COLORADO **HEALTH** INSTITUTE

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# Making the Case

## A Societal Cost-Benefit Analysis of Community Behavioral Health Care Services in Colorado

**OCTOBER 2021**

***Providers in the health care safety net system support the most vulnerable Coloradans, offering a range of services regardless of ability to pay. The 17 community mental health centers across the state are a key component in this system. These centers provided care to over 200,000 Coloradans in 2020 (and more in pre-pandemic years), many of whom have complex and acute behavioral health needs (see Table 1).***

Without these community mental health centers, many Coloradans would have been unable to access behavioral health services. Treatments provided by this network include outpatient counseling and psychiatric services, crisis and emergency services, case management and connection to care, detox treatment centers, child, youth, and family services, housing supports, vocational services, well-being promotion, and community organizing.

But altruism alone can't always drive policy. Funding is a finite resource, so legislators and other stewards of Colorado's assets must also consider economic impacts when deciding where to invest. What is the value, in dollars as well as human terms, of a service for state residents? Do the costs exceed the return?

### Three Takeaways

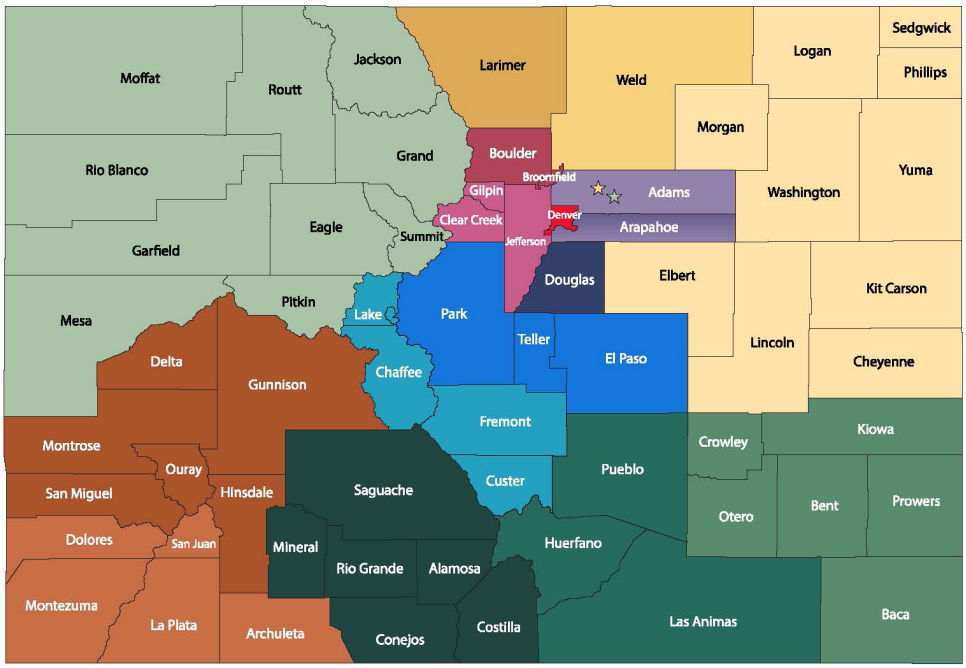
- Colorado's community mental health centers are not just good for the health of Coloradans, they're good for the state economy, saving $4 for every $1 spent.
- Investments in treatment for people with behavioral health needs benefit other systems such as criminal justice, housing, and schools.
- Colorado's 17 community mental health centers provide this care with a lower overhead rate than the average hospital.

**Table 1: Community Mental Health Center Clients by Primary Diagnosis, 2020**[1]

*Community mental health centers serve high-acuity patients across the continuum of behavioral health care needs. Utilization declined in 2020, but often more than 230,000 people are served in a given year.*

| Primary Diagnosis | Clients | Percent |
|---|---|---|
| Depression | 41,275 | 21% |
| Anxiety | 35,667 | 18% |
| Substance use disorder | 18,488 | 9% |
| Bipolar disorder | 16,389 | 8% |
| Schizoaffective disorder/schizophrenia | 10,735 | 5% |
| Attention deficit disorder/hyperactivity | 7,294 | 4% |
| Other | 71,388 | 35% |
| **Total** | **201,236** | **100%** |

**Map 1. Serving the State: Colorado's System of Community Mental Health Centers, by Region**




- ☆ Servicios de la Raza
- ☆ Asian Pacific Development Center
- Mind Springs Health
- SummitStone Health Partners
- North Range Behavioral Health
- Centennial Mental Health Center
- Mental Health Partners
- Mental Health Center of Denver
- Community Reach Center
- Jefferson Center for Mental Health
- AllHeath Network*
- Aurora Mental Health Center*

*Arapahoe County is served by AllHealth Network excluding the city of Aurora, which is served by Aurora MHC

- Diversus Health
- Solvista Health
- The Center for Mental Health
- Axis Health Systems, Inc.
- San Luis Valley Behavioral Health Group
- Health Solutions
- Southeast Health Group

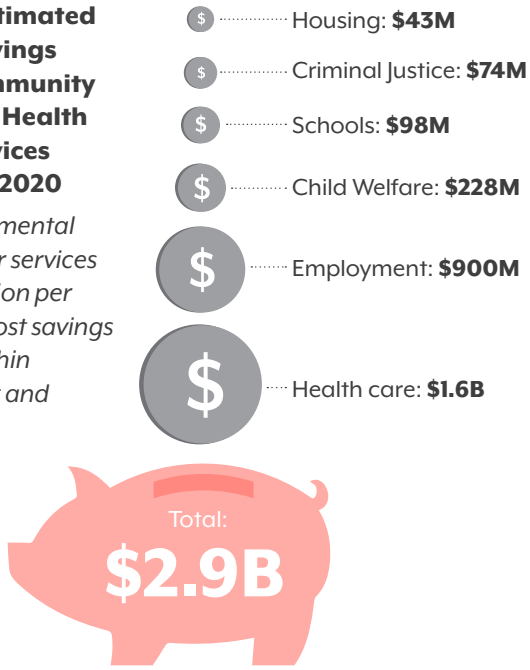
In this analysis, the Colorado Health Institute reviews the costs and benefits of the services provided by community mental health centers. This work was supported by the Colorado Behavioral Healthcare Council and the statewide network of community mental health centers.

The return-on-investment ratio of these community behavioral health services was found to be about 4.4 — in other words, for every $1 spent on community behavioral health care resources in Colorado, more than $4 was saved to other parts of the state economy. This comes to about $2.9 billion per year (see Figure 1.)

These savings are found in many areas of the state economy, including housing, criminal justice, health care, child welfare, employment, and school systems. And $2.9 billion may be an underestimate —

**Figure 1: Estimated Annual Savings Due to Community Behavioral Health Center Services by System, 2020**

*Community mental health center services save $2.9 billion per year, with most savings accruing within employment and health care.*



these are only those savings that could be identified using existing literature and evaluations.

Some recent legislation has improved the availability of behavioral health safety net services across the state. Looking ahead, policymakers may have an opportunity to use money from the American Rescue Plan Act to further this investment. This report offers a statewide look at where these investments are likely to see returns.

## The Approach

A key consideration in cost-benefit analyses is the "perspective" used in the approach. Perspectives identify which types of costs and savings are relevant to the analysis. For example, a state government perspective might focus only on costs incurred by the state government and savings realized by state programs.

This analysis takes a broader approach, known as a societal, or universal, perspective. It does not consider just one type of beneficiary but considers savings across multiple sectors, including the federal government, state government, and private employers.

The approach used here was adapted from "Measuring and Improving Cost, Cost-Effectiveness, and Cost-Benefit for Substance Abuse Treatment Programs: A Manual" (Brian Yates, 1999). Differences between this approach and the one outlined by Yates include basing the analysis on diagnosis rather than procedure, separating the outcomes and savings into distinct buckets, and, most notably, excluding steps that rely on clinics to identify the effectiveness of services. (The Colorado Health Institute's analysis instead relies on existing literature to identify connections between behavioral health diagnoses and outcomes of interest.) Yates's paper serves as the foundation for the analytic approach to this analysis; no data are based on these findings.

A five-year time horizon is used in this analysis, meaning reported outcomes (and their savings) are limited to those likely to be realized within five years of when people receive community behavioral health center services.

Appendix 1: Methodology provides a diagram overview of the cost-benefit approach, as well as a table with more detail on these categories.

It's important to note that this analysis reviews only those cost-savings identified by existing literature, and as such, may undercount the true impact of community mental health center services. In addition, this analysis relies on research done prior to the COVID-19 pandemic.

### Savings

When left untreated, behavioral health issues can be expensive — not just to individuals living with these conditions, but to society at large. Colorado's safety net provides critical services to many people with behavioral health care needs, who may also need access to housing, physical health care, or other supports that aid in their recovery.

By providing services to more than 200,000 Coloradans, community mental health centers save the state nearly $3 billion per year. These savings accrue in the health care system, criminal justice system, and others (see Figure 1).

### Health Care

According to the 2019 Colorado Health Access Survey, more than a third of Coloradans who reported poor behavioral health also reported poor physical health, compared with fewer than one in 10 Coloradans whose behavioral health is good (see Figure 2).

**Figure 2. General Health Status by Behavioral Health Status, 2019**[2]

*Coloradans whose behavioral health was poor reported poor overall health at rates more than three times higher than those whose behavioral health was good.*

Given this stark difference, it may be unsurprising that the largest single area of savings from community behavioral health center services is in other parts of the health care system. When behavioral health care is accessible, reductions occur in hospitalizations, emergency room use, and outpatient care.[3]

In Colorado, these avoided costs come to about $1.6 billion per year, or $7,800 for every person seen at community mental health centers.[4] Savings can range from $7,000 to $13,000 depending on the behavioral health diagnosis.

## Employment

Good behavioral health allows people to participate more fully in the workforce, which yields economic returns across the state. In Colorado, unemployment rates are significantly higher among people who report poor behavioral health (see Figure 3).

But the relationship between behavioral health and the workforce goes beyond unemployment rates. Even among employed individuals, those with chronic or acute behavioral health issues have higher rates of work absenteeism and reduced productivity, also known as "presenteeism." Studies estimate that people with behavioral health diagnoses lose between 2 and 28 workdays per year.[6,7]

**Figure 3. Unemployment by Behavioral Health Status, 2019**[5]

*Coloradans in the labor force with poor behavioral health had unemployment rates nearly twice as high as other Coloradans.*


Treatment options that address these behavioral health issues result in higher earnings for individuals and benefits to the economy at large. In Colorado, this amounts to $900 million every year, or $3,200 per working-age person receiving care at a community mental health center.[8,9]

## Child Welfare

Untreated behavioral health care needs can create unstable, even unsafe, environments for children. Children with an insecure home life often end up in the child welfare system, supported by state and federally-financed programs.

In Colorado, 122,000 parents reported poor behavioral health in 2019, and parenting during the COVID-19 pandemic likely exacerbated existing struggles.[10]

Services provided by community mental health centers can mitigate risks to children and associated costs by applying behavioral therapies, improving family relationships, and addressing behavioral health problems that are often seen in environments with a high risk of abuse and neglect.[11]

Improved behavioral health among caregivers results in fewer families becoming involved in the child welfare system. Across the state, this saves $228 million, or $1,100 per person cared for by community mental health centers.[12,13]

## Schools

While many behavioral health concerns such as depression and anxiety are more common among adults than children, prevalence among school-age children is unfortunately on the rise.[14] And because children are more likely than adults to be covered by public insurance such as Medicaid and Child Health Plan Plus, many rely on safety net clinics for care.

Nearly a third of people who receive care at Colorado's community mental health centers are under age 18. These services can have a substantial positive impact on education outcomes and costs to the school system. Children with chronic behavioral health conditions, such as attention deficit disorder or anxiety, often experience their most acute impairments in academic settings, and treatment can mitigate costs associated with additional disciplinary steps, special education use, and grade retention.[15]

In Colorado, these avoided costs come to $98 million per year, or more than $1,700 per child served at community mental health centers.[16]

## Criminal Justice

People with acute behavioral health needs are more likely to interact with the criminal justice system. An estimated 1 in 5 incarcerated people have a serious mental illness, compared with about 1 in 20 Americans overall.[17, 18]

Supports and treatment for serious mental illness can lower costs by reducing arrests and institutionalization in prisons and jails. One Colorado-based study saw recidivism reduced by 23% after behavioral health and substance use treatment were expanded, and expansion of such treatment in Texas and North Carolina have shown similar results.[19]

The Vera Institute of Justice estimates that incarceration of an individual costs more than $45,000 a year in Colorado.[20] By averting these incarceration-related costs, Colorado could save $74 million within the criminal justice system, or $370 per person receiving community mental health center services.[21]

## Housing

The relationship between housing and behavioral health is well-documented and complex. This close association goes beyond feeling safe in your home. A lack of stable housing can also harm behavioral health later in life.[22]

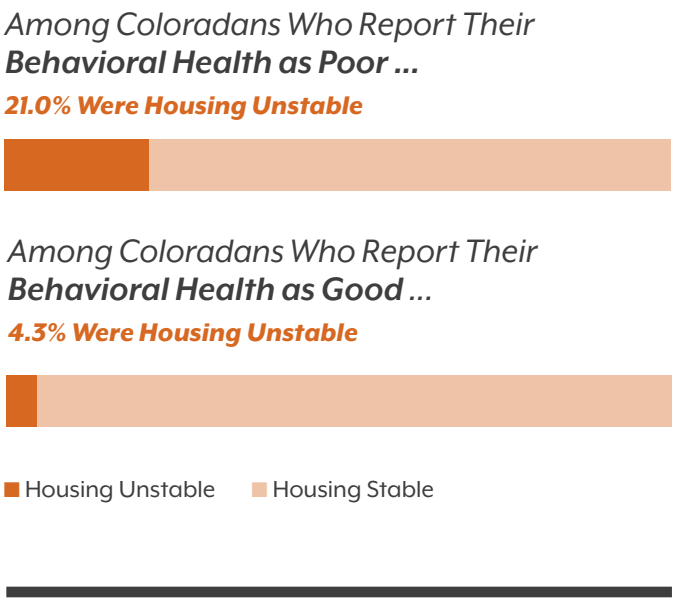
Coloradans who report poor behavioral health also report housing instability at a rate nearly five times higher than people who say their behavioral health is good (see Figure 4).

According to the Colorado Health Access Survey, in 2019, more than one in 10 low-income Coloradans was unsure of where they'd be able to live in the next two months. Losing housing due to eviction, increasing rent costs, or other factors can lead to concerns about safety and security and even homelessness.

Federal, local, and philanthropic supports for an individual without a home cost an average of $42,000 per year.[24] Behavioral health services such as those provided by community mental health centers can help people avoid some of these costly outcomes, reducing both the average number of days people experience housing instability and the likelihood that an individual will lose housing in the first place.[25, 26] In Colorado, these savings add up to $43 million per year, or just over $200 per person receiving treatment at community mental health centers.

**Figure 4. Housing Instability by Behavioral Health Status, 2019**[23]

*Coloradans whose behavioral health was poor reported housing instability at rates nearly five times higher than those whose behavioral health was good.*




## Costs

The estimated $2.9 billion in savings due to community behavioral health center services in Colorado do not come without a cost. Community behavioral health services are not free, and are supported by state, federal, and philanthropic funds.

In 2020, the cost of these services was $662 million. Community mental health center funding comes from Medicaid reimbursement, state contracts, private insurance, grants, and more.

Community mental health centers incur various expenses. The largest single expense, 70 cents of every dollar, is personnel costs of provider and administrative staff (see Table 2).

While the overall cost to run community mental health centers is high, their operations are efficient. The overhead cost, or percentage of costs going to administrative or other indirect activities, in fiscal year 2020 was 26%, considerably lower than the hospital industry average of 46%.[27] And historically, per-person expenditures by state mental health agencies in Colorado have trailed national figures ($99 vs $120).[28]

These costs are still exceeded by the savings by a ratio of 4 to 1. Ongoing investments in community mental health center services can result in ongoing savings to other parts of Colorado's economy.

## Looking Ahead

There are a few efforts underway to expand access to and funding for community behavioral health center services.

In 2019, Senate Bill 222 appropriated state dollars to improve the safety net system and care for people at risk of being arrested and institutionalized. Specifically, it requires the state's Department of Human Services and Department of Health Care Policy and Financing to ensure high-intensity behavioral health treatment programs are available statewide.

The soon-to-be-formed state Behavioral Health Administration may also wish to prioritize behavioral health care access for Coloradans that look to community mental health centers for care.

Finally, in 2021, community mental health centers may also receive stimulus funds from the federal American Rescue Plan Act. More than $600 million has been earmarked to support the behavioral health system in Colorado. Policymakers may be able to decide whether and how to leverage money from the American Rescue Plan Act, and investments in community mental health centers could yield dividends elsewhere in the state budget.

Yet spending on behavioral health should go beyond one-time investments. Behavioral health conditions are cyclical, and most people need ongoing care throughout their lifetime. Given the potential for savings offered by behavioral health center services, investments benefit the behavioral health of Coloradans as well as the overall economy.

**Table 2: Costs in Colorado Community Mental Health Centers, Fiscal Year 2020**

Community behavioral health center services cost $662 million per year, with personnel being the largest cost category.

| Cost Category | Amount |
|---|---|
| Personnel | $469M |
| Client Costs | $57M |
| Occupancy | $39M |
| Operating | $56M |
| Depreciation and Amortization | $18M |
| Provision for Uncollectable Accounts | $3M |
| Professional Fees | $14M |
| Donations | $6M |
| **Total** | **$662M** |

## Conclusion

Behavioral health issues impact the lives of hundreds of thousands of Coloradans every day, and supporting these state residents with services such as those offered by community mental health centers can yield substantial savings to the state economy.

This support can prevent people from experiencing other health care issues, homelessness, involvement with the criminal justice system, and more. In addition to making sure Coloradans can live their healthiest lives, these interventions can save more than $4 for every $1 invested.

By continuing to make wise investments in behavioral health care services, Colorado could reap additional dividends across the state.

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# Keeping People Out of the System

***In addition to the services detailed in this report, community mental health centers accrue savings by providing wrap-around services. Other more recent promising programs are working to keep people with behavioral health concerns out of the system entirely. These high-value services either do not fit into this analysis or were introduced too recently to include in these cost-benefit calculations, but should still be recognized for their efficiency, value, and savings.***

## Co-Responder Programs

Colorado's 26 co-responder programs, funded through the Department of Human Services Office of Behavioral Health, affect people at the point of interaction with the criminal justice system. They pair mental health clinicians with local law enforcement agencies to respond to calls involving people with suspected behavioral health and/or substance use disorders.

Co-responder teams are trained to assist people in crisis and provide the most effective services for resolution. The goals of the program are to prevent the unnecessary incarceration and hospitalization of people with behavioral health conditions and to provide alternative care through system coordination. Sometimes, meeting an individual or family's behavioral health needs does not require a formal treatment referral but rather the identification of resources, alternative treatment options, and long-term community supports.

## Right Start for Colorado Infant and Early Childhood Mental Health Grant Program

Right Start for Colorado is a five-year Substance Abuse and Mental Health Services Administration-funded initiative led by the Mental Health Center of Denver to expand and improve infant and early childhood mental health services across Colorado. It seeks to build a strong, competent infant and early childhood mental health workforce that can meet the needs of young children and their families.

## Alternate Pain Management Program

Opioid use alone costs Colorado more than $14 million per year.  The Southeast Health Group provides access to alternate pain management techniques, such as dry needling, exercise coaching, chiropractic care, cupping, massage, kinesiology taping, hydrotherapy, and Acudetox, for people in its community. These alternative treatments have been shown to reduce cravings and support recovery.

Over the past year, this program has treated 54 clients, most of whom have reported increased quality of life and decreased pain levels.

# Appendix 1: Methodology

This cost-benefit analysis uses data from community mental health centers and published literature to evaluate the costs of providing community behavioral health care services and to estimate societal savings that follow these investments.

Community mental health centers provided data on the number of clients served annually, as well as their primary diagnoses. The Colorado Health Institute then used peer-reviewed and other literature to identify the likely effectiveness of community behavioral health services in reducing the incidence of disease or disease burden for each of these diagnoses and saving money in outcomes such as health care, schools, housing, employment, child welfare, and criminal justice.

Wherever possible, the value of averted costs was quantified using local data — for example, average incarceration costs are based on a Colorado study. Values were updated using the consumer price index to reflect 2020 figures.

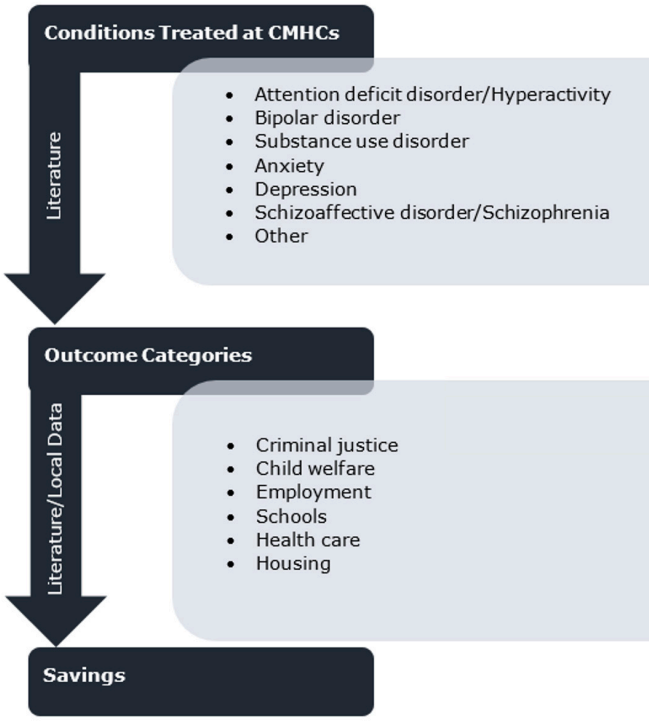
Within each section are examples of how savings were estimated for anxiety diagnoses. These combine findings from the literature, local data, and data provided by the Colorado Behavioral Healthcare Council to estimate one aspect of the impact of anxiety treatment.

The cost of providing these services was based on audited financial records. Expenses were reported in fiscal year 2020 cost reports.

Treatment effects were identifying using the Washington State Institute for Public Policy's benefit-cost database. Where studies indicated different treatment impacts of common interventions, the effects were averaged.

Additional notes on limitations and considerations by outcome category are provided on Page 9.

**Figure A1. Schematic of Analysis Methodology Used to Calculate Savings**



## Health Care

Differences in medical and surgical health care for people with serious mental illness, non-serious mental illness, and substance use disorders were used as the savings outcomes associated with health care. Differences among people with non-serious mental illness were applied to attention deficit disorder/hyperactivity, depression, and anxiety diagnosis groups. Differences among people with serious mental illness were applied to all depression, bipolar disorder, schizoaffective disorder/schizophrenia, and all other diagnosis groups.

**Figure A2. Example Outcome Saving Calculation: Anxiety and Health Care Costs**

| | Example | Notes |
|---|---|---|
| **Diagnosis** | Anxiety | |
| **Treatment Effect** | 84% | Average impact of treatments for anxiety as identified by a Washington State Institute for Public Policy meta-analysis. |
| **Outcome** | Health Care Costs | |
| **Value (Per Capita Cost Burden)** | $7,112 | One estimate of health care cost burden projected annual impacts of $7,112 attributable to "non-serious" mental illness diagnoses such as anxiety. |
| **Diagnosed Client Count** | 35,667 | Provided by the Colorado Behavioral Healthcare Council. |
| **Treated Client Count** | 29,925 | This is the presumed "effectively treated" population based on the 84% "treatment effect" average. |
| **Savings** | $ 213,120,659 | If 29,925 people cost $7,112 less per year total savings in health care costs come to $213 million. |

## Employment

Absenteeism (days of work missed) and presenteeism (reduced productivity) were the savings outcomes used within employment. Rates of absenteeism due to anxiety were applied to the attention deficit disorder/hyperactivity and anxiety diagnosis populations. Rates of absenteeism and presenteeism due to depression were applied to all other behavioral health diagnosis categories.

Rates of presenteeism due to anxiety were not identified in the literature, and so the ratio of presenteeism:absenteeism identified for depression was applied to the rate of absenteeism identified for anxiety.

The model assumes that the value of a lost hour of work is equivalent to the average wage in Colorado. The ratio of community mental health center clients ages 18 and older was applied to all diagnosis groups in order to approximate the eligible labor force.

**Figure A3. Example Outcome Saving Calculation: Anxiety and Absenteeism**

| | Example | Notes |
|---|---|---|
| **Diagnosis** | Anxiety | |
| **Treatment Effect** | 84% | Average impact of treatments for anxiety as identified by a Washington State Institute for Public Policy meta-analysis. |
| **Outcome** | Absenteeism (Workdays Missed) | |
| **Value** | 2.18 | One multivariate regression study identified 2.18 workdays per year are missed due to anxiety disorders. |
| **Per Capita Cost Burden** | $393 | According to the Bureau of Labor Statistics, the median annual wage in Colorado is $22.52. An 8-hour workday means the average daily wage is $180. If 2.18 workdays are missed per year, this brings the value of missed workdays to $393 per person. |
| **Diagnosed Client Count** | 24,777 | Provided by the Colorado Behavioral Healthcare Council, adjusted based on the percentage that are likely in the workforce. |
| **Treated Client Count** | 20,788 | This is the presumed "effectively treated" population based on the 84% "treatment effect" average. |
| **Savings** | $8,164,554 | If 20,788 people are able to work an additional 2.18 days per year, the total savings in productivity comes to $8 million. |

## Child Welfare

Out-of-home foster placement was the savings outcome associated with child welfare. The expected impact of community behavioral health center treatment on out-of-home placement was calculated by adjusting the overall Colorado child population's rate of out-of-home placement (0.7%) by the increased incidence of behavioral health concerns in the population of people experiencing homelessness. Increased incidence rates among populations experiencing homelessness were used where foster-involved family rates could not be identified. For attention deficit disorder/hyperactivity, substance use disorder, and bipolar disorder, these incidence rates were identified in the literature. For other diagnosis categories, differentials in rates of non-serious mental illness were applied to anxiety and depression, while differentials in rates of serious mental illness were applied to schizophrenia and all other diagnoses.

**Figure A4. Example Outcome Saving Calculation: Anxiety and Out-of-Home Foster Placements**

| | Example | Notes |
|---|---|---|
| **Diagnosis** | Anxiety | |
| **Treatment Effect** | 84% | Average impact of treatments for anxiety as identified by a Washington State Institute for Public Policy meta-analysis. |
| **Outcome** | Out-of-Home Foster Placements | |
| **Value** | 1.5% | In an estimated 1.5% of homes with untreated anxiety, out-of-home foster placements occur. |
| **Per Capita Cost Burden** | $63,265 | The average cost of foster placements per child per year is a little over $63,000. |
| **Diagnosed Client Count** | 35,667 | Provided by the Colorado Behavioral Healthcare Council. |
| **Treated Client Count** | 29,925 | This is the presumed "effectively treated" population based on the 84% "treatment effect" average. |
| **Savings** | $28,949,262 | If 1.5% of 29,925 people are able to avoid out-of-home placements, the total savings to child welfare comes to $29 million. |

## Schools

Disciplinary acts (including suspension and expulsion) and grade retention were the savings outcomes identified within the school system. Due to limitations in the literature, the relative additional costs to schools for a student with attention deficit disorder/hyperactivity was applied to all behavioral health diagnoses.

The ratio of community mental health center clients ages 5-17 was applied to all diagnosis groups in order to approximate the school-age population.

**Figure A5. Example Outcome Saving Calculation: Behavioral Health Diagnosis and School Costs**

| | Example | Notes |
|---|---|---|
| **Diagnosis** | Any behavioral health diagnosis | |
| **Treatment Effect** | 69% | Average impact of treatments for behavioral health as identified by a Washington State Institute for Public Policy meta-analysis. |
| **Outcome** | School Costs | |
| **Value (Per Capita Cost Burden)** | $5,744 | One study estimated the impact of behavioral health issues on school costs to be $5,744 per student per year. |
| **Diagnosed Client Count** | 55,358 | Provided by the Colorado Behavioral Healthcare Council, includes school-aged youth only. |
| **Treated Client Count** | 17,094 | This is the presumed "effectively treated" population based on the 69% "treatment effect" average. |
| **Savings** | $ 98,182,580 | If 17,094 students do not cost additional resources, the total savings to schools is estimated at $98 million. |

## Criminal Justice

Incarceration of an individual in prisons or jails was the savings outcome associated with criminal justice. The expected impact of community mental health center treatment on incarceration was calculated by adjusting the overall Colorado population's rate of incarceration (0.3%) by the increased incidence of behavioral health concerns in the population of people who are incarcerated.

**Figure A6. Example Outcome Saving Calculation: Anxiety and Incarceration**

| | Example | Notes |
|---|---|---|
| **Diagnosis** | Anxiety | |
| **Treatment Effect** | 84% | Average impact of treatments for anxiety as identified by a Washington State Institute for Public Policy meta-analysis. |
| **Outcome** | Incarceration | |
| **Value** | 1.2% | The incarceration rate for people with mental illness is estimated to be 1.2%. |
| **Per Capita Cost Burden** | $45,079 | The average cost of one year of incarceration is $45,079. |
| **Diagnosed Client Count** | 35,667 | Provided by the Colorado Behavioral Healthcare Council. |
| **Treated Client Count** | 29,925 | This is the presumed "effectively treated" population based on the 84% "treatment effect" average. |
| **Savings** | $15,564,977 | If 29,925 people are not incarcerated, the total savings to criminal justice is valued at $15 million |

## Housing

Support for an individual experiencing homelessness was the savings outcome identified for housing. The expected impact of community mental health center treatment on homelessness was calculated by adjusting the overall Colorado population's rate of homelessness (0.2%) by the increased incidence of behavioral health concerns in the population of people experiencing homelessness. For attention deficit disorder/hyperactivity, substance use disorder, and bipolar disorder, these incidents rates were identified in the literature. For other diagnosis categories, differentials in rates of non-serious mental illness were applied to anxiety and depression, while differentials in rates of serious mental illness were applied to schizophrenia and all other diagnoses.

**Figure A7. Example Outcome Saving Calculation: Anxiety and Homelessness**

| | Example | Notes |
|---|---|---|
| **Diagnosis** | Anxiety | |
| **Treatment Effect** | 84% | Average impact of treatments for anxiety as identified by a Washington State Institute for Public Policy meta-analysis. |
| **Outcome** | Homelessness | |
| **Value** | 0.4% | The estimated incidence of homelessness among people with a "non-serious" mental illness such as anxiety is 0.4%. |
| **Per Capita Cost Burden** | $41,781 | The average cost to support a person without a home in Colorado is $41,781. |
| **Diagnosed Client Count** | 35,667 | Provided by the Colorado Behavioral Healthcare Council. |
| **Treated Client Count** | 29,925 | This is the presumed "effectively treated" population based on the 84% "treatment effect" average. |
| **Savings** | $5,462,382 | If 29,925 people are less likely to experience homelessness, the savings come to $5 million. |

# Appendix 2: Study List

Throughout the research process, the Colorado Health Institute identified numerous studies investigating cost savings, but not all were used in this analysis. These studies are detailed below, as community mental health centers may still find these results useful.


Abikoff, H., et al. (2014). Parent training for preschool ADHD: a randomized controlled trial of specialized and generic programs. Journal of Child Psychology and Psychiatry, 56(6), 618-631.

Albano, A.M., et al. (2018). Secondary outcomes from the child/adolescent anxiety multimodal study: Implications for clinical practice. Evidence-Based Practice in Child and Adolescent Mental Health, 3(1), 30-41.

Burke, J.D., & Loeber, R. (2015). The Effectiveness of the Stop Now and Plan (SNAP) program for boys at risk for violence and delinquency. Prevention Science, 16(2), 242-253.

Carnes-Holt, K., & Bratton, S.C. (2014). The efficacy of Child Parent Relationship Therapy for adopted children with attachment disruptions. Journal of Counseling & Development, 92(3), 328-337.

Castells-Aulet, L., et al. (2014). Impact of involuntary out-patient commitment on reducing hospital services: 2-year follow-up. Psychiatric Bulletin, 38, 1-4.

Castillo, D.T., et al. (2016). Group-delivered cognitive/exposure therapy for PTSD in women veterans: A randomized controlled trial. Psychological Trauma: Theory, Research, Practice, and Policy, 8(3), 404.

Chacko, A., et al. (2015). Multiple family group service model for children with disruptive behavior disorders: Child outcomes at post-treatment. Journal of Emotional and Behavioral Disorders, 23(2), 67-77.

Chinman, M., et al. (2014). A cluster randomized trial of adding peer specialists to intensive case management teams in the Veterans' Health Administration. The Journal of Behavioral Health Services and Research, 1-13.

Chisolm, D., et al. (2016). Scaling-up treatment of depression and anxiety: a global return on investment analysis. The Lancet Journal of Psychiatry (3): 415-424.

Chorpita, B., et al. (2017). Child STEPs in California: A cluster randomized effectiveness trial comparing modular treatment with community implemented treatment for youth with anxiety, depression, conduct problems, or traumatic stress. Journal of Consulting and Clinical Psychology, 85(1), 13-25.

Clarke, G., et al. (2016). Cognitive Behavioral Therapy in Primary Care for Youth Declining Antidepressants: A Randomized Trial. Pediatrics, 137(5), 1-13.

Conelea, C.A., et al. (2017). Secondary outcomes from the pediatric obsessive compulsive disorder treatment study II. Journal of Psychiatric Research, 92, 94-100.

Cooper, M., et al. (2019). Systematic client feedback in therapy for children with psychological difficulties: Pilot cluster randomized controlled trial. Counseling Psychology Quarterly.

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