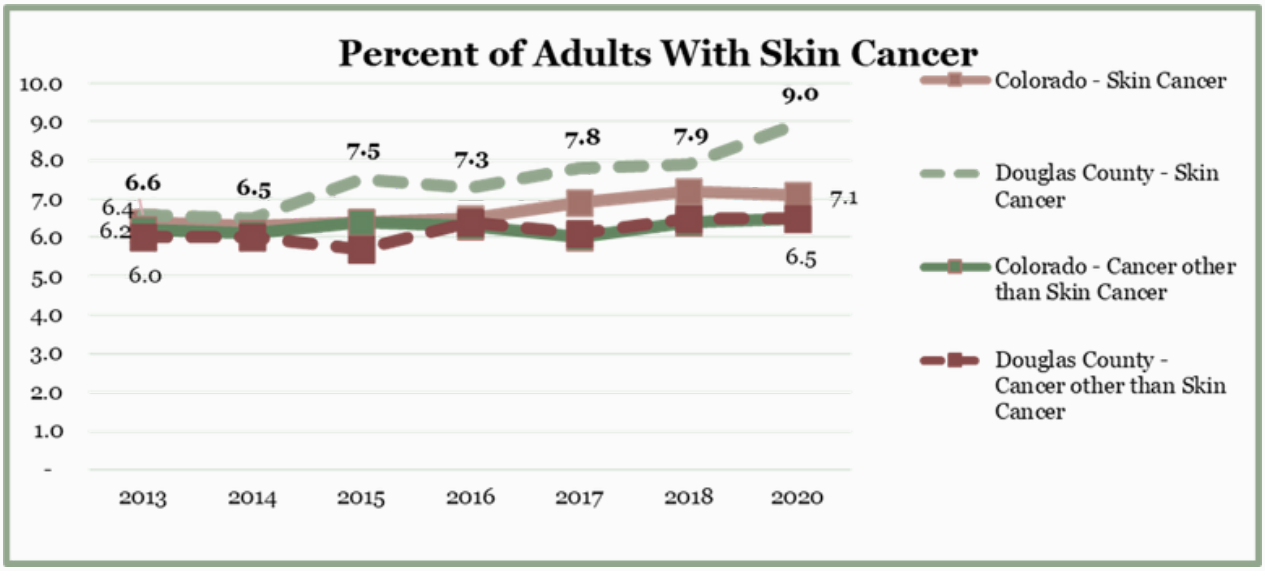


Figure 3 Adults with Skin Cancer, Douglas County & Colorado, 2013 - 2020

Cause of death due to chronic disease is lower in Douglas County compared to Colorado. The chart below shows the age adjusted rate per 100,000 of death due to several chronic diseases. Cardiovascular disease (146.4) and malignant neoplasms (115.4)[i] are the leading causes of death due to chronic disease in Douglas County. These rates are similar to Colorado at 172.4 and 125.1, respectively. Compared to Colorado, death due to cardiovascular disease, lower respiratory diseases, and diabetes is significantly lower in Douglas County. Alzheimer Disease is the one chronic disease where rates in Douglas County are significantly higher compared to Colorado at 45.5 deaths per 100,000 people (compared to 35.6 per 100,000 people in Colorado). [ii]

Over time, except for heart disease, deaths due to chronic disease are decreasing in Colorado and Douglas County. Mortality due to heart disease has increased 4 percent since 2016 to 107.0 per 100,000 people.[i]

Communicable Disease

Communicable diseases spread from one person to another through a variety of ways including contact with blood and bodily fluids; breathing in an airborne virus; or by being bitten by an insect. Some examples of communicable diseases include HIV, hepatitis A, B and C, measles, salmonella, and vector-borne diseases. Public health looks for changes in disease trends to help identify outbreaks or to know when a disease is changing. Colorado law mandates that healthcare providers and laboratories to report diseases or conditions to their local health department. These reports assist in the planning and assessment of disease prevention, control, and treatment programs and in the detection of outbreaks.

[i] Malignant neoplasms are cancerous tumors. Source: Colorado Department Of Public Health And Environment, Vital Statistics.
[ii] Ibid.

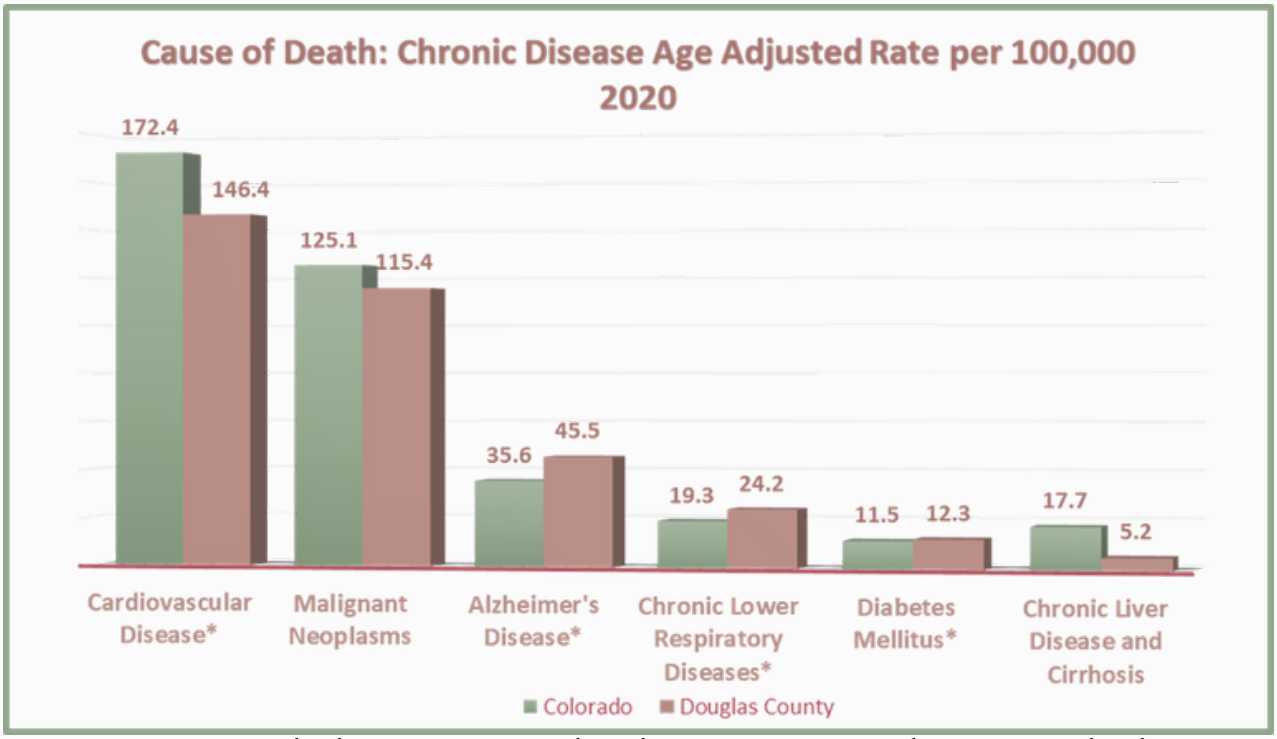


Figure 4 Cause of Death: Chronic Disease Age Adjusted Rate per 100,000, Douglas County & Colorado, 2020
*Significantly different compared to Colorado

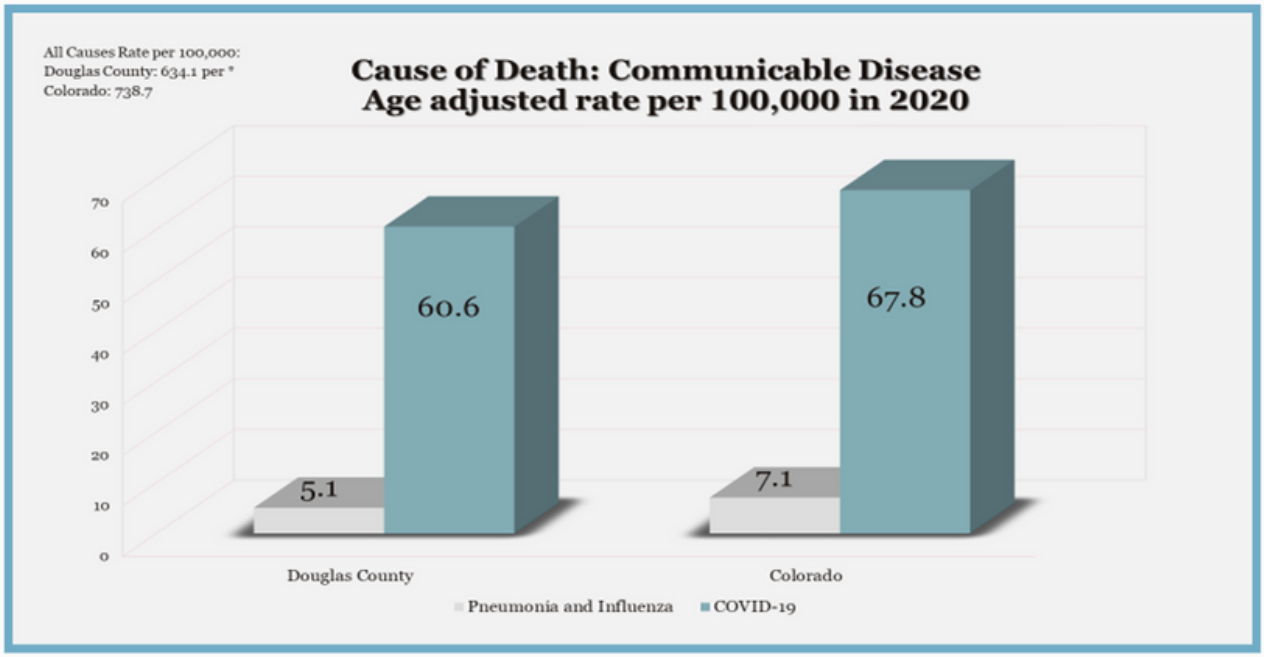


Figure 5 Mortality Rate, Communicable Disease, Age Adjusted, Douglas County & Colorado, 2020

Sexually Transmitted Infections (STIs)

STIs are included in the list of reportable diseases in Colorado and are therefore tracked statewide. Overall, the rate of STIs is lower in Douglas County compared to Colorado. As in Colorado, Chlamydia and Gonorrhea are the most common STIs in Douglas County. The rate of Chlamydia increased 91 percent between 2007 (107 per 100,000) and 2018 (205 per 100,000).[i]

By the end of 2019, an estimated 14,630 Colorado residents were living with HIV. In 2019, there were 414 new cases of HIV reported in Colorado. In Douglas County, the rate of new HIV diagnoses remained steady at around 3.0 per 100,000 compared to 8.0 per 100,000 in Colorado. [ii]

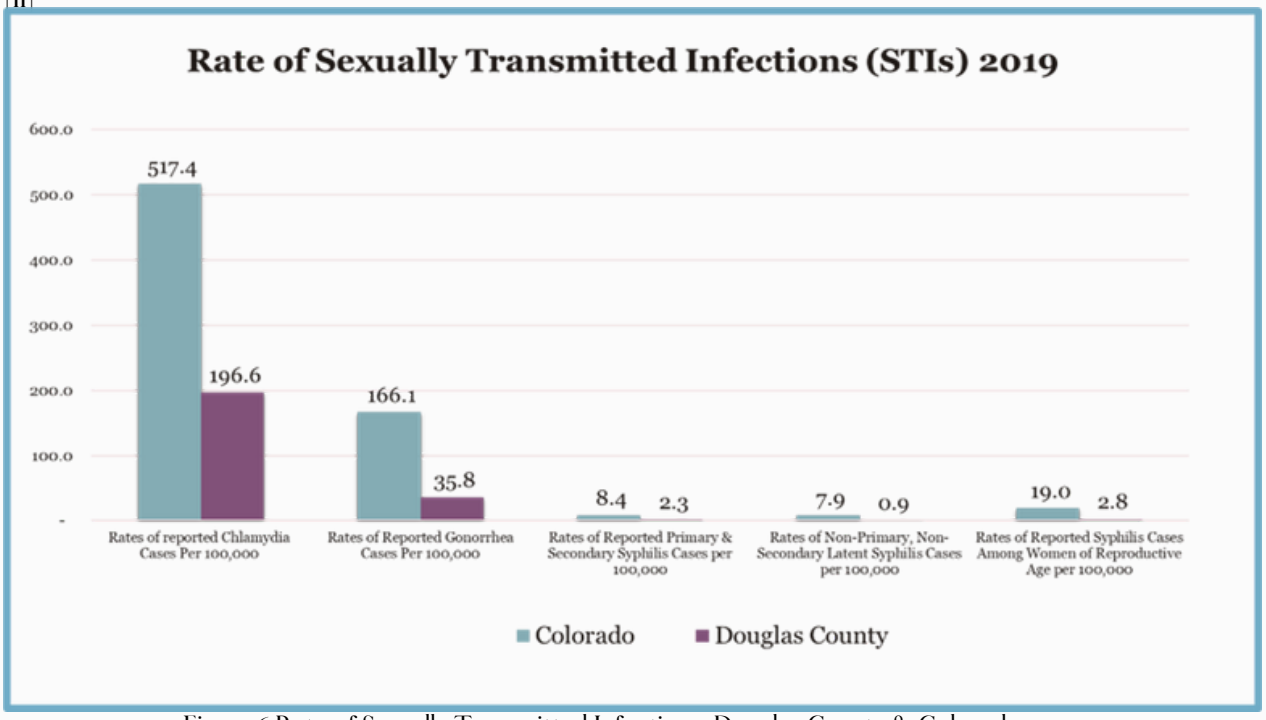


Figure 6 Rate of Sexually Transmitted Infections, Douglas County & Colorado, 2019

Other Communicable Diseases

Douglas County's 2020 age adjusted rates of death per 100,000 due to Pneumonia and Influenza (5.1) and COVID-19 (60.6) were similar to the age adjusted rates of death for these diseases in Colorado at 7.1 and 67.8, respectively. As of November 23, 2021, 316 Douglas County residents died due to COVID-19 and 399 COVID-19 deaths have occurred in Douglas County (may not have been a Douglas County resident.[iii]

Asian American/Pacific Islanders have the highest percent of deaths due to COVID-19 compared to other race and ethnicity groups in both Douglas County and Colorado. White Hispanic Douglas County residents had the second highest with 10.7 percent of COVID-10 related deaths.

[i] Colorado 2019 Sexually Transmitted Infections Annual Report Colorado Department of Public Health and Environment, Denver, CO July 2021.
[ii] Ibid.
[iii] For up-to-date COVID-19 case, death, and vaccination rates, visit https://covid19.colorado.gov/data

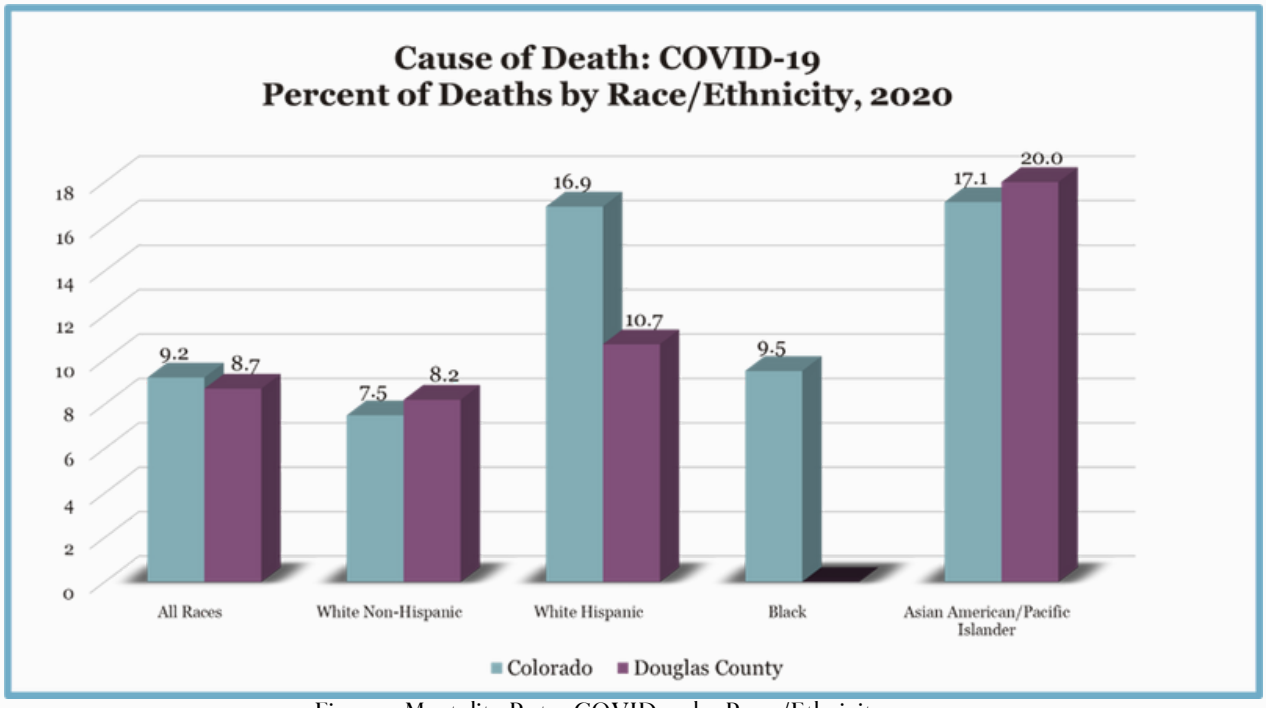


Figure 7 Mortality Rate, COVID-19 by Race/Ethnicity, 2020

According to data from the CDC, the cost of disease in the United States is estimated to be hundreds of billions of dollars and adversely impacts tens of millions of Americans. Public health can help to decrease the prevalence of chronic disease in the community by educating community members about prevention strategies.

Behavioral Health

The Substance Abuse and Mental Health Services Administration (SAMHSA) defines behavioral health as " the promotion of emotional health; the prevention of mental illnesses and substance use disorders; and treatments and services for mental and/or substance use disorders."

Public health aims to promote healthy lifestyles, as well as to detect, prevent, and respond to diseases. Mental and substance use disorders are chronic diseases that disrupt a person's thinking, feeling, mood, ability to relate to others and daily functioning. The prevalence of behavioral health issues that affect individuals' physical and social well-being makes addressing these issues integral to achieving public health goals.

In Douglas County, the percent of adults (18 years or older) who reported that their mental health was not good for 14 or more days during the past 30 days increased faster compared to Colorado from 6.3 percent of adults in 2013 to 9.0 percent or just under one in 10 adults in 2020. The 2020 rates in Colorado were significantly higher than the 2013 rates.[i]

[i] Colorado Behavioral Health Risk Surveillance System, 2018-2020.

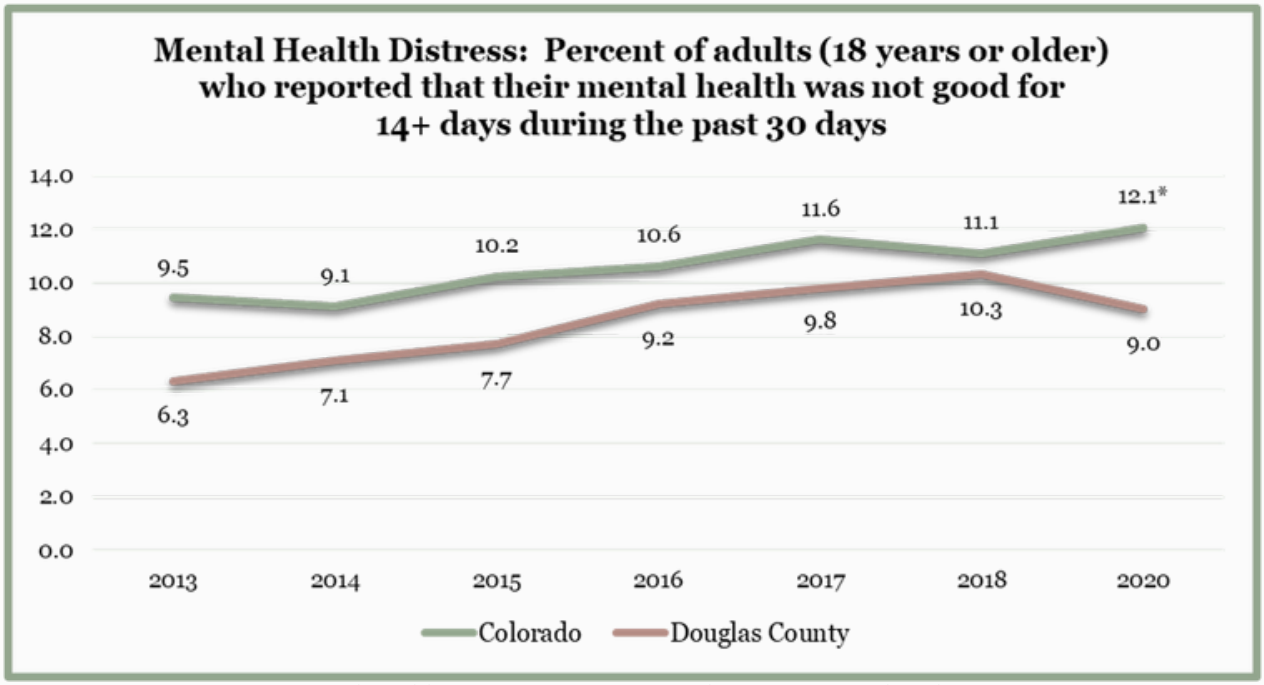


Figure 8 Mental Health Distress 14+ Days, Douglas County & Colorado, 2013 – 2020
*Significantly higher in 2020 compared to 2013

Among high school students, the percentage of students who felt so sad or hopeless that they stopped doing usual activities almost every day for two or more consecutive weeks during the past 12 months increased significantly between 2013 and 2019 in both Douglas County and Colorado. In Douglas County, the percent of students was 21.5 percent, which increased 43.7 percent to 30.9 percent in 2019.[i]

Mental health related issues were the leading cause of hospitalization in Douglas County in 2019. The hospitalization rate for mental health issues is lower in Douglas County at 2,389.7 per 100,000 compared to 2,913.1 per 100,000 in Colorado. However, the rate increased significantly in Douglas County, from 2,266.1 per 100,000 in 2015 to 2,389.7 per 100,000 in 2019. Additionally, there is significant geographic disparity. The rate of hospitalization for mental health issues was higher than Colorado for 16 percent of Douglas County's census tracts. Compared to Douglas County, mental health was worse in 34 percent of the County census tracts.[ii]

Douglas County had lower rates of behavioral health related deaths compared to Colorado in 2020. In Douglas County, suicide (12.3) and drug induced deaths (13.7) were more common than alcohol-induced deaths (9.7) or chronic liver disease and cirrhosis (5.2). In Colorado, drug induced deaths (25.5) and alcohol induced deaths (24.0) were more common than suicide (12.3) and chronic liver disease and cirrhosis (5.2).[iii]

[i] Colorado Healthy Kids Survey, 2019.
[ii] Please see page 100 of the CHA to learn which census tracts are experiencing higher rates of mental health hospitalization than Douglas County overall or Colorado. Understanding place-based disparity in health outcomes, such as heart disease, is important because where you live plays a significant role in how healthy you are. Neighborhoods with the best access to health-promoting resources — like quality housing, good jobs, well-maintained parks, healthy food, and excellent schools — aren't accessible to everyone. Therefore, different prevention strategies may be needed in these census tracts (communities) compared to the county overall. Source: Colorado Department of Public Health And Environment, Vital Statistics. Colorado Hospital Association, 2015-2019 Combined Estimates, Census Tracts.
[iii] Colorado Department of Public Health and Environment, Vital Statistics.

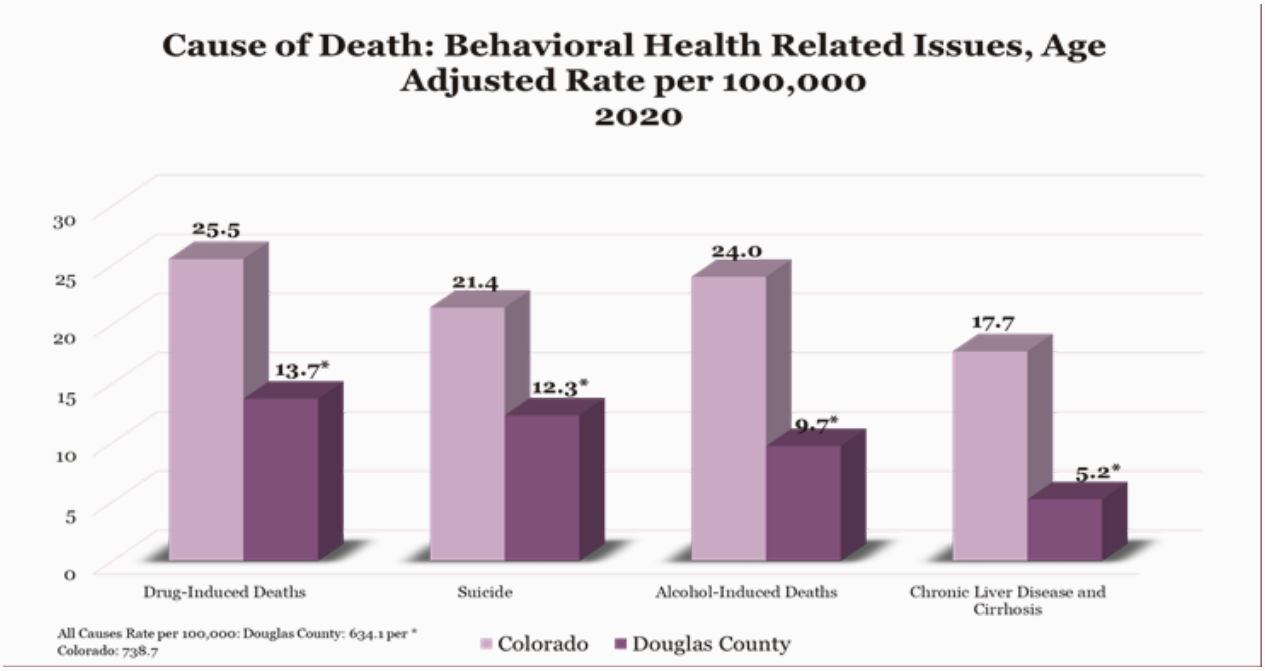


Figure 9 Behavioral Health Related Mortality, Douglas County & Colorado, 2020
* Significantly lower compared to Colorado Note: Categories are not mutually exclusive

The trend in suicide related deaths in Douglas County remained stable over the last 10 years, while increasing significantly in Colorado.[i]

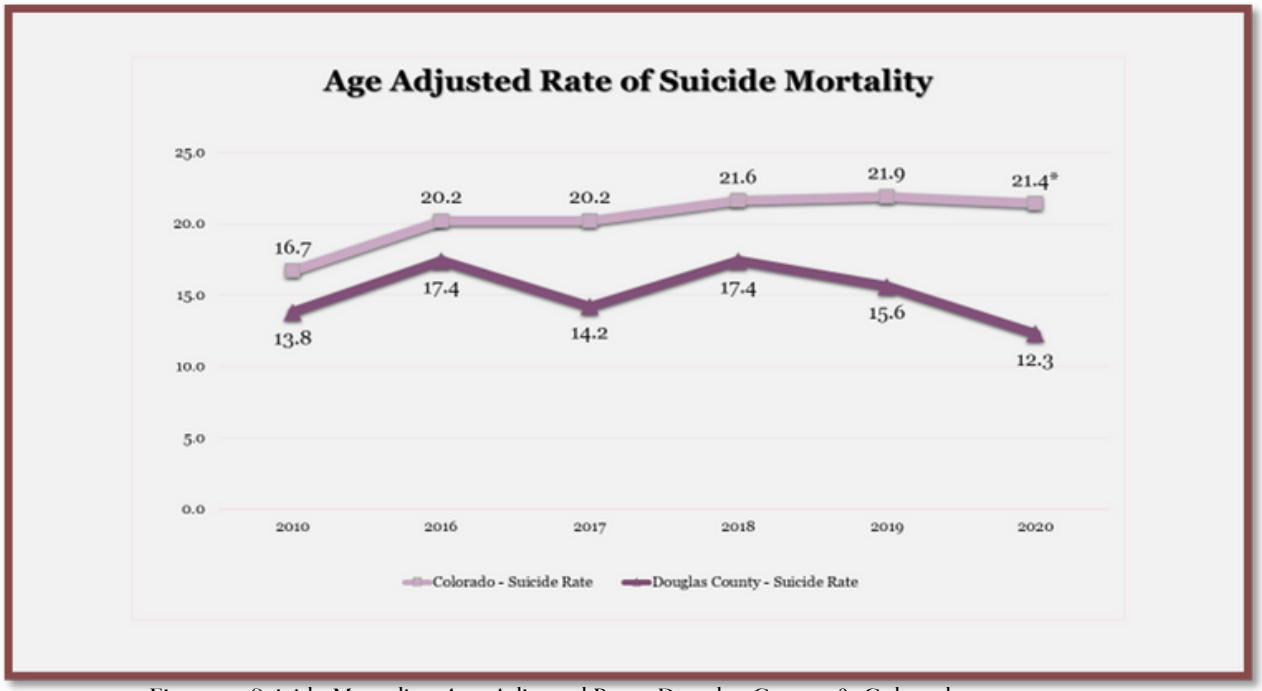


Figure 10 Suicide Mortality, Age Adjusted Rate, Douglas County & Colorado, 2010 – 2020
* Significantly higher compared to 2010

[i] Colorado Department of Public Health and Environment, Vital Statistics.

Of the county's 664 suicides between 2004 and 2019, circumstances are known for 658 (99%) and toxicology is known for 624 (94%). The top three circumstances surrounding suicide in Douglas County were current diagnosed mental health problems (62%, higher than Colorado at 47.1%), followed by current depressed mood (59.3%, similar to 57.0% for Colorado), and ever having received treatment for a mental health problem (54.1%, higher than Colorado at 41.4%).[i]

The trend in drug-related overdose deaths in Douglas County was lowest in 2014 and 2015 at an age-adjusted rate of 6.5 per 100,000. In 2020, the rate was at a 20-year high at 13.4 per 100,000, as was Colorado's rate of 24.8.[ii]

The United States spends an annual amount of approximately $113 billion dollars on addressing mental health conditions and $600 billion dollars for substance use disorders. These figures include the cost of treatment, lost wages, legal fees, the cost of imprisonment, prevention services, and the cost of related medical complications.

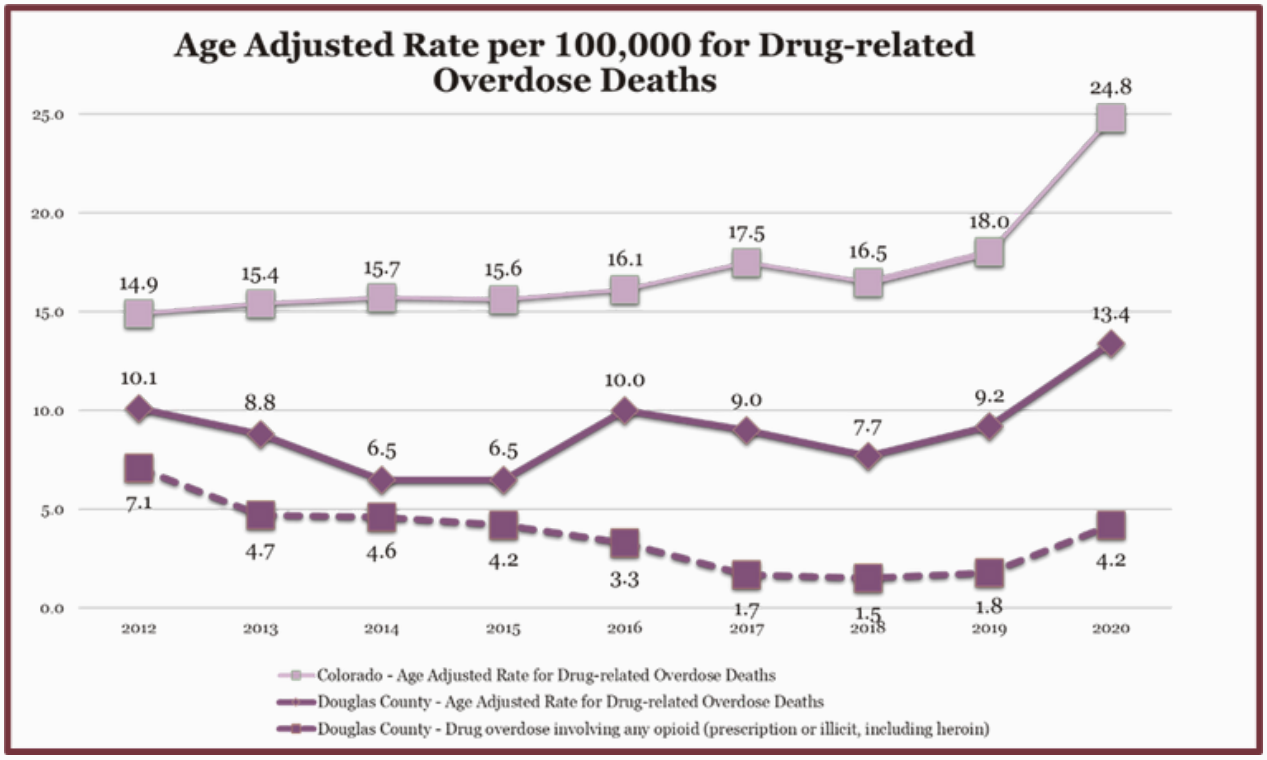


Figure 11 Drug Related Overdose Death, Age Adjusted, Douglas County & Colorado
*Significantly higher in 2020 compared to 2012

[i] Colorado Violent Death Reporting System, Circumstances, Toxicology, and Injury Location. Accessed on 10/17/2021. Note that data presented are limited to Colorado residents who died in state.
[ii]Colorado Department of Public Health and Environment, Vital Statistics.

Community Strengths, Assets, Resources, Challenges & Opportunities

The CHA identified several strengths and assets available to Douglas County. In the CHA community survey, responding community members shared that they felt Douglas County has a strong sense of community connectedness, reporting they felt Douglas County was a good place to raise children and a safe place to live and grow old. Respondents are satisfied with the quality of life and the health care in their community. Also, the abundant open space and access to outdoor recreational opportunities are important and positive. Additional strengths identified included:

- Highly engaged citizens
- Existing resources and successes to leverage and build upon
- Strong cross-sector partnerships
- Preventive care is used to a greater extent than elsewhere in the state

Douglas County is often recognized as one of the most family-friendly communities in Colorado. For the fourth year in a row, Douglas County ranked in the top ten happiest counties in the United States and was recently ranked as one of the healthiest communities in America by US News and World Report.

Douglas County also has a strong safety net system of care and regularly engages with multiple partners to serve low-income residents. This system of care is supported through the Community Data System, and multiple collaborative programs, including the Community of Care Network, Douglas County Cares, Winter Weather Care, and recently, the Human Needs Taskforce Food, Shelter, and Emergency Assistance Workgroup. For a complete list of partners see Appendix A.

Challenges & Opportunities

Douglas County's strengths are numerous and significant, yet challenges were identified through the CHA process. The CHA community survey revealed that respondents agreed on all but one indicator of community connectedness. The indicator with the greatest disagreement stated, "the level of mutual trust and respect is increasing among community members, and we participate in collaborative activities to achieve shared community goals." The pandemic may have contributed to the disagreement on this indicator. Douglas County experienced conflict among citizens about pandemic related issues, as have other communities in the state and country. Community connectedness has been shown in the research to be an important protective factor across many public health issues, including injury, chronic and communicable diseases and behavioral health.

The places where we are born, where we grow, live, learn, play, work and age contribute significantly to our ability to be and stay healthy. A healthy community is one where all citizens have what they need to be as healthy as possible-like access to social and economic resources, quality education, quality and culturally competent healthcare, clean environments, safe and inclusive neighborhoods. These conditions are important to health outcomes for Douglas County residents. Douglas County is a largely healthy community, but a few challenges and opportunities were identified regarding these conditions of a healthy community:

- Housing costs are a major concern in Douglas County, where approximately four percent of citizens live under 125 percent of the Federal Poverty Level. Stable, healthy, and affordable housing can provide a safe environment for families.[i]
- Approximately 8.4 percent of the population, or 28,051 people, live below 200 percent of the Federal Poverty Level. Any household that lives below 200 percent of the Federal Poverty Level is considered more at risk of poor health outcomes.[ii]
- Between 2015 and 2019, the percentage of people eligible but not enrolled in Medicaid increased in both Douglas County and Colorado, and the increase in Douglas County was greater. Also, many people are forced to move between different types of health insurance coverage and/or experience periods of being uninsured. The term " churn" is used to describe this cycle because of the recurring nature of moving between sources of health insurance or no insurance. As of 2019, in Douglas County, 17.7 percent of people experienced churn in the previous 12 months.[iii]
- In 2019, the percentage of Douglas County residents who reported that in the past 12 months, they " were unable to get an appointment at the doctor's office or clinic as soon as one was needed" increased by 41.4 percent. For all Coloradans, the overall rate increased by only 31.0 percent over a ten-year period (between 2009 and 2019).[iv]
- Over half (54.6%) of Douglas County residents reported they could not get an appointment with a specialty care doctor in 2019, compared to 46.9 percent of all Coloradans.[v]
- The percent of Douglas County residents who reported they " have ever skipped care because of concern about unfair treatment or consequences" was higher at 7.7 percent compared to all Coloradans at 5.3 percent.[vi]
- The number of primary care physicians in Douglas County is one primary care physician per every 1,399 residents. In Colorado, the number of primary care physicians is one per every 1,220 Colorado residents.[vii]
- The number of mental health providers in Douglas County is one per every 772 residents, while in Colorado, that ratio is one for every 280 residents. The supply of facilities and providers, as well as the cultural competency of providers, limits access to care.[viii]
- Douglas County experiences higher exposure to heavy traffic compared to the state overall. Since 2018, the traffic intensity in Douglas County has increased faster (48.1% increase) than in Colorado.[ix] Additional transportation issues identified in the CHA include long commute times and lack of access to public transportation. Transportation impacts health in many ways, including through increased air pollution, traffic crashes, and decreased physical activity and inability to get to health appointments and services.

[i] American Community Survey 2015-19 5-year estimates (Table C17002)
[ii] Ibid.
[iii] Colorado Health Access Survey, 2019.
[iv] Ibid.
[v] Ibid.
[vi] Ibid.
[vii] Data USA, Douglas County.
viii] Ibid.
[ix] Environmental Protection Agency (EPA) (EJSCREEN, via the EPA's PCS/ICIS database)

Part II: Planning for a Healthy Douglas County

Public Health Improvement Plan Framework

Domain 5 of the PHAB Standards & Measures Version 1.5 focuses on the development of public health policies and plans to guide the health department's work, including conducting a planning process resulting in a PHIP. According to PHAB, the plan describes " how the health department and the community it serves will work together to improve the health of the population of the jurisdiction that the health department serves." The BOH, community stakeholders and partners use the PHIP to set priorities, direct the use of resources, and develop and implement projects, programs and policies. The development of the plan must include participation of community members and partners. Even though PHAB accreditation is voluntary, DCHD conducted all assessment and planning efforts to align with PHAB requirements.

The PHIP is based on what was learned in the CHA and presents the goals, objectives, strategies, and measures to improve health and safety in Douglas County over a five-year period.

- Goals are broad statements of what the County hopes to accomplish related to the health priorities.
- Objectives are measurable, specific actions taken to achieve the goals.
- Strategies are evidence-based, practice-based, promising practices, or new practices to address the public health priorities.
- Measures are used to show whether a strategy was implemented as intended, an objective was met, and the goal was achieved.

Additionally, the PHIP discusses how to ensure there is ongoing involvement of community members and other partners for implementation as well as the resources needed to achieve measurable public health improvements.

Community Engagement in Planning

In early December of 2021, the County hosted virtual community meetings to have participants review the community's health priorities, and to learn about best and promising practices to address these priorities from public health experts. Participating community members shared their thoughts about goals and strategies. The following questions were discussed:

- What efforts are already in place to address each priority?
- What do residents and stakeholders hope to accomplish for each priority?
- How will we know if we are successful?
- Are any of the priorities aligned with other state and national priorities?
- What barriers or potential threats might impact the ability to positively implement priorities?
- How can partners and stakeholders contribute to achieving the priority area goal(s)?
- Who should be engaged to address each priority issue?

Following the virtual meetings, a survey was made available to community members to capture additional feedback on the public health priorities identified in the CHA. One hundred seventy community members responded to the survey.[1]

Across all priorities some key themes were identified in both the community meetings and the survey. Participating community members want public health strategies that are based in science and evidence of effectiveness, informed by experts, and targeting people across the lifespan. They also want community education to raise awareness of health problems and educate the public about what they can do to improve health. Additionally, participants were often unclear about the roles, functions and programs within local public health.

Regarding the three priorities, themes from the community engagement included the following:

Injury Prevention

- Focus efforts on those at higher risk of injury related outcomes- death, hospitalizations and ED visits
- To increase motor vehicle safety, implement enforcement and education related activities, and improve the conditions of roadways (i.e., making lane stripes easier to see)
- Make recreational and public spaces safer through signage, creating separate trails for cyclists and walkers, etc.
- Include a focus on workplace injury
- Implement home assessments and exercise classes focused on balance to prevent falls

Disease Management and Prevention

- Improve mask wearing through education or mandates
- Increase access to low cost, culturally sensitive health care and social resources
- Increase use of preventive services
- Increase healthy eating and exercise

Behavioral Health

- Focus on suicide prevention, especially youth suicide
- Increase access to mental health and substance use treatment
- Reduce the stigma associated with mental health and substance use conditions, and with seeking help for these issues
- Increase access to screening and assessment for mental and substance use disorders
- Focus more on prevention activities
- Focus on building a more inclusive community

[1] This survey is different than the Community Health Assessment Survey completed for the health assessment. This survey was conducted for the purpose of capturing additional feedback on public health priorities.

The Role of Public Health in Community Health

Public health is the work of protecting and improving the health of people and their communities. The major achievement of public health has been to prolong life by addressing health issues, but this focus and the methods used to accomplish it have changed over time. Historically, public health focused on controlling the spread of diseases, improving the safety of air and water, promoting sanitation through proper sewage disposal, promoting hygienic practices such as handwashing, and eliminating diseases through immunizations. Over time the focus of public health has expanded to include additional strategies to address issues like injury, violence, and chronic diseases that endanger the health and safety of people and communities.

Time has also shown that it is important for public health agencies to identify, understand and address the social factors that often determine health. In other words, the conditions in which people are born, grow, live, learn, play, pray, work, and age shapes their health. These are non-medical factors the health of communities and include economic status, employment, living and working conditions, supportive relationships, access to health care and education, neighborhoods and physical environments, access to transportation.

The public health approach involves defining and measuring the problem, determining the risk and protective factors for the problem, and determining how to prevent or reduce the problem. While a healthcare provider treats a person, public health is concerned with protecting the health of an entire population. These populations can be as small as a city block in one neighborhood, or as big as an entire country or state. Public health approaches center on implementing evidence-based or evidence informed strategies that can be widely implemented and evaluated.

Prevention Strategies & Activities

Public health focuses on the prevention and management of injury, violence, disease and illness. When the occurrence of negative health behaviors or poor health outcomes increases in a community, the need for prevention strategies and activities also increases. Two frameworks in public health are helpful in identifying strategies and activities: The Three Buckets of Prevention and the traditional Public Health Model.

The Three Buckets of Prevention

With a changing healthcare landscape following the passing of the Affordable Care Act, public health experts created useful ways to frame the public health role. One framework is known as the Three Buckets of Prevention. The three buckets describe three categories of heath interventions necessary for positive population health outcomes (Figure 12).

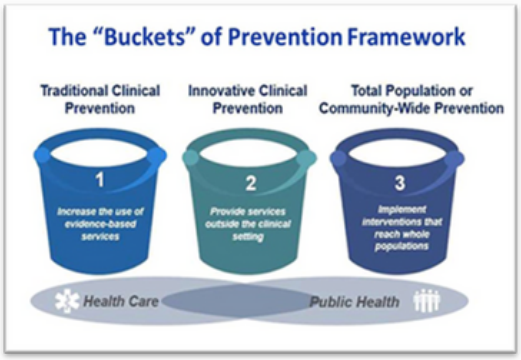


Figure 12 Three Buckets of Prevention

Traditional clinical prevention activities are provided by a doctor or nurse and occur in a clinic setting during a one-on-one visit with a healthcare provider. These activities include vaccines, health and safety screenings and assessments (colonoscopies, mammograms, screening for depression). These preventive interventions are often covered by health insurance. Public health has a role in promoting evidence-based strategies in this bucket and increasing the adoption rate of these activities. Public health also has a role in advocating to ensure that these activities are easily accessible and covered by health insurance.

Innovative clinical prevention activities take place outside the clinical setting but are still focused on the individual and are clinical in nature. These interventions tend not to be reimbursed by insurance. They include community health workers doing home-based health education, and community-based behavior change interventions to reduce negative health behaviors or symptoms of a disease.

Total population or community-wide prevention extends beyond the individual or caregiver to the entire community population or subpopulations (e.g., teenagers or mothers). Often the impact of these activities is measured over time-making it a low priority for insurers who focus on short-term return on investment. These interventions include social norms change or policy change.

The Public Health Model

The Public Health Model is a framework that looks at prevention at three levels: primary, secondary, and tertiary with population health approaches that are universal, selective or indicated (Figure 13).

The public health model also includes the Spectrum of Prevention. The spectrum identifies different levels of prevention strategies:

- Strengthening individual knowledge and skills
- Promoting community education
- Educating providers
- Fostering coalitions and networks
- Changing organizational practices
- Influencing policy and legislation

Figure 13 Public Health Model

Drivers of Health

To effectively invest in prevention activities that improve population health, it is necessary to identify and understand which factors or drivers influence poor health outcomes in a community. As discussed in the CHA, one of the most influential drivers of health is access to social and economic resources. Economic and social insecurity is associated with poor health, as poverty, unemployment, and lack of education affect access to healthcare services.

Employment provides income that increases choices in housing, education, healthcare, childcare, and food. Family and social support can serve as a protective factor that counters the effects of limited income and the ability to accumulate financial resources.
When local public health departments identify and understand the drivers of health in their community, it isn't long before they recognize that rarely (if ever) is there only one factor determining the health of the community. Instead, it is the combination of numerous factors.

Research has shown that individuals who have greater social support or who live in neighborhoods with stronger social cohesion live longer, healthier lives than individuals who experience isolation. Without access to economic opportunity and social support within the community, people and families cannot thrive. Because of the complexity that accompanies population health – the fact that most health " problems" are connected to many elements and are actively changing, solutions to these problems happen through trial and error and vary by community.

Shared Risk and Protective Factors

Shared Risk Factors

Risk factors are characteristics at the individual (biological, psychological), relationship/family, community or societal level of the social ecological model (Figure 14) that are associated with a higher likelihood of negative health outcomes. Shared risk factors are those associated with more than one type of public health issue.

Figure 14 Social Ecological Model

Shared Protective Factors

Protective factors are characteristics at the individual (biological, psychological), relationship/family, community or societal level that are associated with a lower likelihood of negative outcomes or that reduce the negative impact of a risk factor. Shared protective factors are those that are associated with more than one type of public health issue.

Shared Risk & Protective Factor Approach

The complexity of improving health for a population calls for strategies that improve multiple health outcomes. One such strategy is the Shared Risk and Protective Factor (SRPF) approach. The goal of the SRPF approach is to address and impact more than one population health or quality-of-life outcome at the same time. For example, focusing on built environment strategies like the walkability of a community or increasing public transportation options can impact motor vehicle crashes, falls, community violence, obesity, and improve access to health and social care. The SRPF approach can also address a health outcome (such as bullying) and a quality-of-life outcome (such as educational achievement) at the same time.

The SRPF approach can positively impact the social drivers of health by intervening in damaging cycles (e.g., poverty, economic inequality, structural racism, historical trauma) and reinforcing beneficial cycles (e.g., equitable access to quality education, de-stigmatized mental healthcare, community culture, resilience, and engagement). The SRPF approach can include interventions at the individual, relationship, community and societal level of the Social Ecological Model.

A SRPF approach engages partners across multiple agencies and sectors. SRPF approaches can include working with a department of transportation or law enforcement on reducing teen substance abuse as part of an effort to also reduce motor vehicle crashes involving teens. SRPF approaches can also include working with businesses and non-profit organizations to increase affordable housing to address neighborhood poverty and to reduce community violence.

Figure 15 SRPF Approach

To implement SRPF approaches, organizations may choose to formally share their resources or leverage funding streams across multiple departments and divisions.

Addressing shared risk and protective factors as a public health approach provides opportunities to build new partnerships, diversify funding and expand the evidence across public health strategies and issues.


Collaboration
Strategy
Action Plan
Objective
Improvement

ACTION PLAN

Part III: Action Plan

The action plan documents how the DCHD and its partners will address the three priority areas. A plan is a multi-purpose tool that will be used to guide implementation, support communication and accountability, enable Douglas County and its partners to monitor progress, revise strategies and activities, and aid in evaluation.

As structured, the action plan includes goals, objectives, strategies, and measures, defined as:

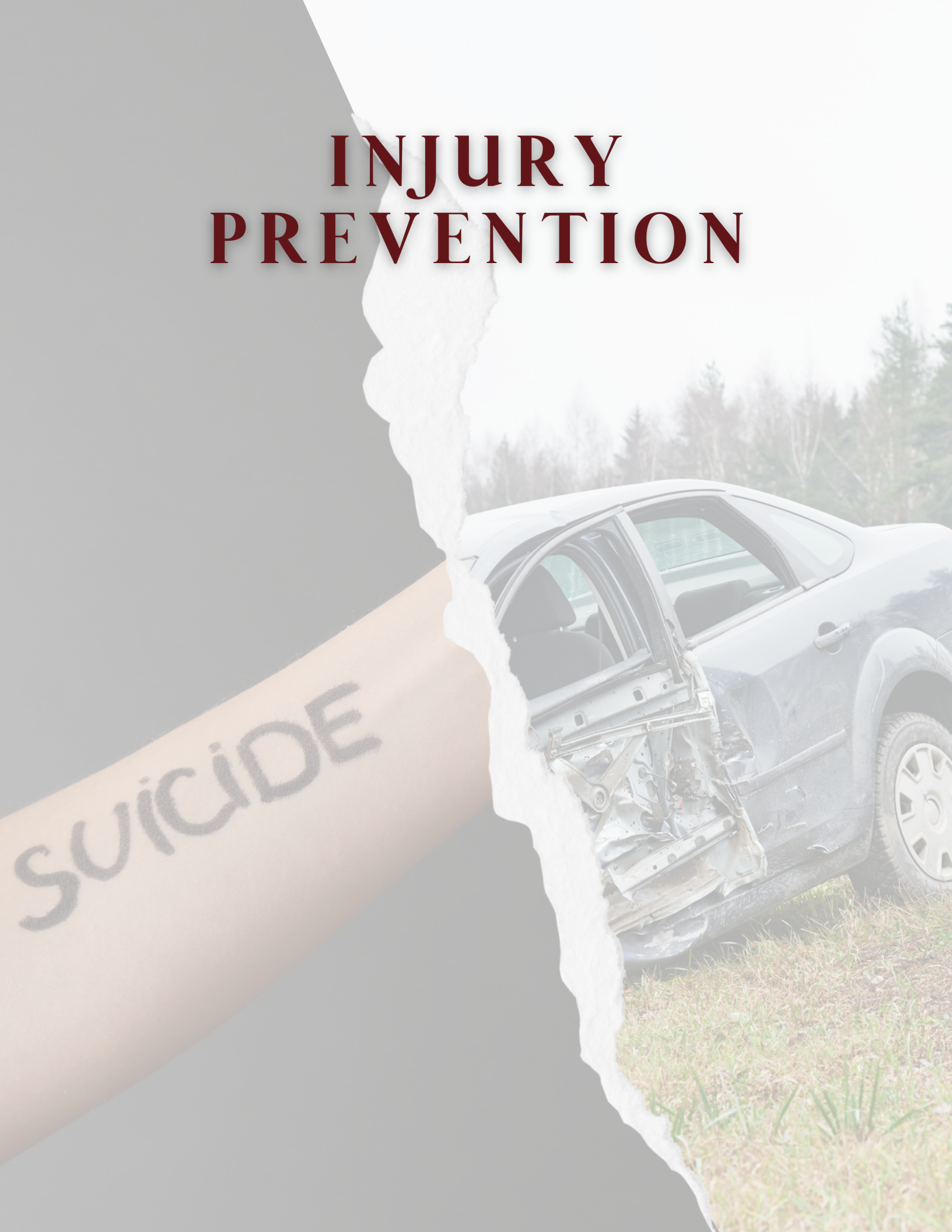
- Goals are broad statements of what the County hopes to accomplish related to the priority and may include the approach or " by or through" phrase.
- Objectives are measurable, specific actions taken to achieve the goal.
- Strategies may be evidence-based, practice-based, or promising practices, or may be innovative to meet the population's needs, per PHAB 5.2.2.1a.
- Measures in this plan are short and long-term. There is a mix of quantifiable outputs and outcomes that will be used to determine whether a strategy was implemented as intended, an objective was met, and the goal was achieved.

The transition from planning to action is often challenging. To help with the transition, DCHD will create workgroups to lead the work in the three priority areas. Each workgroup will be led by a county staff person who will be the liaison to the Board of Health. Each workgroup will be composed of individuals and organizations with the capacity to put their plans into action. Specifically, the workgroups will be responsible for developing and coordinating the activities for each strategy, including identifying who will be accountable for managing activities, holding partners accountable, developing timelines, and monitoring progress so that challenges and barriers are identified early when changes need to be made to the plan's goals and objectives. To ensure that these efforts address the determinants of all the diverse communities in the county, workgroup members will include stakeholders representing diverse populations and geographies. Stakeholders can then recruit non-traditional leaders from various county sectors who can implement strategies and activities across the social-ecological model continuum.

Goals, Objectives, Strategies, and Measures Framework

The goals, objectives and strategies identified for the three priority areas are aligned with Colorado's Ten Winnable Battles to improve the health of all Coloradans. Included on the Winnable Battle list are injury prevention, suicide prevention, chronic disease, obesity prevention and access to health care services.

INJURY PREVENTION



Injury Prevention

Injury prevention refers to the strategies and activities that prevent or reduce the occurrence or severity of intentional injury (violence) and unintentional injury. With primary prevention efforts, these strategies and activities are implemented to prevent these occurrences before they happen by focusing on mitigating known risk factors and increasing protective factors. Injury prevention strategies cover a variety of activities, many of which fall under the "3 Es" of injury prevention: education, engineering modifications, and enforcement/enactment of policies.

Local public health plays an important role in injury prevention, including:

- Tracking and investigating health and safety problems and hazards in the community.
- Developing, implementing, enforcing and evaluating policies, laws and regulations that improve health and ensure safety.
- Leading efforts to mobilize communities around important injury and violence issues.
- Linking people to health and community services.
- Achieving excellence in public health practice through a trained workforce, evaluation, and evidence-based programs.
- Preparing for and responding to public health emergencies.

Prevention Strategies

As discussed earlier, the Spectrum of Prevention is a helpful tool for outlining the strategies necessary for success: strengthen individual knowledge and skills, promote community education, educate providers, foster coalitions and networks, change organizational practices and influence policy and legislation. Policy and legislative changes bring about change at a population level. The field of injury prevention has had a number of policy successes, including increasing the use of car seats and seatbelts, and reducing teen deaths due to motor vehicle crashes through implementation of the Graduated Drivers Licensing Law.

Focusing on the risk and protective factors shared across multiple types of injury and violence is an approach that has the greatest potential impact while utilizing resources in the most efficient way. For example, addressing the risk factor of excessive alcohol use can impact motor vehicle safety, falls, interpersonal violence, community violence and suicide.

Many resources exist to guide DCHD's approach to injury prevention, including the following:

General

- CDC, National Center for Injury Prevention and Control
- Safe States Alliance
- Safe States Connections Lab (shared risk and protective factors approaches)

Older Adult Falls

- CDC Compendium of Effective Fall Interventions: What Works for Community-Dwelling Older Adults
- Prevention Falls: A Guide to Implementing Effective Community-Based Fall Prevention Programs
- STEADI Older Adult Fall Prevention A Coordinated Care Plan (clinical resources)
- National Council on Aging Falls Prevention Evidence-Based Programs

Motor Vehicle Safety

- CDC Transportation Safety Page
- NHTSA Countermeasures that Work
- FHWA- Proven Safety Countermeasures
- The Community Guide Motor Vehicle Injury Findings
- Strategies to Address Shared Risk and Protective Factors for Driver Safety (U.S. Department of Transportation)

Child Maltreatment Prevention

- Preventing Child Abuse and Neglect: A Technical Package for Policy, Norm, and Programmatic Activities
- Preventing Adverse Childhood Experiences (ACEs): Leveraging the Best Available Evidence

Violence Prevention

- Striving to Reduce Youth Violence Everywhere (STRYVE)
- Cure Violence
- Safe Streets
- STOP SV: A Technical Package to Prevent Sexual Violence
- A Comprehensive Technical Package for the Prevention of Youth Violence and Associated Risk Factors

Injury Prevention Outcome Measures 2022 - 2026

- By 2023, stakeholders, information and data related to injury are identified, compiled, and assessed.
- By 2023, additional data needs are identified and summarized.
- By 2023, strengths and weaknesses and external opportunities and threats (SWOT) or challenges (SWOC) are identified.

Motor Vehicle Related Injury Prevention

- By 2026, reduce the age adjusted motor vehicle fatality rate in Douglas County from 3.2 deaths per 100,000 population in 2019 to 2.8 deaths per 100,000 population. (Data source: Death certificate data).
- By 2026, reduce the rate of ED visits for motor vehicle injury by 20% from 348.4 per 100,000 to 278.7 per 100,000. (Data Source: CDPHE and Colorado Hospital Association).
- By 2026, reduce the percent of crashes involving distracted driving from 19.5% (2020) to less than 15% of crashes (Data Source: CDOT).
- By 2026, reduce the percentage of alcohol related motor vehicle fatalities in Douglas County from 35%(2020) to 25%.

Older Adult Fall Prevention

- By 2026, decrease the rate of fall-related hospitalizations among adults ages 65 and older in Douglas County from 1,852.5 hospitalizations per 100,000 population in 2019 to 1667.25 hospitalizations per 100,000 population. (Data source: Colorado Hospital Association).
- Decrease the 2022-2026 fall related death rate among adults ages 65 and older in Douglas County from 137.7 per 100,000 (2016-2020) to 123.93 (Data source: Death certificate data).

Poisoning Due to Drugs

- By 2026, reduce the drug-induced death crude rate per 100,000 among adults ages 25 to 34 years from 23.2 per 100,000 to the Healthy People 2030 target of 20.7 per 100,000[1]. (Data Source: Death certificate data).
- By 2026, reduce the rate of ED visits mentioning injuries due to drug poisoning from 136.5 (2020) to 129.3 per 100,000.

[1] The ICD considers a death to be a drug overdose death if any one of the following ICD-10 codes, indicating poisoning by drugs, medicaments, and biological substances, is in the underlying cause of death: X40–X44 (unintentional), X60–X64 (suicide), X85 (assault), and Y10–Y14 (undetermined intent).

Suicide Related Injury & Death

- By 2026, decrease the age adjusted suicide mortality rate from 15.2 per 100,000 (2016-2020 combined rate) to the Healthy People 2030 target goal of 12.8 per 100,000. (Data Source: Death certificate data).
- By 2026, decrease the age-adjusted rate of hospitalizations for suicide from 44.6 per 100,000 to 40.14 per 100,000 (Data Source: Colorado Hospital Association).
- By 2026, decrease the age-adjusted suicide death rate for men in Douglas County from 17.5 per 100,000 (2020) to 16.6 per 100,000.
- By 2026, decrease the age adjusted rate of ED visits mentioning intentional self-harm injuries by five percent from 116.3 per 100,000 residents in 2019 to 110.5 per 100,000. (Data Source: CDPHE and Colorado Hospital Association).
- By 2026, decrease the percentage of high school students who seriously considered attempting suicide during the past 12 months by 10 percent from 15.7% to 14%. (Data Source: Healthy Kids Colorado Survey).

Goals, Strategies & Objectives

The goals, strategies, and objectives below are in alignment with Colorado's most recent Public Health Improvement Plan and Winnable Battles for CDPHE on addressing injury prevention. The CHA community survey identified motor vehicle safety as a concern. Secondary data sources point to concerns with injury, especially fall related injuries.

GOAL: COMPILE MEANINGFUL DATA AND INFORMATION TO ANALYZE THE IMPACT OF INJURY IN DOUGLAS COUNTY.

Objective One: Identify any historical and/or existing data useful to inform the implementation of the public health improvement plan, including progress on previous PHIPs.
Strategy: Organize and conduct an environmental scan of injury related data sources.
Measure: Environmental scan.

Objective Two: Identify stakeholders (any person, group or organization inside or outside the organization) who have a role in injury prevention and need to be engaged in the process in some way.
Strategy: Organize and conduct a stakeholder analysis that includes spheres of influence.
Measure: Stakeholder analysis.

GOAL: INCREASE DOUGLAS COUNTY CITIZEN'S UNDERSTANDING ABOUT SAFE DRIVING BEHAVIOR.

Objective One: Educate the residents of Douglas County about the dangers of distracted driving with the goal of changing driver behavior.
Strategy One: Launch a county wide campaign to get Douglas County residents to commit to driving distraction-free by taking the National Safety Council's Just Drive Pledge.
Measure: The Douglas County Just Drive Pledge Campaign is developed and launched.

Strategy Two: Partner with law enforcement agencies to publicize, enforce, and adjudicate laws prohibiting distracted driving.
Measure: Educational material outlining Colorado traffic laws and associated penalties.

GOAL: INCREASE DOUGLAS COUNTY CITIZEN'S UNDERSTANDING ABOUT SAFE DRIVING BEHAVIOR.

Objective Two: Develop a public information and education campaign to: 1) increase driver awareness about the effects of alcohol, drugs and other substances that impair and 2) educate drivers about the repercussions of arrest and conviction for impaired driving.
Strategy One: Partner with law enforcement agencies to publicize, enforce, and adjudicate laws prohibiting impaired driving.
Measure: Educational material outlining Colorado traffic laws and associated penalties.

Strategy Two: Leverage partnerships within the Douglas County Mental Health Initiative to address problematic alcohol and drug use.
Measure One: Educational material about how alcohol, drugs and other substances impair drivers.
Measure Two: Social media campaigns using the educational material customized for specific audiences.

Strategy Three: Leverage existing communication and outreach created by the Colorado Department of Transportation to inform the public of the dangers of impaired and distracted driving and establish positive social norms.
Measure: Social media campaigns using the communication and outreach material created by the Colorado Department of Transportation that is customized for specific audiences.

GOAL: INCREASE THE NUMBER OF FALL PREVENTION PROGRAMS FOR OLDER ADULTS.

Objective: Partner with community-based organizations to implement fall prevention programs targeted to older adults.
Strategy One: Assess what fall prevention programs are occurring in the county.
Measure: List of community-based organizations offering fall prevention programs.

Strategy Two: Identify and partner with community-based organizations who do or can offer fall prevention programs.
Measure: Implementation of 10 evidence-based fall prevention programs.

GOAL: INCREASE THE CAPACITY FOR COMMUNITY RESPONSE TO SUBSTANCE MISUSE AND DRUG OVERDOSE..

Objective One: Increase the availability of Naloxone in the County.
Strategy One: Partner with CDPHE, law enforcement agencies, first responders and community-based organizations to ensure dissemination of Naloxone kits.
Measure One: Number of Naloxone kits distributed to community members.

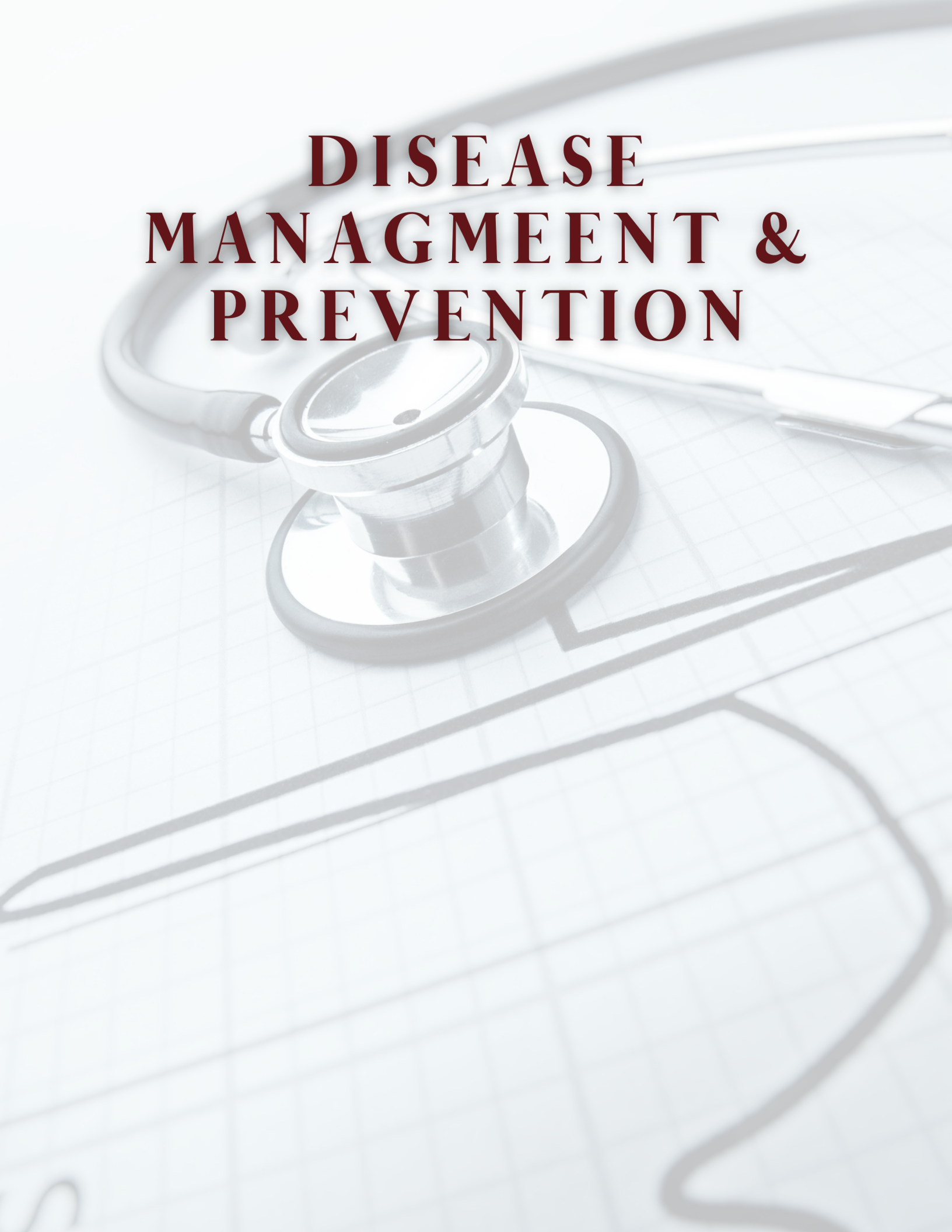
Strategy Two: Education and training of community regarding the use of Naloxone.
Measure One :Number of trainings conducted.

Objective Two: Educate Douglas County residents about the health impacts of drug misuse and the benefits of treatment and recovery.
Strategy: Leverage partnerships within the Douglas County Mental Health Initiative to educate residents. Use existing communication and outreach materials created by the CDPHE and others that inform the public of the dangers of drug misuse, harm reduction strategies, and the availability of treatment and recovery resources.
Measure One: Douglas County drug misuse and treatment education campaign created.
Measure Two: A Douglas County treatment and recovery resource guide.

GOAL: REDUCE SUICIDE RELATED INJURY, MORBIDITY AND MORTALITY AMONG ALL DOUGLAS COUNTY RESIDENTS.

Objective: Ensure involvement of public health in DCMHI suicide prevention workgroup.
Strategy: Incorporate public health principles and practices into the work of the workgroup, including the incorporation of strategies to reduce suicide risk factors and increase protective factors.
Measure: Successful implementation of at least one activity for each strategy in the DCMHI suicide prevention plan.

DISEASE MANAGMEENT & PREVENTION



Disease Management and Prevention

Disease management and prevention refers to the strategies and activities that a population can engage in to manage diseases and prevent the onset of diseases. With primary prevention efforts, these strategies and activities are implemented to prevent these occurrences before they happen by focusing on mitigating known risk factors and increasing protective factors. This includes addressing drivers of health like housing, access to healthy foods, access to health care, transportation, and safe places for recreation. It also includes addressing negative health behaviors like smoking, unhealthy eating, alcohol misuse, and lack of exercise.

Disease management and prevention strategies cover a variety of activities across five domains:

- Epidemiology and surveillance
- Policy and environmental change
- Health systems
- Community and clinical linkages
- Communication and education

Local public health plays an important role in disease management and prevention, including in the following ways:

- Support the creation of neighborhoods and environments that promote health and safety
- Track and investigate communicable and chronic disease
- Prepare for and responding to communicable disease outbreaks
- Support policies that reduce the prevalence of tobacco products
- Link people to preventative healthcare services and resources

Prevention Strategies

Heart Disease

High blood pressure contributes to heart disease. There are several prevention programs such as routine blood pressure monitoring, using at home blood pressure monitors and lifestyle modification education that can help Douglas County residents manage and control high blood pressure.

Colorado is increasing clinical adoption of self-measured blood pressure monitoring programs through clinic quality improvement efforts to identify patient needs, training program implementers and prioritizing clinical interventions that accompany self-monitoring.

Diabetes

The National Diabetes Prevention Program improves the ability of individuals at risk of diabetes or serious cardiovascular events to manage and prevent more serious aspects of chronic disease. Theis program, developed and tested by CDC, has been shown to help people lose weight and reduce their risk of developing Type 2 diabetes.

Cancer

The CDC supports screening for breast, cervical, colorectal (colon), and lung cancers as recommended by the U.S. Preventive Services Task Force (USPSTF). The USPSTF is an independent, volunteer panel of national experts in disease prevention and evidence-based medicine who work to improve the health of Americans by making recommendations about clinical preventive services.

In Douglas County the rate of skin cancer is higher than the state; however, there is very limited data on clinician practice patterns related to skin cancer screening. According to the USPSTF " a 2005 survey of US physicians found that 81 percent of dermatologists, 60 percent of primary care physicians, and 56 percent of internists reported performing a full-body visual skin cancer screening examination on their adult patients.

Figure 16 The Cost of Disease

The clinical visual skin examination assesses skin lesions using the " ABCDE rule," which involves looking for the following characteristics: asymmetry, border irregularity, nonuniform color, diameter greater than 6 mm, and evolving over time."

Currently the best practice to reduce the prevalence of skin cancer is education. The USPSTF recommends that children, adolescents, and young adults aged 10 to 24 years be educated about minimizing their exposure to ultraviolet radiation to reduce their risk of developing skin cancer.

Many resources exist to guide DCHD's approach to disease management and prevention, including the following:

Chronic Disease

- CDC's Division of Nutrition, Physical Activity, and Obesity
- Diabetes Management: Intensive Lifestyle Interventions for Patients with Type 2 Diabetes
- One Pager: Intensive Lifestyle Interventions for Patients with Type 2 Diabetes
- The Whole School, Whole Community, Whole Child, or WSCC model
- State Program Physical Activity Highlights

Communicable Disease

- CIDRAP Center for Infectious Disease Research and Policy
- Guidance on Developing Chlamydia Testing and Prevention Messages
- Programs to Promote Chlamydia Screening
- " The Lowdown on how to Prevent STDs" infographic
- How You Can Prevent Sexually Transmitted Diseases
- COVID-19 Toolkits

Skin Cancer

- CDC Skin Cancer site
- Cancer Prevention and Control: Skin Cancer Prevention
- CDC's Melanoma Dashboard
- Community Preventive Services Task Force (Community Guide) Recommendations for Skin
- Cancer Prevention
- The Environmental Protection Agency's UV Index
- The Surgeon General's Call to Action to Prevent Skin Cancer
- U.S. Preventive Services Task Force recommendations for Behavioral Counseling on Skin Cancer Prevention

Disease Management & Prevention Outcome Measures 2022 - 2026

Chronic Disease

- By 2026, the prevalence of obesity among high school students will be decreased 5% from the baseline of 13.1% in 2019. (Data source: Healthy Kids Colorado Survey)
- By 2026, the prevalence of obesity among adults ages 18 years and older will be decreased 10% from the baseline of 54.9% in 2020 to 50%. (Data source: Behavioral Risk Factor Surveillance System

Communicable Disease

- By 2026, there will be an epidemiological workforce in Douglas County that can monitor, detect, and respond to outbreaks or unusual trends in infectious diseases.
- By 2026, increase the number of patients 20 years or older who had an ambulatory or preventive care visit by 5% from the baseline of 82.0% in 2019. (Data Source: CIVHC, Community Dashboard. Colorado All Payer Claims Database)
- By 2026, increase the number of youths, 12 months to 19 years of age, who had at least one visit with a primary care practitioner (timeframe depends on age group) by 5% from a baseline of 84.2% in 2019. (Data Source: CIVHC, Community Dashboard. Colorado All Payer Claims Database)
- By 2026, increase the number of patients, ages 3 to 21 who had at least one comprehensive well-care visit with a PCP or an OB/GYN by 5% from a baseline of 50.6% in 2019. (Data Source: CIVHC, Community Dashboard. Colorado All Payer Claims Database)
- By 2026, increase the number of Diabetes HBa1c testing by 5% from a baseline of 89.0% in 2019. (Data Source: CIVHC, Community Dashboard)
- By 2026, increase the proportion of people who get the flu vaccine every year by 5% from a baseline of 44.9% in 2018. (Data Source: Behavioral Risk Factor Surveillance System)

The goals, strategies, and objectives below are in alignment with Colorado's Public Health Improvement Plan for its flagship priority " Healthy Eating, Active Living and Obesity Prevention." [1] The aligned elements have been modified to reflect the need for DCHD to continue its community engagement to understand more fully the drivers of poor chronic disease health outcomes, such as obesity, access to healthy foods, and opportunities for physical activity, especially in geographic locations with high rates of chronic disease related hospitalizations.

[1]2015-CO-State-Plan:Shaping a State of Health.pdf - Google Drive.

Goals, Strategies & Objectives

The goals, strategies, and objectives below are in alignment with Colorado's most recent Public Health Improvement Plan and Winnable Battles for CDPHE on addressing disease management and prevention. The CHA community survey identified communicable disease as a concern in Douglas County. Secondary data sources point to concerns with obesity, diabetes, and heart disease.

GOAL ONE: DEVELOP A CULTURE OF HEALTH .

Objective One: One: Create conditions for Douglas County residents to achieve a healthy weight, including access to healthy foods and awareness of the health benefits of physical activity.
Strategy One: Conduct a landscape scan of the nutrition and physical activity environments for children younger than 18 years via early childhood education centers and schools, especially those that serve low-income populations and geographic locations with high rates of chronic disease related hospitalizations.
Measure: Landscape scan completed with recommendations for strategies, objectives, and measures regarding if and how Douglas County should improve nutrition and physical activity environments for children younger than 18 years old.

Strategy Two: Conduct a landscape scan of the nutrition and physical activity environments for adults in worksite and government settings, especially worksites and settings in geographic locations with high rates of chronic disease related hospitalizations.
Measure: Landscape scan completed, with recommendations for strategies, objectives, and measures regarding if and how Douglas County should improve nutrition and physical activity environments in worksites and government settings.

Objective Two: Establish County capacity for coordinated obesity surveillance and for creating conditions to achieve healthy weight across the lifespan.
Strategy One: Work in partnership with CDPHE to adopt a common public health messaging strategy to address healthy eating, active living and obesity prevention that can be adapted for various communication needs.
Measure: Messaging strategy developed and implemented.

Strategy Two: Leverage CDPHE's set of indicators for Colorado's governmental public health system to collectively monitor progress on strategies and outcomes for healthy eating, active living and obesity prevention.
Measure: Set of indicators have been reviewed and selected for surveillance efforts in Douglas County.

GOAL TWO: BUILD DOUGLAS COUNTY'S PUBLIC HEALTH'S ABILITY TO MONITOR, DETECT, AND RESPOND TO OUTBREAKS OR UNUSUAL TRENDS IN INFECTIOUS DISEASES (AS ALIGNED WITH COLORADO'S 2015 PUBLIC HEALTH IMPROVEMENT PLAN).

Objective One: Develop and expand the epidemiology workforce in Douglas County.
Strategy One: Distribute and promote national competencies when hiring, evaluating, and promoting epidemiology staff, and developing contracts for epidemiologic services.
Measure: Number of DCHD epidemiology position descriptions, hiring announcements, and contracts that incorporate national standards.

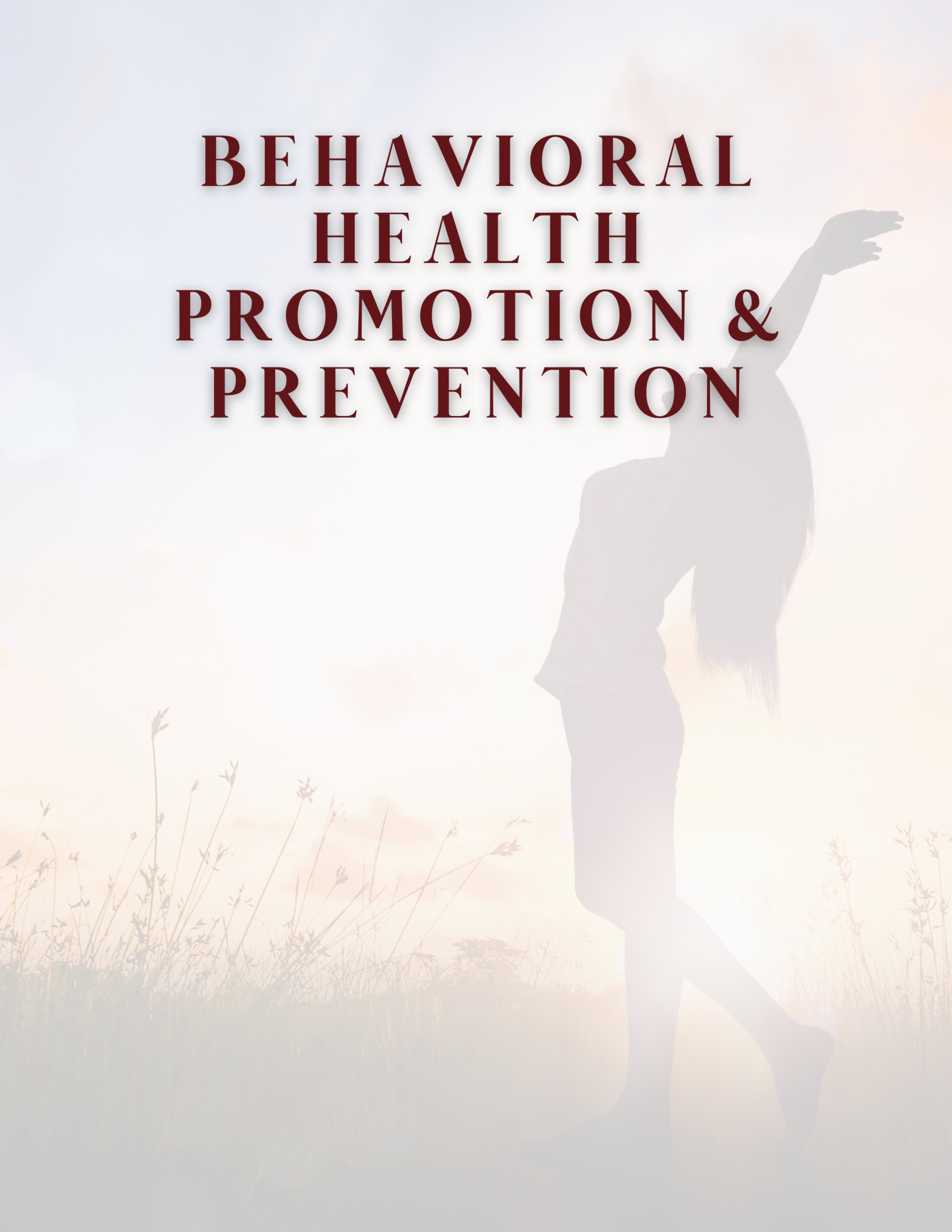
Strategy Two: Support staff participation in outbreak investigation and epidemiology training opportunities for epidemiologists.
Measure One: Number of DCHD staff who participate in outbreak investigation and epidemiology training opportunities for epidemiologists working in state and local public health agencies.
Measure Two: Number of trainings offered to staff on outbreak investigation and epidemiology.

Objective Two: Develop and augment electronic reporting and tracking systems.
Strategy One: Support staff training on CDPHE's electronic disease reporting system.
Measure: Number of staff trained on CDPHE's electronic disease reporting system.

GOAL THREE: INCREASE ACCESS TO AND UTILIZATION OF PREVENTIVE HEALTH CARE AND RELATED SERVICES FOR ALL DOUGLAS COUNTY RESIDENTS (AS ALIGNED WITH 2023 CDPHE'S STRATEGIC PLAN).

Objective One: Increase awareness and understanding of why some communities within Douglas County experience larger disparities and health inequities to comprehensive, high-quality health care and preventive services than other communities.
Strategy One: Conduct a landscape scan to better understand who the communities are and access barriers to comprehensive, high-quality health care and preventive services.
Measure: Landscape scan completed, with recommendations for strategies, objectives, and measures regarding what Douglas County should do to reduce disparities and health inequities in accessing comprehensive, high-quality health care and preventive services.

BEHAVIORAL HEALTH PROMOTION & PREVENTION



Behavioral Health Promotion and Prevention

There is a growing understanding that mental health is as important as physical health. There is also a growing exploration of the public health role in behavioral health, including understanding of the associated risk and protective factors, the health disparities associated with mental illness and substance use disorders, and the relationship between behavioral health and other public health concerns like obesity and chronic disease.

The World Health Organization (WHO) describes mental health as " a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and can contribute to his or her community." In an article published in World Psychiatry, the authors present a further refined definition of mental health as " a dynamic state of internal equilibrium which enables individuals to use their abilities in harmony with universal values of society. Basic cognitive and social skills; ability to recognize, express, and modulate one's own emotions, as well as empathize with others; flexibility and ability to cope with adverse life events and function in social roles; and harmonious relationship between body and mind represent important components of mental health which contribute, to varying degrees, to the state of internal equilibrium." This captures the importance of thinking of behavioral health on a dual axis or spectrum (Figure 17) with dynamic states of being influenced by several risk and protective factors. Thinking of behavioral health in this way best captures the promise of prevention and promotion.[i]

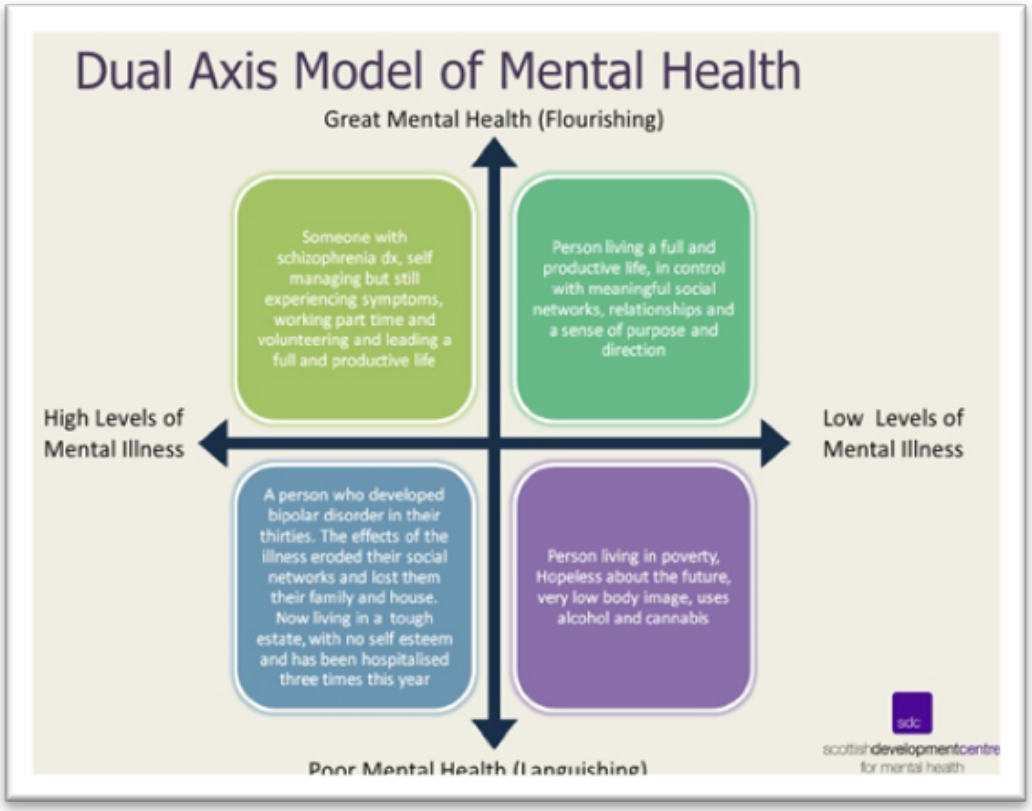


Figure 17 Dual Axis Model of Mental Health

[i]Chris O'Sullivan, " Perspectives on Mental Health and Well Being," Scottish Development Centre for Mental Health: 2009)

Prevention Strategies

Effective prevention focuses on reducing the risk factors and strengthening protective factors, that are most closely related to developing a mental and/or substance use disorder. All people have biological and psychological characteristics that make them vulnerable to, or resilient to, potential behavioral health issues. These characteristics exist in multiple contexts like relationships, communities, and society and need to be addressed in these multiple contexts. For example, increasing parent-infant bonding, changing norms in the business sector to support self-care and help-seeking, or supporting anti-discrimination laws or policies. The development of interventions must consider that risk and protective factors have influence throughout the lifespan and influence contexts.

There are multiple models and much research on the risk and protective factors associated with behavioral health. Exploring risk and protective factors is complex, as many mental disorders have unique factors, like substance use disorders. However, across mental illness and substance use disorders, there are shared risk and protective factors. One easy way to understand risk and protective factors associated with behavioral health is to consider them as those that are biological, social, and psychological in nature.

In addition to considering the biological and relationship level psycho-social factors that influence mental health and substance use disorders, there must also be a consideration for the social determinants of health that influence behavioral health issues. The social determinants of mental health are the conditions in which people are born, live, work and age. These conditions are shaped by economic status, access to education, health care and safe environments, and social power or capital.

The social determinants of mental health include discrimination and social exclusion, poor education, unemployment or underemployment, lack of job security, poverty, food insecurity, lack of quality or affordable housing, lack of access to healthcare, and Adverse Childhood Experiences (ACEs). ACEs include experiences of child maltreatment, parental substance abuse, divorce, and domestic violence, among others. A large body of research confirms the devastating affect ACEs can have on the health and well-being of individuals. Children exposed to four or more ACEs are at four to 12 times greater risk for substance abuse, depression and suicide.

Largely these determinants stem from the unequal distribution of opportunity and are therefore a social justice issue. Effective population-based behavioral health promotion should include strategies to address the determinants of mental health at the community and societal levels of the social ecology. At the community level interventions likely to promote mental health and mitigate the risks for mental illness and substance use include:

- Improving social cohesion through built environment
- Organizational practices or policies that support employees and families
- School policies that encourage school engagement and support differences in learner profiles

At the societal level, an important strategy is the concept of health in all policies. Public policies at all levels of government that address the unequal distribution of opportunity are likely to have long-term benefits to mental health.

The role of local public health can include:

- Increasing public awareness
- Disseminating existing, tested campaign materials
- Utilizing existing collaboration efforts to prioritize approaches
- Convening and collaborating to coordinate prevention efforts
- Prioritizing data surveillance and evaluation
- Advocating for policies that make a difference
- Supporting training efforts
- Improving screening efforts
- Enhancing access to and linkages to care

Many resources exist to guide DCHD's approach to behavioral health promotion and prevention, including the following:

General

- Douglas County Mental Health Initiative
- TCHD Mental Health and Suicide Prevention Frameworks
- World Health Organization
- SAMHSA

Suicide Prevention

- Youth Community Response Team
- Community Response Team
- I Matter
- Office of Suicide Prevention
- 2021 Surgeon General Call to Action
- National Strategy
- National Action Alliance
- CDC Technical Package

Substance Misuse

- CDPHE
- Colorado Communities that Care
- Colorado Consortium
- Community Anti-Drug Coalitions of America
- SAMHSA Prevention Resources
- Colorado Consortium for Prescription Drug Abuse Prevention Community Reference

Behavioral Health Outcome Measures 2022 - 2026

- By 2026, increase the percent of Douglas County residents who report that, in the past 12 months, they talked with a mental health provider about their own mental health (ages 5 and older) by 5%. (Data Source: Colorado Health Access Survey)
- By 2026, decrease the percentage of Douglas County residents who needed mental health care or counseling services but did not get it at that time during the past 12 months (ages 5 and older) by 5%. (Data Source: Colorado Health Access Survey)

Goals, Strategies & Objectives

The goals, strategies, and objectives below are in alignment with Colorado's most recent Public Health Improvement Plan and Winnable Battles for CDPHE on addressing mental health and substance use. The CHA community survey identified mental health problems as the " worst health problem" in Douglas County, followed by suicide as the fifth and substance/drug misuse as the ninth worst health problem. Secondary data sources point to concerns with increasing mental health distress.

Douglas County youth and adults self-reported feeling more mental distress in 2019 and 2020, respectively, than they did in 2013. Lastly, drug overdose deaths, increased (although non-significantly) to a five year high in 2020 (from 10.0 per 100,000 people in 2016 to 13.4 per 100,000 people in 2020). Additionally, emergency department (ED) and hospitalization for mental health issues and substance use significantly increased. For example, ED visits per 100,000 residents involving drugs with potential for abuse increased (non- significantly) 18.5 percent between 2016 and 2020. Mental health issues were the leading cause of hospitalization in Douglas County and the rate of hospitalizations significantly increased between 2015 and 2019.

Douglas County has many strong resources and successes regarding mental health and suicide intervention, led by the Douglas County Mental Health Initiative, that can be leveraged and built upon. The goals, objectives and strategies in this priority area intersect with those in the Injury Prevention priority area. [HW1]Add in resources for community members who are experiencing suicidal ideation.

Intersecting Injury Prevention Outcome Measures

By 2026, decrease the age adjusted rate of ED visits mentioning intentional self-harm injuries from 116.3 per 100,000 residents in 2019 to 110.5 per 100,000.

By 2026, decrease the age adjusted suicide mortality rate from 15.2 per 100,000 (2016-2020 combined rate) to the Healthy People 2030 target goal of 12.8 per 100,000.

By 2026, reduce the drug-induced death crude rate per 100,000 among adults ages 25 to 34 years from 23.2 per 100,000 to the Healthy People 2030 target of 20.7 per 100,000 . (Data Source: Death certificate data).

By 2026, reduce the rate of ED visits mentioning injuries due to drug poisoning from 136.5 in 2020 to 129.3 per 100,000.

GOAL ONE: SUPPORT DOUGLAS COUNTY MENTAL HEALTH INITIATIVE (DCMHI) BY ENHANCING THE FOCUS ON PREVENTION AND EARLY INTERVENTION OF BEHAVIORAL HEALTH-RELATED ISSUES.

Objective One: Increase the proportion of primary care providers who routinely screen their patients (adults and children) for mental and/or substance use disorders.
Strategy: Convene a workgroup of primary care providers to complete a landscape scan and develop an analysis that identifies:

1. Two to three screening tools that are valid, reliable, brief, easy to administer, free, and easily accessible in Douglas County.
2. The number and type of conditions for screening using data about the behavioral health needs of county residents.
3. Barriers to screening include clinical time constraints, workflow, education, training, and ability to refer patients to behavioral health services.

Measure: Report on the workgroup's analysis.

Objective Two: Increase the proportion of adolescents and adults who understand the importance of regular screening for depression, anxiety or substance use disorders during a primary care office visit. (Healthy People 2030 Objective)
Strategy One: Support the DCMHI workgroup through the development, dissemination, and evaluation of appropriate and consistent framing and language for mental health promotion in areas such as stigma reduction, ACEs, risk and protective factors, assets, and trauma-informed care.
Measure: There is a public health lens used in the development and implementation of messaging.

Conclusion: Advancing Health in Douglas County

Douglas County's Public Health Improvement Plan was developed with involvement from the community and represents a community-wide plan for enhancing and improving the health of communities in the county. Community involvement is important in implementation of this plan. There are many ways to engage community-based organizations, governmental agencies, foundations and citizens in helping to realize the goals and objectives outlined in this plan as the DCHD undertakes implementation.

Community-Based Organizations or Public Officials who want to get involved:
We support the involvement of all organizations and public officials that wish to contribute to the PHIP. If you want to find out how you can support the PHIP, please follow this LINK to contact us.

APPENDIX A
RESOURCE INVENTORY

Health & Behavioral Health

AllHealth Network
Alternatives Pregnancy Center
Auburn Ventures
Behavioral Health Inc.
Bridge of Hope
Doctor's Care Network
Stride Community Health Centers
Wellspring

Social Services

AD Works!
Aging Resources of Douglas County
Castle Rock Senior Center
Clothes to Kids of Denver
Colorado Community Action Agency
Community Action Partnership
Continuum of Colorado
Crisis Center
Developmental Pathways
Express Pros
Family Tree
First Call, Douglas County
Hands Across Roxborough
Help & Hope Center
Home Care Assistance
Interfaith Community Services
James Resource Network
Jewish Family Services
Love, INC.
Manna Cares
Manna Connect
Metro Denver Homeless Initiative
Mile High United Way
Parker Senior Center
Project Recycle
SECOR Cares
Shiloh House
Sky Cliff
St. Vincent de Paul, Castle Rock
St. Vincent de Paul, Pax Christie
To The Rescue
Visiting Angels
Winter Shelter Network
YANAM2M (You Are Not Alone-Mom 2 Mom).
Youth Initiative

Faith Community

Calvary Chapel Castle Rock
Castle Rock Home Care
Catholic Charities
Cherry Hills Community Church
Christian Brothers
Crossroads Community Church
Grace Chapel
Iglesia Nueva Vida
Joy Lutheran Church
New Hope Presbyterian Church
Parker United Methodist Church
Pax Christie Church
Rock Church
St. Andrews United Methodist Church

Education

Colorado Area Health Education Center
Douglas County School District

Local Government

City of Lone Tree
Colorado Department of Local Affairs
Douglas County
Douglas County Housing Partnership
Douglas County Libraries
Douglas County Transit Solutions
Town of Castle Rock
Town of Parker
Tri-County Health Department
Veteran's Affairs Office

Public Safety

Castle Rock Fire Department
Castle Rock Police Department
Douglas County Sheriff's Office
South Metro Fire District
Parker Task Force
Parker Police Department