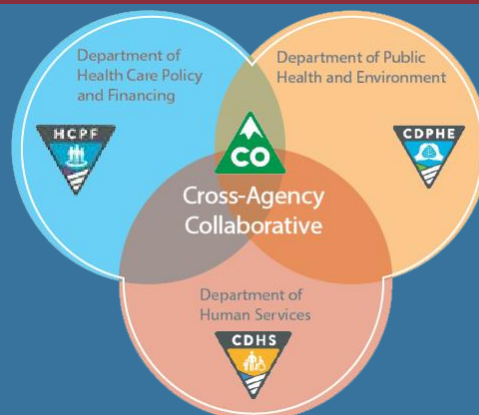# Measuring Behavioral Health: Fulfilling Colorado's Commitment to Become the Healthiest State

A Report by the Colorado Cross-Agency Collaborative

Department of Health Care Policy and Financing

HCPF

Department of Public Health and Environment

CDPHE

CO

Cross-Agency Collaborative

Department of Human Services

CDHS

Introduction

This report, the first in a series of reports from the Colorado Cross-Agency Collaborative, lays out the goals, objectives and baseline data for behavioral health in Colorado. Setting goals and measuring progress in behavioral health will improve overall health outcomes for Coloradans.

Governor Hickenlooper released *The State of Health: Colorado's Commitment to Become the Healthiest State* (*State of Health*) in May 2013 to address current challenges in Colorado's health system and outline our administration's key initiatives to help Coloradans stay healthy and become healthier. The *State of Health* explains Colorado's priorities, stating, "Colorado must build a comprehensive and person-centered statewide system that addresses a broad range of health needs, delivers the best care at the best value, and helps Coloradans achieve the best health possible." [1]

The *State of Health* identified four key focus areas:

1. Promoting prevention and wellness: helping Coloradans stay healthy or become healthier.
2. Expanding coverage, access and capacity: ensuring individuals can access care at the right time and the right place.
3. Improving health system integration and quality: eliminating barriers to better care and improving our ability to work effectively within and across systems.
4. Enhancing value and strengthening sustainability: redesigning financial incentives and infrastructure to focus on quality and value, not volume.

To advance efforts in these focus areas, the Colorado Department of Public Health and Environment (CDPHE), the Colorado Department of Human Services (CDHS), and the Colorado Department of Health Care Policy and Financing (HCPF) partnered to create the Colorado Cross-Agency Collaborative. This Collaborative will produce a series of focused quarterly reports using metrics from the state agencies that focus on health issues in Colorado.

The Collaborative recognizes that each agency strives to positively impact Coloradans. Oftentimes, however, these efforts could be better coordinated. By leveraging points of intersection, the Collaborative intends to foster alignment and the establishment of priority efforts and targeted interventions in order to more effectively improve Coloradans' health.

The Collaborative's short-term goals are to:

- Identify, track and trend metrics collected by State agencies
- Develop aligned initiatives that impact Coloradans' health
- Set targets and benchmarks for performance

The Collaborative's long-term goals are to:

- Expand the scope of this project to include alignment with other State agencies, including the Department of Corrections, the Department of Education, and the Office of Information Technology
- Create a combined, statewide strategy of common programs that create economic opportunities through improved health
- Expand population health data to allow for community, state, and national comparisons

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[1] The State of Health Report, 2013

- Improve efficiency of programs and resource allocation

This report, the Collaborative's first in the series, focuses on the behavioral health of Coloradans, how behavioral health contributes to overall health and well-being, and the metrics we can use to assess our progress toward improving behavioral health across the state.

Behavioral health is connected to overall health and well-being. Behavioral health includes mental health, but it is much more. It is the connection between behavior and the well-being of the body and mind. It includes both external factors and personal habits—negative ones like substance use and positive ones like exercising.

The primary goals and objectives in the *State of Health* related to behavioral health are:

- Improve mental health
- Reduce substance abuse
- Support better behavioral health through integration

CDPHE, CDHS and HCPF have long invested resources to improve Coloradans' physical and mental health. In order to align and reframe these agencies' efforts, the Brookings Institution framework was adopted. This framework is an evidence-based model that predicts outcomes based on indicators during critical periods throughout one's life cycle. The Brookings Institution's focus on eliminating economic disparities as a path to health and wellness also anchors the missions and goals of the Collaborative agencies.

According to the *State of Health*, "Healthy people achieve higher educational status, greater employment, and less poverty across all ethnic groups."[1] Individuals who are affected by a debilitating illness may have difficulty reaching their full potential in life and becoming economically stable. Based on comparisons with other states in the nation, the Collaborative's Behavioral Health report ranks Colorado poorly on a number of behavioral health measures. In particular, Colorado has the fifth highest suicide rate in the nation, which also accounts for one of the leading causes of death among adolescents, young adults, and adults under the age of 45.[2] In addition, Colorado has the second highest rate of nonmedical use of prescription pain relievers.[3]

Children and families in poverty have even worse outcomes that affect mental health. They fall behind on almost all measures that present a challenge for healthy child development, such as high smoking rates during pregnancy, teen pregnancies, and unintended pregnancies. Women who experience unintended pregnancies are more likely to have negative mental health outcomes and delay the initiation of prenatal care compared to women who intended to have a child.[4] Additionally, poverty may cause increased parental stress, contributing to substance use, violence in homes, and violence in communities. These factors may impact on parent's ability to be an emotional resource for their children.

> "If Colorado ranked number one among other states in mental health, 92,600 fewer Coloradans would suffer from poor mental health, and Colorado employers and employees could save $121.1 million in annual healthcare costs."[1] *- State of Health*

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[1] The State of Health Report, 2013
[2] Colorado Health Statistics and Vital Records. 2010-2012
[3] SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2010 (Revised March 2012)
[4] Brookings Institution, *The High Cost of Unintended Pregnancy,* 2011

There are some behavioral health measures in which Colorado excels. Only 5.2% of children in Colorado were diagnosed with Attention Deficit Hyperactivity/Attention Deficit Disorder, compared to 8.8% nationally.[1] In addition, Colorado is well-positioned to address behavioral health issues through health care expansion, which holds the potential to improve health outcomes. Through increased access to behavioral health services, more people can seek treatment to improve mental health and substance use disorders.

The Colorado Cross-Agency Collaborative between CDPHE, CDHS, and HCPF shares data and establishes priority efforts in Colorado. This report contains the baseline data on behavioral health from all three agencies. The quarterly reports published by the agencies will track progress, address the health disparities and identify intervention strategies.

By capitalizing on the unique and complementary roles of each state agency and reducing duplication of efforts, the Colorado Cross-Agency Collaborative will advance the Governor's health agenda. By addressing health issues across the lifespan, it will create the conditions in which people can be healthy, making Colorado the healthiest state in the nation.

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[1] Colorado Child Health Survey, 2012

Goals and Objectives

Colorado:
Commitment to
Become the
Healthiest State

Improve Mental Health

Reduce Substance Abuse

Support Better Behavioral Health Through Integration

- Urgent need to incorporate behavioral health- encompass mental health, substance use and behavior change - into our systems that provide physical health
- Improve privacy concerns and access to mental health providers
- Increase mental health coverage, reduce financial barriers and stigma surrounding mental health conditions
- Improve self-recognition

- Expand use of patient-centered medical homes
- Support access to state information and services
- Prevention through community coalitions

- Improve access to community-based long term services and supports
- Expand public and private health insurance coverage
- Strengthen Colorado 's workforce
- Improve primary care and health services access
- Achieve cost containment in Medicaid
- Advance payment reform in public and private sectors
- Invest in Health IT

- Identify opportunities within existing data collection systems to better measure effectiveness of behavioral health outcomes.
- Implement necessary changes to data collection systems
- Set statewide performance benchmarks

Behavioral Health Data Across the Life-Span

To provide every Colorado citizen with an equal opportunity for prosperity and good health, the state of Colorado is adopting a "lifespan" approach that focuses on social, economic and cultural contexts. This approach acknowledges the physical, social and emotional developments during gestation, childhood, adolescence, young adulthood and midlife that affect chronic disease and long-term risks to health.[1] These six critical periods as defined by the Brookings Institution are described below, along with the goals for each stage[2]:

• Family formation (conception through birth): parental readiness

• Early childhood (0-5): school readiness

• Middle childhood (5-12): acquisition of core competencies

• Adolescence (12-19): college and career readiness

• Transition to adulthood (20-29): economic self-sufficiency

• Adulthood (over 30): middle class by middle age

This report offers behavioral health baseline data in each of these life stages, revealing Colorado's challenges and opportunities for improvement.

Family Formation. In 2011, only 57.6% of women with Medicaid coverage accessed postpartum care.[3] Data regarding postpartum care for the entire statewide population is not currently available, although 13.3% of mothers with Medicaid coverage report postpartum depression, whereas 10.3% of the overall Colorado population indicated feeling depressed.[4] Mothers who do not receive adequate prenatal and postpartum care are at increased risk of undiagnosed maternal depression, and they may not receive guidance around smoking cessation and other preventative interventions. Furthermore, a mother's behavioral health can greatly impact the health of her children. Mothers impacted by stressors and depression are more likely to deliver their babies prematurely, give birth to children with a low birth weight, and are less likely to breastfeed their children.[5] Poor maternal behavioral health can also impact the behavior of a growing child in areas like regulating emotions and behaviors, delayed language skills, and poor literacy skills.[3]

Early Childhood. The early childhood period (ages 0-5) is a time of incredible growth in all areas of development. During these early years, the foundation is set for positive relationships, strong physical and mental health and well-being, and lifelong learning. Some of the development that takes places involves the increase in ability to self-sooth and self-regulate behavior and emotions. These skills are critical to developing behaviors that allow children to participate in and benefit from educational settings. Having consistent caregivers and structured/predictable environments allows children to develop social emotional skills that are at the core of school readiness. CDPHE collects data about parent's perception of their child's emotional, developmental and behaviors on the Colorado Child Health Survey. While this data point allows us to assess parent's level of concern about their child's behavior, it does not capture a child's developmental progress. CDHS-Office of Early Childhood is currently identifying outcome measures that can assess young children's' readiness for school, which will provide

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[1] A Life Course approach. World Health Organization(WHO), 2000
[2] Brookings Institution, Social Genome Model, 2013
[3] Healthcare Effectiveness Data and Information Set, 2012
[4] Pregnancy Risk Assessment Monitoring System, 2011
[5] Depression, Moving Beyond. An Effective Program to Treat Maternal Depression in Home Visiting: Opportunities for States, 2014

additional information in this area. Due to the limited data specific to early childhood behavioral health, the Collaborative will focusing more extensively on early childhood health in the next Collaborative report.

Middle Childhood. School age children rely on safe environments to fully participate academically. Without safe environments at school and in communities, children experience stressors that inhibit the ability to concentrate on tasks such as learning and development of positive social skills. While we have parent reported data on child behavior and the prevalence of ADD/ADHD for school aged children, this is an identified area for further data development.

The Colorado Cross-Agency Collaborative data also highlighted concerns about children in foster care. In 2012, 11.5 % of children in foster care on Medicaid were prescribed antipsychotic drugs, compared to only 1.3% for all children in Medicaid.[1] Antipsychotics are often prescribed to help with mood instability and aggression, which many foster children exhibit. These drugs are often used to treat symptoms rather than conditions. Health professionals need to ensure that children are prescribed only the necessary medications, in addition to behavioral health interventions, that support healthy development.

Adolescence. During the adolescent life stage, the Collaborative's data highlighted the work CDPHE implemented to address teen pregnancies in Colorado. Colorado's teen birth rate dropped 40% from 2009 through 2013, driven by an initiative that helps low-income women get long-acting reversible contraceptives. The overall Colorado teen birth rate is near the national average. The data also illustrates a large disparity in teen pregnancies between clients with Medicaid coverage and the overall population of Colorado. Girls 15-17 years with Medicaid coverage are twice as likely to have a child compared to the overall Colorado population of that age.[2]

In addition, adolescents affected by poor mental health may be more inclined to drop out of school, exhibit delinquent behavior, higher alcohol, tobacco and illicit substance use, and teen pregnancy.[3] Colorado data showed that 8.6% of Colorado teens aged 12–17 with Medicaid coverage are diagnosed with depression. One of the identified gaps in this project is additional data on adolescent behavioral health. Screening for depression and substance use in primary care (and capturing data on that screening) will help Colorado create and maintain appropriate services to youth in need.

Transition to Adulthood. Youths transitioning into adulthood are at a difficult intersection of life, and that stress may increase the possibility of substance use and the risk for other behavioral health conditions. The National Survey on Drug Use and Health reported that 14.0% of 18–25 year olds in Colorado indicate using prescription pain relievers for nonmedical use. These drugs are highly addictive and may lead to death. Screening for substance use and access to appropriate treatment may help transitioning youth to meet their full potential.

Adulthood. Suicides in Colorado are very high at 19.7 per 100,000 compared to the national average of 12.5 per 100,000. [4,5] Resources should be focused on suicide prevention programs that treat symptoms of depression, that improve coping strategies of persons who would otherwise seriously consider suicide, and that give people hope for finding resolutions and strategies for managing life's stressors.

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[1] Colorado Evidence-Based Drug Utilization Review Program, 2012
[2] Colorado Birth Certificate data, 2010-2012
[3] World Health Organization, Adolescent Mental Health, 2012
[4] Medicaid reporting system FY 12-13
[5] Organization for Economic Co-operation and Development (OECD) Health at a glance 2013

The Colorado Cross-Agency Collaborative data provides great insight into the challenges Colorado faces, and it helps us to understand what Colorado needs to do to address behavioral health in our state.

Next Steps

The Colorado Cross-Agency Collaborative already has identified a number of interventions and programs underway at each of our agencies that address some of the challenges in this Collaborative Behavioral Health report.

CDHS adopted the *Two Generation* approach, which recognizes three key components for creating opportunity: education, economic support, and social capital. CDHS is implementing significant child welfare reforms that allows for children and families involved with child welfare to engage in services and programs that support stability for children. One of the targeted interventions in the reform efforts is screening children for behavioral health conditions and connecting identified children to appropriate services.

The 2013 Colorado State Legislature funded CDHS-Office of Behavioral Health to implement a statewide mental health crisis line and develop behavioral health crisis centers throughout the state. The statewide crisis line has been implemented and the crisis centers will offer Coloradans behavioral health services and crisis intervention services.

CDPHE has a long history of focusing on social determinants of health and has invested resources in the *10 Winnable Battles*, which are public health and environmental priorities that have large scale impacts on health and the environment. CDPHE implemented a statewide family planning initiative has helped thousands of young women avoid unintended pregnancy. The infant caseload for Colorado WIC, a program that provides nutrition education and support to low-income women and their babies, fell 23 percent from 2008 to 2013. Through this effort Colorado saved on health care expenditures associated with teen births.[1]

CDPHE also implemented an innovative public campaign called *Man Therapy,* targeting men ages 25–55, which is intended to lessen the stigma of behavioral health treatment. This campaign is intended to strategically address the high suicide rate for men in Colorado.

HCPF's health care reform efforts focus on preventative services and health outcomes. The path to a lasting impact on health outcomes lies with whole-person care that leverages programs and interventions to create opportunities for families. The Accountable Care Collaborative (ACC) is HCPF's effort to transform Colorado Medicaid from a system that relies on fee-for-service payment for episodic care into a system that encourages and rewards integrated, person-centered care that leads to good health outcomes for Colorado's Medicaid clients and lower costs for the state.

Colorado's expanded Medicaid coverage is providing over 1 million clients access to care. In addition, HCPF has expanded substance use treatment benefits for Medicaid clients. HCPF is also actively working to reduce prescription drug use in the Accountable Care Collaborative.

The Colorado Cross-Agency Collaborative will advance the Governor's health agenda by capitalizing on the unique and complementary roles of each state agency. By addressing health issues across the lifespan, we have the best chance to create the conditions in which people can be healthy and truly make Colorado the healthiest state in the nation.
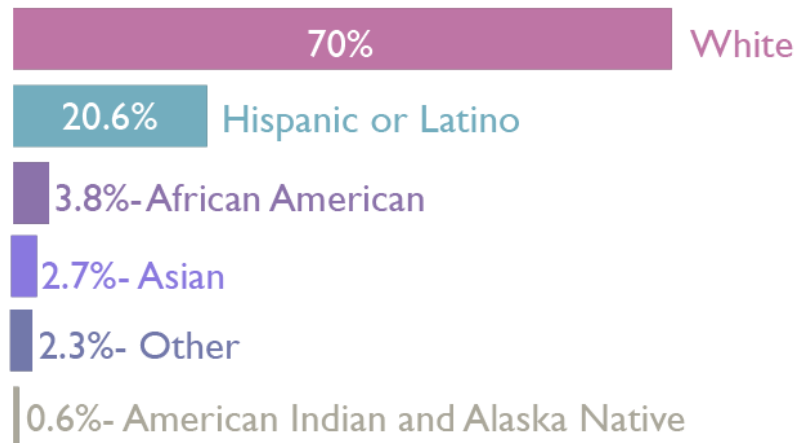
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[1] Office of Communications, Colorado department of Public Health and Environment News release: Colorado teen birthrate plummets, 2014

Colorado Demographics and Mental Health

Colorado Population[1]

5,268,367

Race and Ethnicity of Colorado[1]

- 70% White
- 20.6% Hispanic or Latino
- 3.8%-African American
- 2.7%- Asian
- 2.3%- Other
- 0.6%- American Indian and Alaska Native

Gender Distribution in Colorado[1]

♂ 50.2%   ♀ 49.8%

Age-adjusted Rate of Emergency Department Visits in Colorado for Mental Health Diagnosis,[2] 2011

5,990.3 per 100,000

Age-adjusted Rate of Hospitalizations with a Mental Health Diagnosis in Colorado[3], 2009- 1011

2,912.2 per 100,000

[1] American Community Survey, 2012

[2] Colorado Hospital Association. 2011 Emergency Department Visits Dataset.

[3] Colorado Hospital Association. 2009-2011 Hospital Discharge Dataset.

[4] Medicaid Reporting System, FY 2012-2013

Distribution of Clients with Medicaid Coverage who have a Mental Illness per 1,000 by County in Colorado[4], FY 2012-2013

Quintiles of mental illness rate per 1,000 by County

1st Qntl.	2nd Qntl.	3rd Qntl.	4th Qntl.	5th Qntl.

Min. =67   116   128   142   159   223

Family Formation

The Brookings Institution identified critical indicators throughout six life stages that predict future success. The first life stage is defined as "Family Formation," which spans from conception through birth. Research demonstrates that the time before birth plays an important ro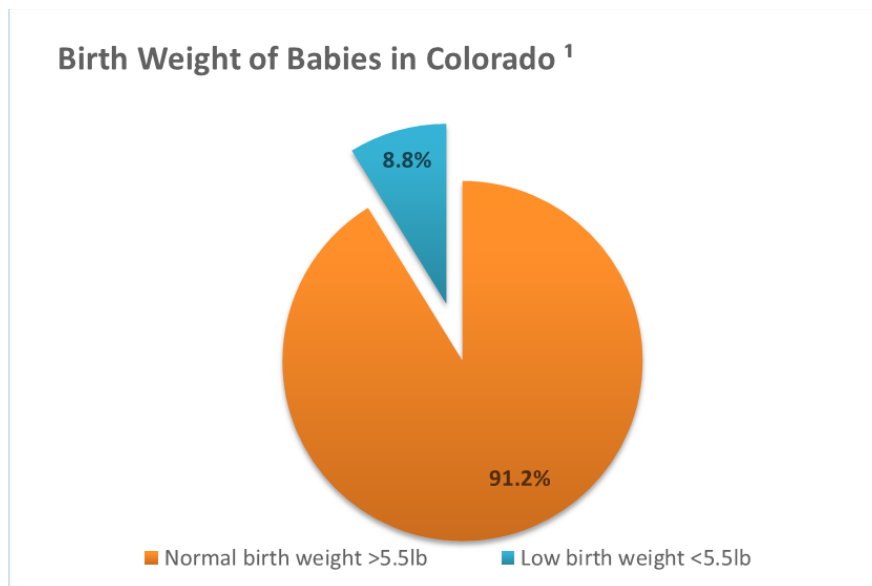le in determining the future health outcomes of children. Unintended pregnancies are one of the indicators shown to impact families' long-term trajectory.

Additionally, single-parent households are at greater risk of poverty, increasing the child's risk of cognitive and social/emotional impairment.

Intergenerational poverty has also been shown to increase the likelihood of remaining in poverty as an adult.

Therefore, it is important that we focus our resources on creating healthy environments for children and families, where the right start in life can be achieved, furthering the health and economic outcomes for Coloradans.

The Brookings Institution identified the following family formation success benchmarks: born at normal birth weight (5.5lb) to a non-poor, two-parent household, with at least a high school diploma.

Birth Weight of Babies in Colorado [1]

8.8%

91.2%

- Normal birth weight >5.5lb
- Low birth weight <5.5lb

Source: [1] CDPHE Birth Certificate 2010-2012

Birth Weight of Babies in Colorado with Medicaid Coverage [2]

9.6%

90.4%

- Normal birth weight >5.5lb
- Low birth weight <5.5lb
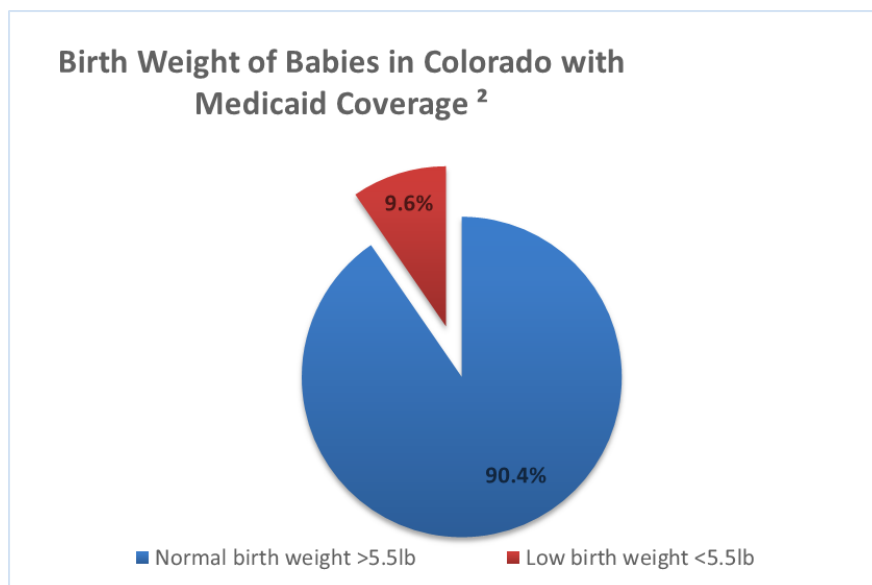
Source: [2] HCPF Medicaid Birth Certificate FY 2012-2013

8%

% LBW babies in US
*CDC, 2012

Family Formation
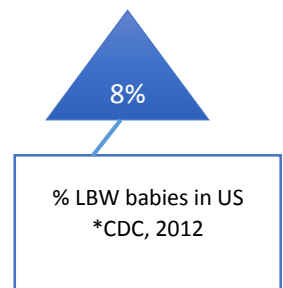
Born into Poverty

"Children who are born into poverty face significant obstacles in making successful transitions to adulthood. Research has shown a strong association between poverty and children's social, emotional, and physical development. In addition, children in poor families have worse health and educational outcomes, are more likely to experience parental divorce and live in single-parent families, and are more likely to experience violent crime compared to children growing up in more affluent families." (The Annie E. Casey Foundation, *The Risk of Negative Child Outcomes in Low-Income Families, 2006*)

II. Income Level

Children In Poverty
Below 100% Federal
Poverty Level, 2013

17% Colorado

22% U.S.

Source: 2012 American Community Survey,
Data Represents All of Colorado[3]
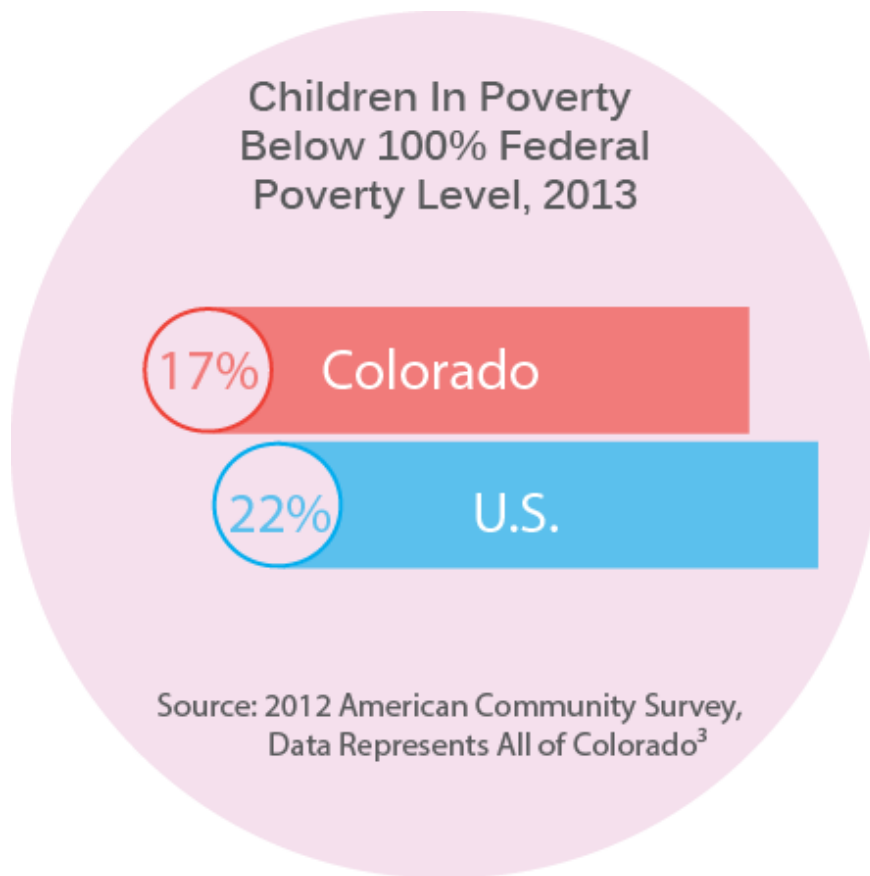
The federal poverty definition consists of a series of thresholds based on family size and composition. In calendar year 2013, a family of two adults and two children fell in the "poverty" category if their annual income fell below $23,624.

Family Formation

III. Education

Maternal Educational Level of Colorado Women Recently Giving Birth

- Less than high school education completed: Medicaid 37.0%, Non-Medicaid 8.9%
- High school diploma received: Medicaid 27.9%, Non-Medicaid 14.9%
- Some college or more: Medicaid 35.1%, Non-Medicaid 76.2%
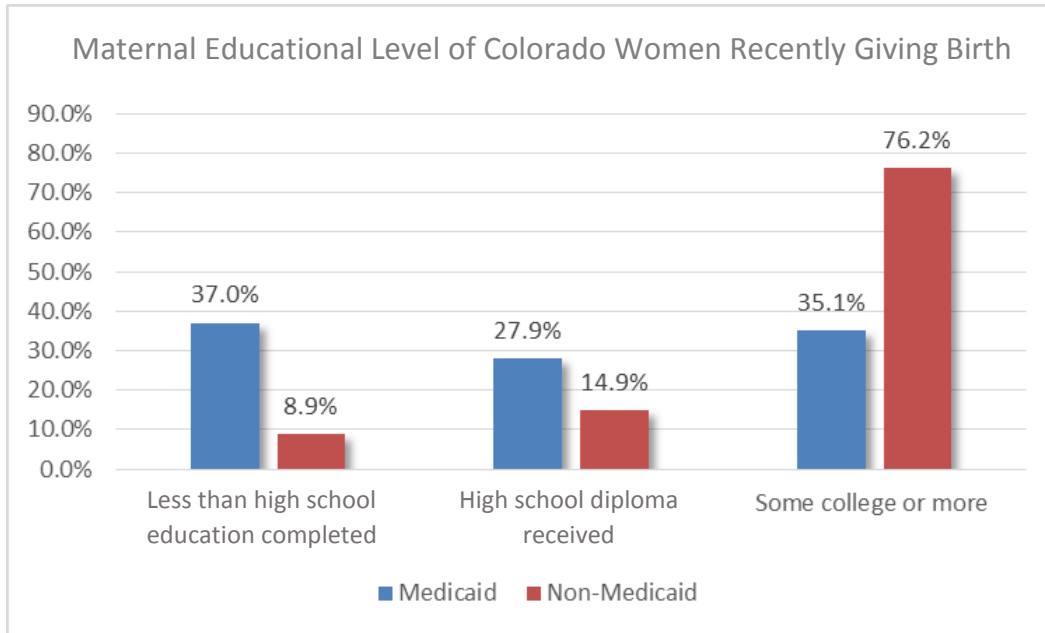
Source: [4] PRAMS 2010-2011

IV. Marital Status

Marital Status of Colorado Women Recently Giving Birth

- Women with Medicaid coverage [4]: Married 54.9%, Unmarried 45.1%
- All Colorado women [4]: Married 74.6%, Unmarried 21.5%
- National average [5]: Married 59.3%, Unmarried 40.7%
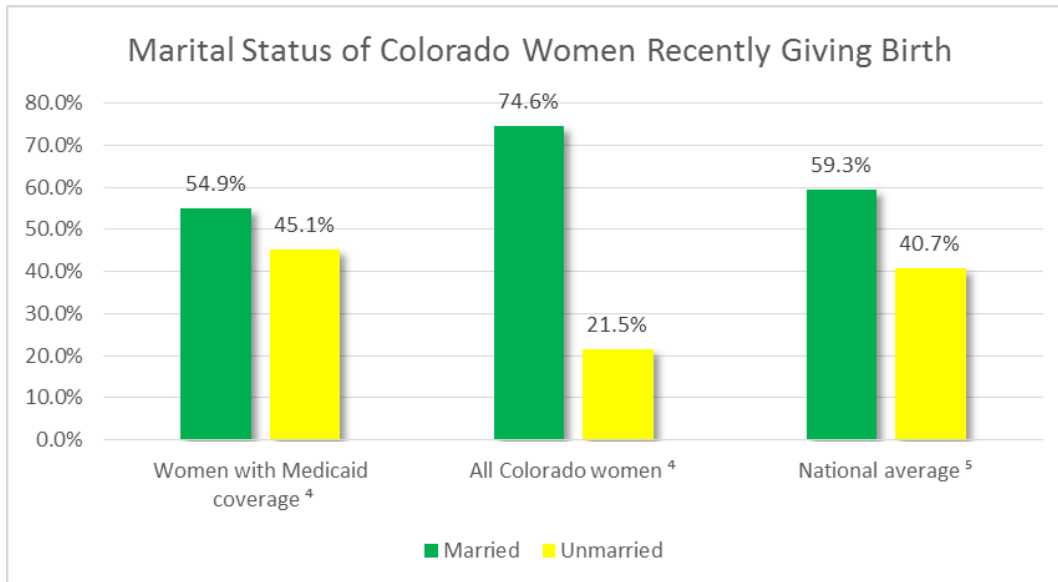
Source: [4] PRAMS 2010-2011 [5] CDC 2012

Family Formation

Additional Measures for Family Formation

I. Maternal Health

Parental Readiness Measures of All Coloradans

- Reported postpartum depression [4]: 10.0% (National average [6]: 13.5%)
- Mothers reported being in a physical fight while pregnant (domestic violence) [4]: 2.7%
- Mothers receiving adequate prenatal care [1]: 62.5%
- Postpartum Care: No comparable data with Medicaid Clients
- Developmental screening in first three years of life: No comparable data with Medicaid Clients
- Mothers who had an unintended pregnancy [4]: 35.9% (National Average [9]: 51%)

Source: [1] CDPHE Birth Certificate 2010-2012 [4] PRAMS 2010-2011 [6] CDC 2012 [9] Finer et al. 2008

Parental Readiness Measures of Coloradans with Medicaid Coverage

- Reported postpartum depression [4]: 13.3% (National average [6]: 13.5%)
- Mothers reported being in a physical fight while pregnant (domestic violence) [4]: 5.1%
- Timeliness of prenatal Care [7]: 79.8% (National average [7]: 83%)
- Postpartum care [7]: 57.6% (National average [7]: 63%)
- Developmental screening during well-child visit for chilren 9-34 months old [8]: 33.8%
- Mothers who had an unintended pregnancy [4]: 56.7% (National average [9]: 51%)

Source: [4] PRAMS 2010-2011 [6] CDC 2012 [7] HEDIS Report 2013 (CY 2012 data) [8] EPSDT 96110 billing data from HCPF FY 12-13 [9] Finer et al. 2008

II. Substance Abuse

Women in Colorado who Smoked During Pregnancy

- 10.7% — National Average[4]
- 14.9% — Percent of women (all ages) with Medicaid coverage who smoked during pregnancy[2]
- 7.4% — Percent of women (all ages) who smoked during pregnancy[1]
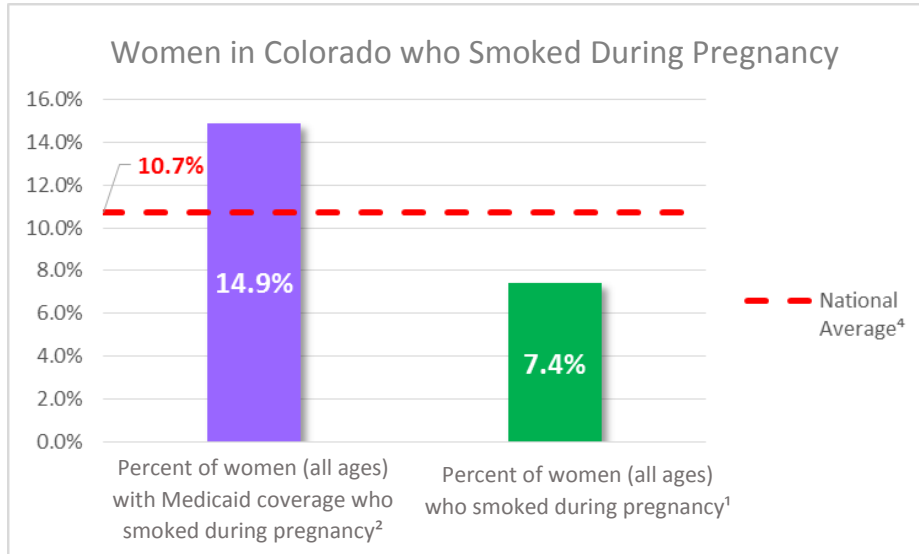
Source: [1] CDPHE Birth Certificate, 2012 [2] Medicaid Birth Certificate FY 2012-2013 [4] PRAMS, 2010-2011

Child Maltreatment

"Child maltreatment affects children's health now and later, and costs our country as much as other high profile public health problems. Neglect, physical abuse, custodial interference and sexual abuse are types of child maltreatment that can lead to poor physical and mental health well into adulthood" ("*Child Maltreatment: Consequences*." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 14 Jan. 2014.)

III. Child Abuse Data

The child maltreatment rate represents children 18 and younger and only reports substantiated cases.

Colorado Child Maltreatment Rate [10]

Rate Per 1,000

- 9.2 — National average [11]
- 8.4
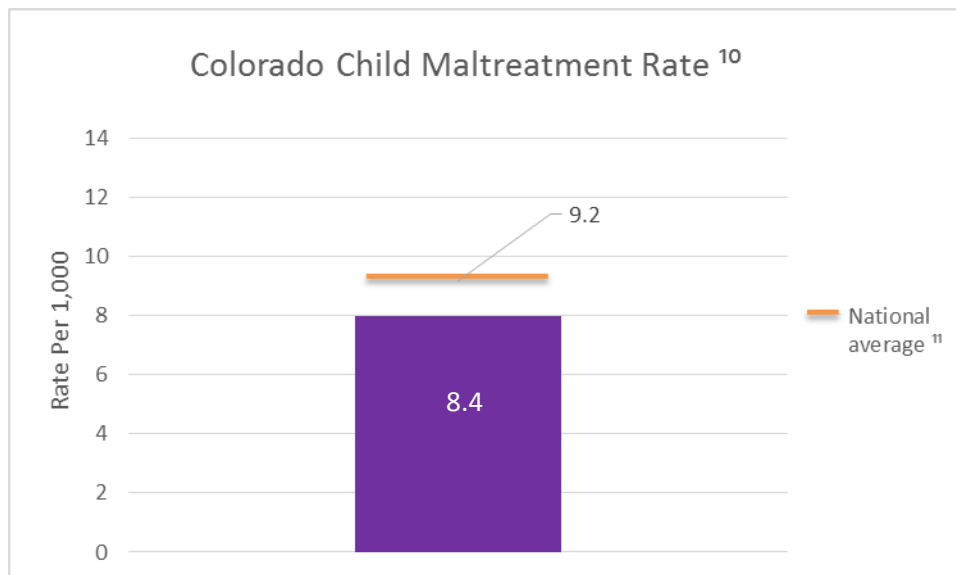
Source: [10] Division of Child Welfare Services, Colorado Department of Human Services, 2012 [11] NCANDS FFY 2012

Middle Childhood
Ages 5-12

Reaching developmental and emotional milestones and knowing how to cope with problems and learning healthy social skills are vital steps that allow children to develop positive social behaviors. Unfortunately, many children develop behavioral health conditions, such as mood and anxiety disorders, problems with emotional regulation, and behavior disorders.

In order to prevent these negative outcomes, safe environments and healthy relationships must be built that allow children to develop emotional skills to cope and quickly recover from adverse effects, stress
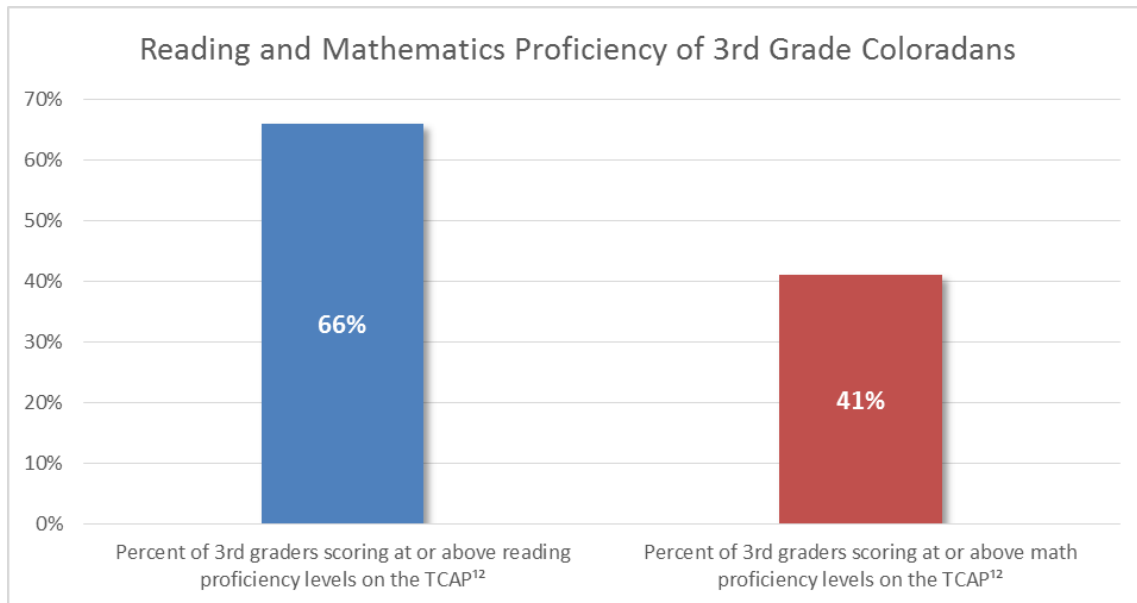
and traumatic experiences. (Bruce Perry)

Furthermore, early diagnosis of social and emotional disruptions for children and providing appropriate services can provide great opportunity for a healthy life. (CDC, 2014)

Based on the research conducted by the Brookings Institution, the following benchmarks for future success have been defined for middle childhood: basic reading and math skills, and social/emotional skills.

> **Child Education**
> A child's math and reading abilities may influence how successful they are as adults (S. J. Ritchie, T. C. Bates. *Enduring Links From Childhood Mathematics and Reading Achievement to Adult Socioeconomic Status. Psychological Science*, 2013)

I. Education

Reading and Mathematics Proficiency of 3rd Grade Coloradans

- Percent of 3rd graders scoring at or above reading proficiency levels on the TCAP[12] — 66%
- Percent of 3rd graders scoring at or above math proficiency levels on the TCAP[12] — 41%

Source: [12]Colorado Department of Education, 2013 TCAP scores

> The Transitional Colorado Assessment Program (TCAP) is Colorado's standards-based assessment, designed to provide a picture of student performance to schools, districts, educators, parents and the community. The primary purpose of the assessment program is to determine the level at which Colorado students meet the Colorado Model Content Standards in the content areas assessed.
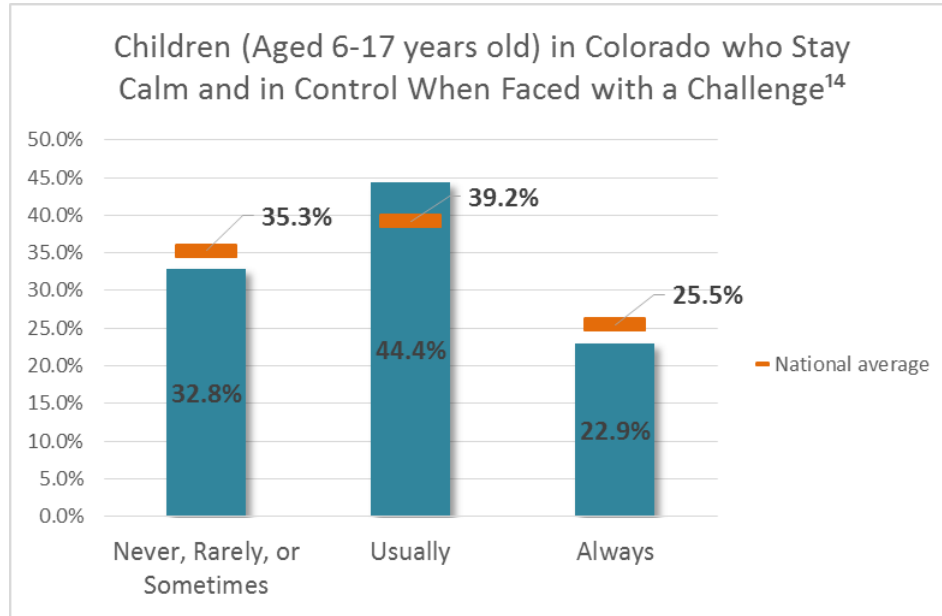
> ### Child Development
> Social/emotional development is a fundamental part of a child's overall health and well-being, as it both reflects and impacts upon the developing brain's wiring and function (ZERO TO THREE: Development of Social-Emotional Skills., 2010)

II. Behavioral Health

Children (Aged 6-17 years old) in Colorado who Stay Calm and in Control When Faced with a Challenge[14]

- Never, Rarely, or Sometimes: 32.8% (National average 35.3%)
- Usually: 44.4% (National average 39.2%)
- Always: 22.9% (National average 25.5%)

Source: [14] National Survey of Children's Health, 2011/2012

Additional Measures for Middle Childhood

I. Medication Use among Children in Medicaid Programs

Prescription Use in Children Aged <18 from Colorado with Medicaid Coverage

- Antipsychotic prescription use in foster children[15]: 11.5% (National average [16] 14%)
- Antipsychotic prescription use in all Medicaid children[15]: 1.3% (National average [16] 3%)
- Psychotropic Medication use in foster children[15]: 25.7% (National average [16] 26.6%)
- Psychotropic Medication use in all Medicaid children[15]: 5.2% (National average [16] 6.6%)

Source: [15] Colorado Evidence-Based Drug Utilization Review Program, 2012   [16] Medicaid data (9-state summary), 2011

II. Attention Deficit Hyperactivity Disorder (ADHD) Prevalence in Children

Prevalence of Colorado Children (ages 4-14) Diagnosed With ADHD[17]

8.8%

5.2%

National average, (children ages 4-17) [18]
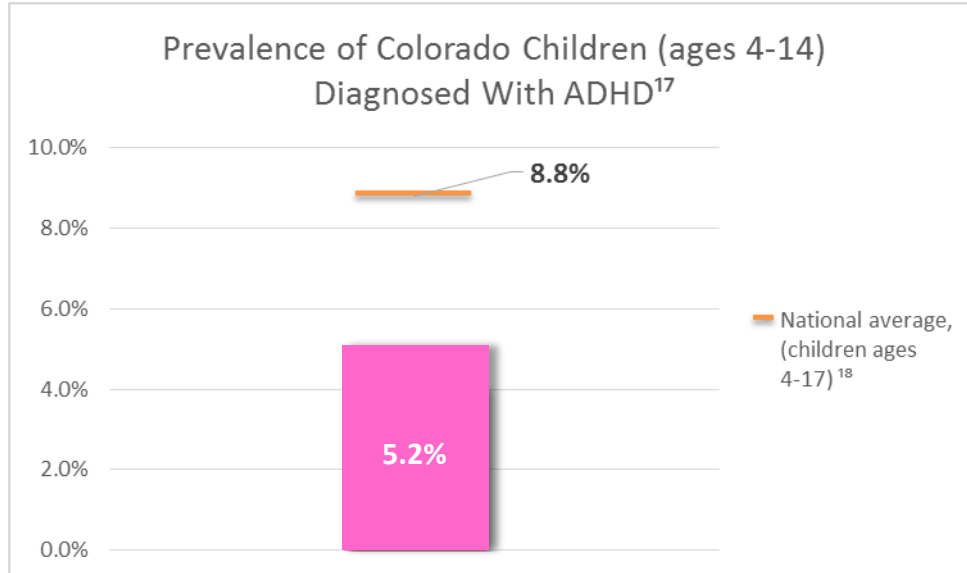
Source: [17] Colorado Child Health Survey, 2012 [14] National Survey of Children's Health, 2011

III. Appropriate Follow-up of Children who were Prescribed ADHD Medication

The percentage of children newly prescribed ADHD medication who had at least three follow-up care visits within a 10 month period, one of which was within 30 days of when the first ADHD medication was dispensed. Two rates are reported (Initiation and Continuation).

Appropriate Utilization and Follow-up for Children (Age 6-12) in Colorado with Medicaid Coverage who are Prescribed ADHD Medication

38.8%

45.9%

39.5%

43.6%

National average[7]

*Initiation[7]
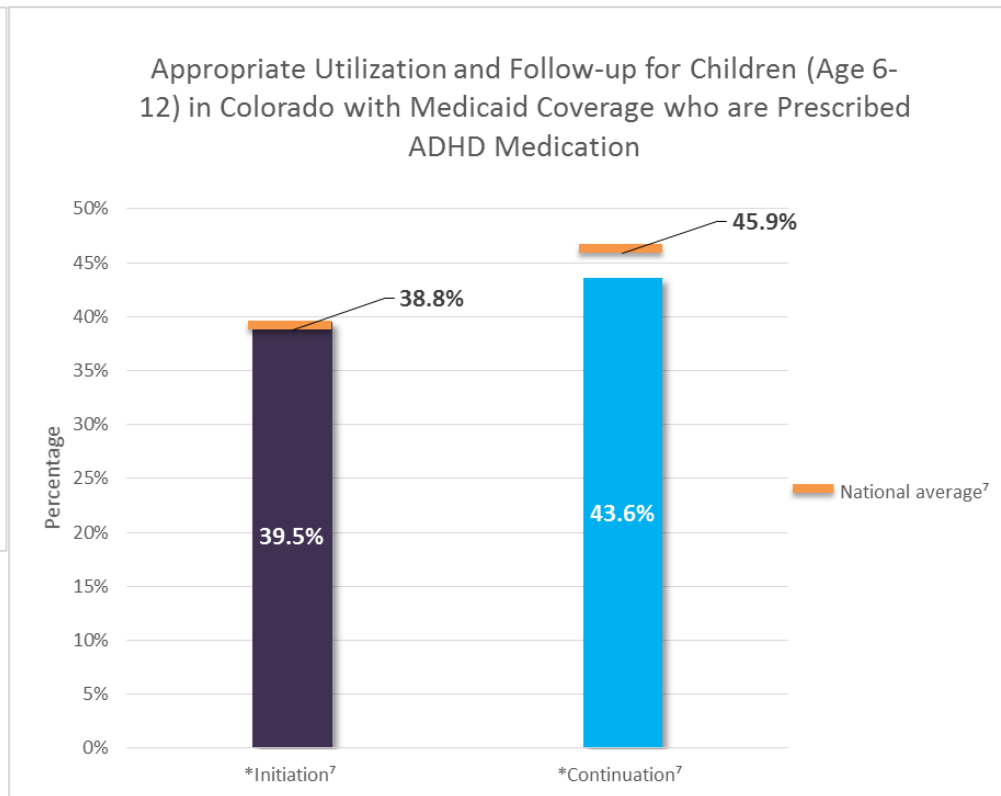
*Continuation[7]

*Source: [7] HEDIS Report, 2013 (CY 2012 data) *Initiation- Percentage of children (ages 6-12) who had one follow-up visit with a provider during the 30 days after receiving a new prescription for ADHD medication. *Continuation-Percentage of children (ages 6-12) who remained on ADHD medication for 210 days after receiving a new prescription and who had at least two follow-up visits with a provider within 270 days after the Initiation Phase*

During late childhood and early adolescence, many mental health problems may emerge. Recent studies on mental health have found depression to be the largest burden of disease among young people (WHO, 2012).

Adolescents who are affected by poor mental health may exhibit adverse health and social outcomes, such as higher alcohol, tobacco and illicit substance use, teen pregnancies, dropping out of school, and delinquent behaviors.

Healthy child development is shown to reduce and prevent mental health problems. In addition, children who are provided with positive social and problem-solving skills can better protect themselves from everyday environmental stressors that may cause mental health disorders.
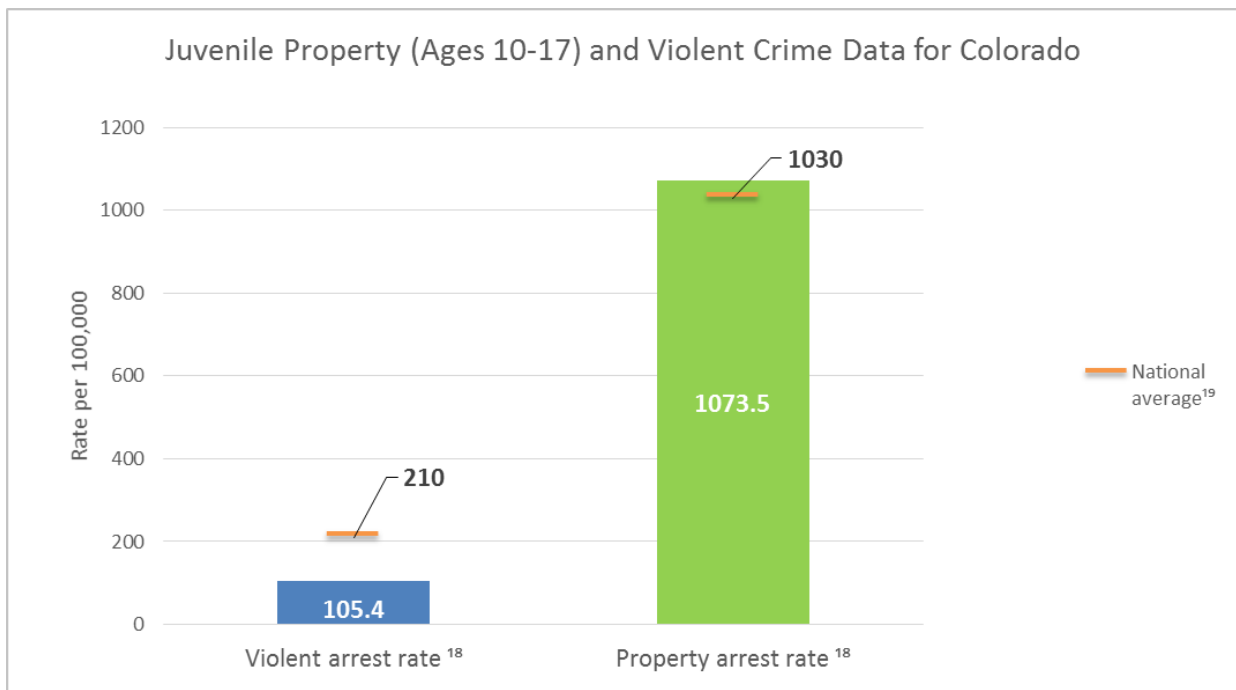
If a mental health disorder does develop, it should be identified early and treated as soon as possible using counseling or other evidence-based techniques.

Based on the research conducted by the Brookings Institution, the following benchmarks for future success have been defined for adolescence: graduate from high school, no convictions, not a parent.

Incarcerations

Incarceration of youth hinders social and psychological development. It exposes them to danger, psychological distress, and few therapeutic services that may perpetuate negative mental health outcomes (Lambie, Ian, and Isabel Randell. "*The impact of incarceration on juvenile offenders*." Clinical psychology review 33.3 (2013): 448-459.)

I. Adolescent Crime Statistics

Juvenile Property (Ages 10-17) and Violent Crime Data for Colorado

- Violent arrest rate [18]: 105.4 (National average [19]: 210)
- Property arrest rate [18]: 1073.5 (National average [19]: 1030)
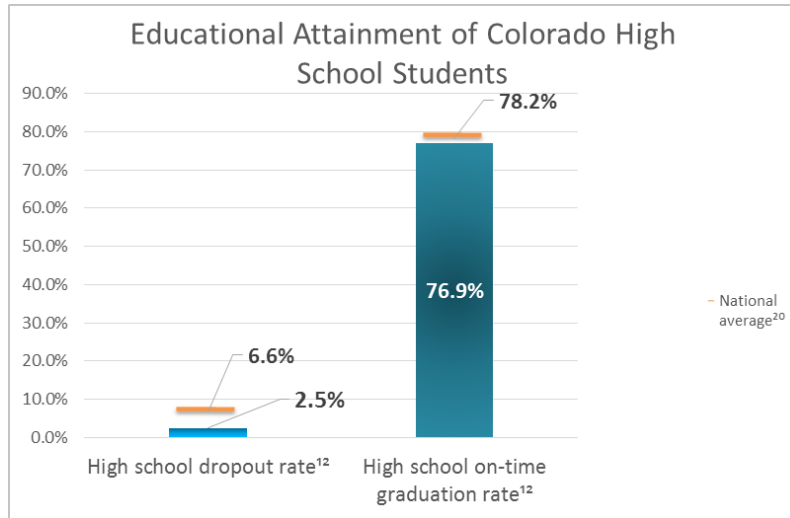
Source: [18] Office of Research and Statistics- Colorado Bureau of Investigation, 2012 [19] US Department of Justice, 2011

High School Dropouts

High school dropout rates contribute to adverse social, economic, and health outcomes Belfield, C. & Levin, H. M. Eds. (2007). The price we pay: Economic and social consequences of inadequate education. Brookings Institution Press
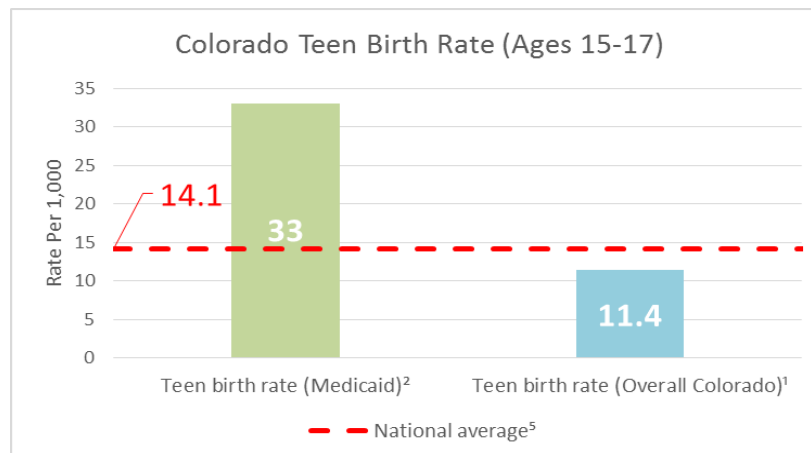
II. Educational Attainment

Educational Attainment of Colorado High School Students

- High school dropout rate[12]: 2.5% (National average[20]: 6.6%)
- High school on-time graduation rate[12]: 76.9% (National average[20]: 78.2%)

Source: [12] Colorado Department of Education, 2013 [20] National Center for Education Statistics, 2010

Teen Births

"Childbearing during adolescence negatively affects the parents, their children, and society. Compared with their peers who delay childbearing, teen girls who have babies are less likely to finish high school, are more likely to rely on public programs, and are more likely to have children who have poorer educational, behavioral, and health outcomes over the course of their lives than do children born to older parents." (Hoffman, 2008) [21].

III. Teen Births

Colorado Teen Birth Rate (Ages 15-17)

Rate Per 1,000

- Teen birth rate (Medicaid)[2]: 33
- Teen birth rate (Overall Colorado)[1]: 11.4
- National average[5]: 14.1

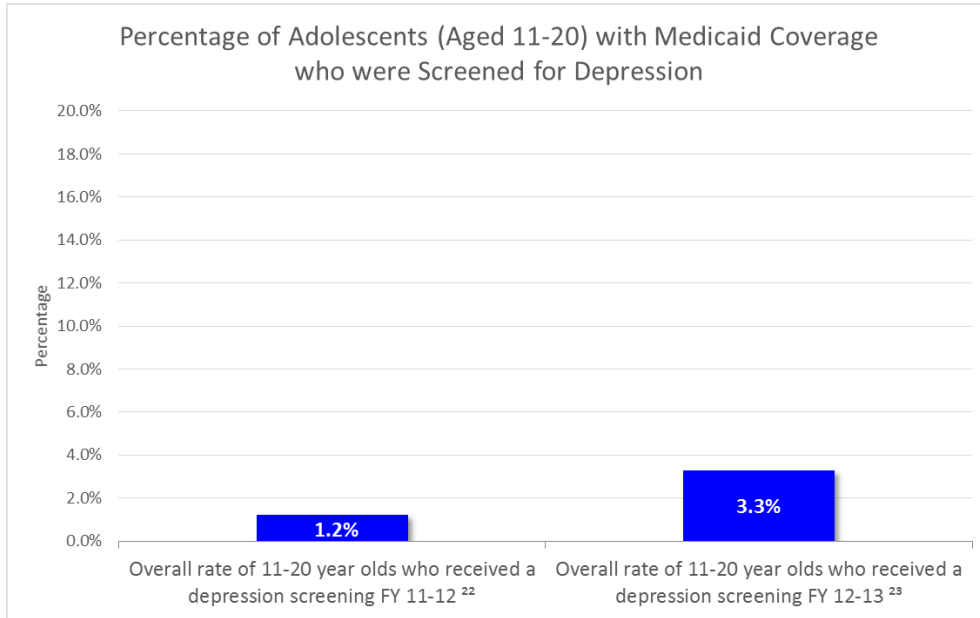*Source: [2] HCPF birth certificate '12-13 [1] CDPHE birth certificate '11-13 [5] CDC, 2012*
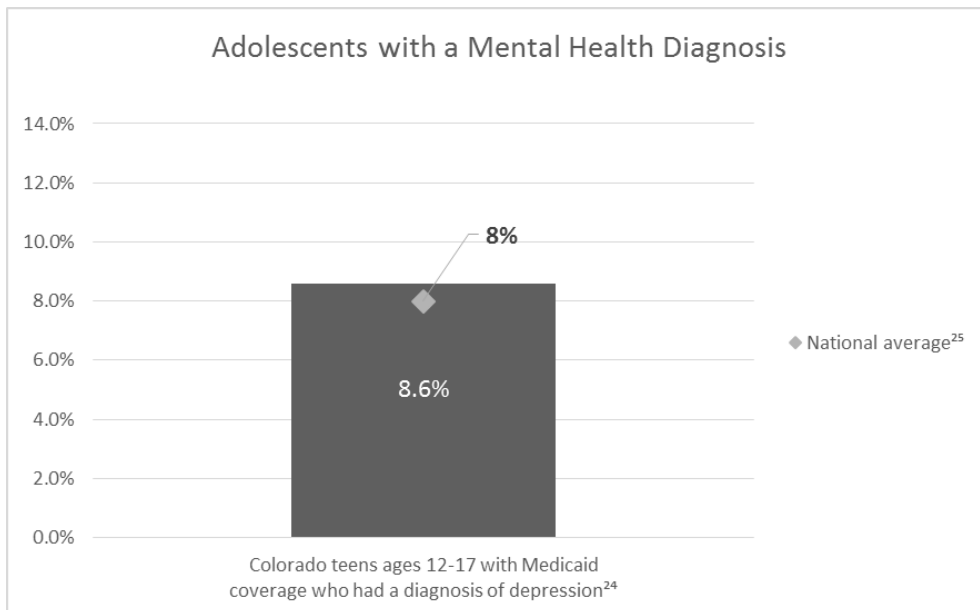
Additional Measures for Adolescents

Depression Screenings

Depression screenings in Colorado often occur in primary care settings. Clients who have been identified with depressive symptoms can be treated in a variety of settings and are typically referred to behavioral health organizations for services. (HCPF, 2014).

I. Mental Health

Percentage of Adolescents (Aged 11-20) with Medicaid Coverage who were Screened for Depression

- Overall rate of 11-20 year olds who received a depression screening FY 11-12 [22]: 1.2%
- Overall rate of 11-20 year olds who received a depression screening FY 12-13 [23]: 3.3%

Source: [22] Medicaid reporting system FY 11-12 [23] Medicaid reporting system FY 12-13

Adolescents with a Mental Health Diagnosis

- Colorado teens ages 12-17 with Medicaid coverage who had a diagnosis of depression [24]: 8.6%
- National average [25]: 8%

Source: [23] Medicaid reporting system, FY 12-13 [25] NSDUH 2011

Mental Health of High School Students

Colorado high school students who attempted suicide (during the 12 months before the survey)[24]: 6.0%
National average[24]: 8.0%

Depressive symptoms among high school students (grade 9-12)[24]: 22.0%
National average[24]: 28%
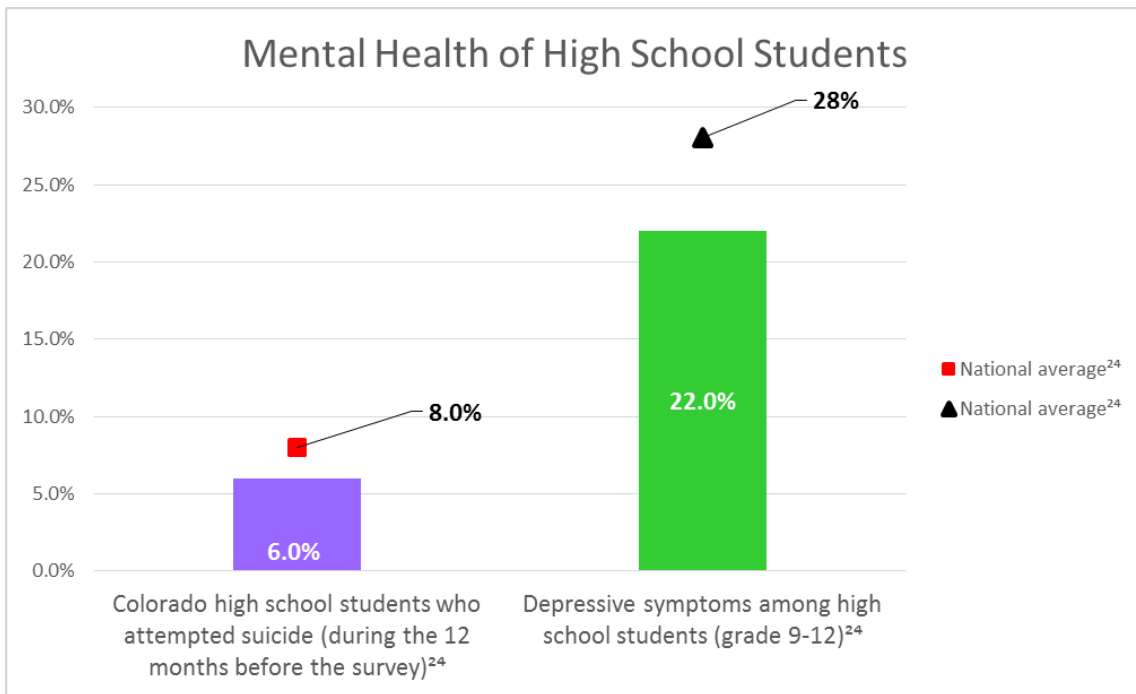
Source: [24] YRBS 2011

II. Substance Abuse

Substance Abuse Among High School Students in Colorado[24]

Percent of high school students who had five or more drinks of alcohol in a row within a couple of hours on at least one day during the past 30 days before the survey: 22.3% (National average 21.9%)

Percent of high school students who smoked cigarettes at least one day during the past 30 days before the survey: 15.7% (National average 18.1%)

Percent of high school students who used marijuana one or more times during the past 30 days before the survey: 22% (National average 23.1%)

Percent of high school students who took prescription drugs one or more times without a doctor's prescription (such as Oxycontin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax, during their life): 19.6% (National average 20.7%)

Source: [24] YRBS 2011

The road to adulthood is complex and demanding. It is the time during which people often go to college, get jobs, form close relationships, and start a family. This transition can be extremely challenging, especially for people who have mental health conditions.

Unfortunately, many of the mental health conditions identified in adulthood developed during adolescence. (Galinski-Bakker et al. 2005).

Due to the complexities of navigating the adult service system, health systems must support continuity of care for youths transitioning into adulthood.

Based on the research conducted by the Brookings Institution, the following benchmarks for future success have been defined for transition to adulthood: family income >250% FPL.
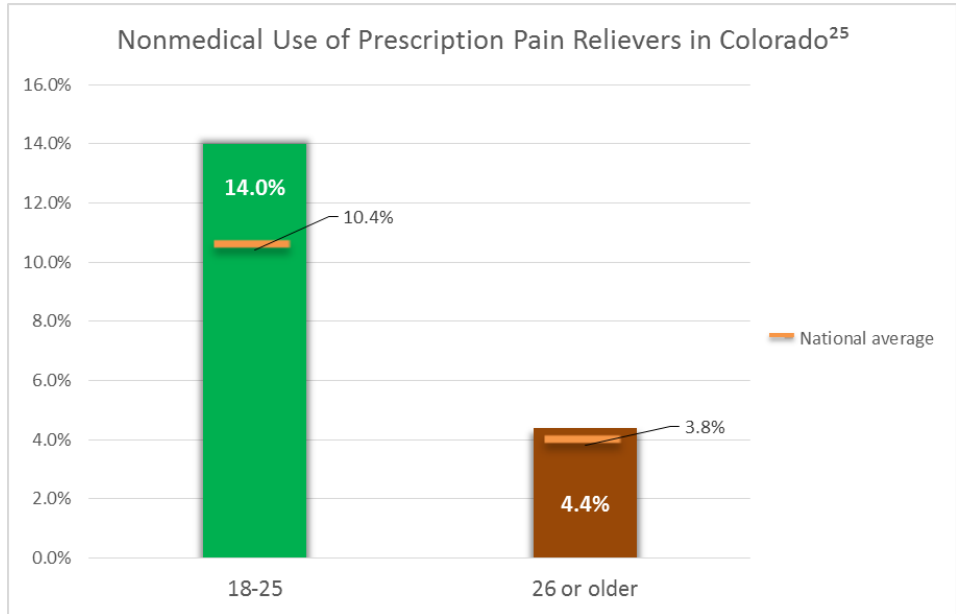
I. Income

Income Level of Coloradans as a Percentage of the Federal Poverty Level by Age[3]
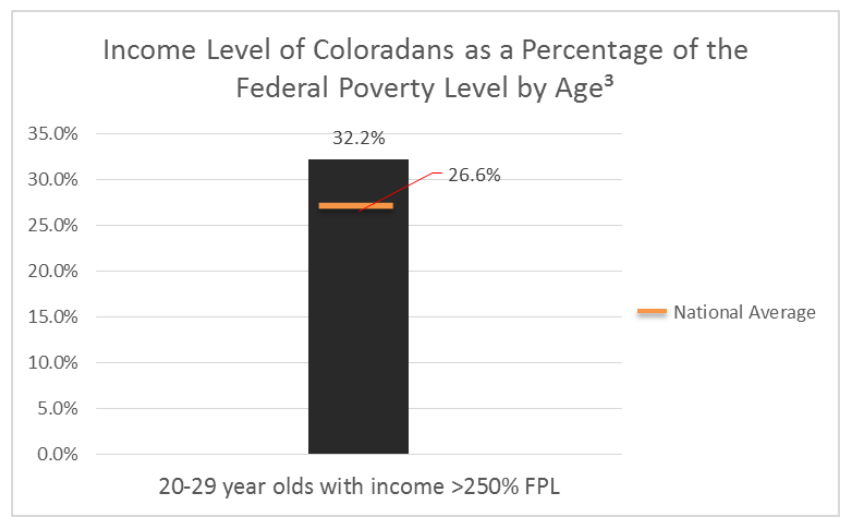
Source: [3]ACS 2012

Additional Measures for Transition to Adulthood

I. Pharmaceutical Use

Nonmedical Use of Prescription Pain Relievers in Colorado[25]

Source: [25] National Survey on Drug Use and Health Report, 2013

Adults are subjected to daily external stressors that can impact their mental health. Certain life events may exacerbate their mood, behavior, and decision making, which may lead to physical and emotional problems.

In addition, the aging population has a higher prevalence of chronic diseases such as heart disease, stroke, diabetes, and cancer. Patients diagnosed with these diseases have higher rates of depression and are at increased risk of negative physical health outcomes, if their mental health disorders are left untreated.

Providing timely treatment is essential, but due to the stigma surrounding mental illnesses, it may causes reluctance to seek treatment.

By integrating physical and mental health into the primary care office, the stigma associated with the illness can be reduced. This will allow for greater access for patients that need care (WHO, 2007).

Based on the research conducted by the Brookings Institution, the following benchmarks for future success have been defined for adulthood: family income >300% FPL

Educational Attainment

"People with higher levels of education and higher income have lower rates of many chronic diseases compared to those with less education and lower income levels"-CDC, 2012

I. Income and Educational Attainment

Colorado Adults (Aged 30-64) with some College and Family Income >300% FPL[26]

38.3%
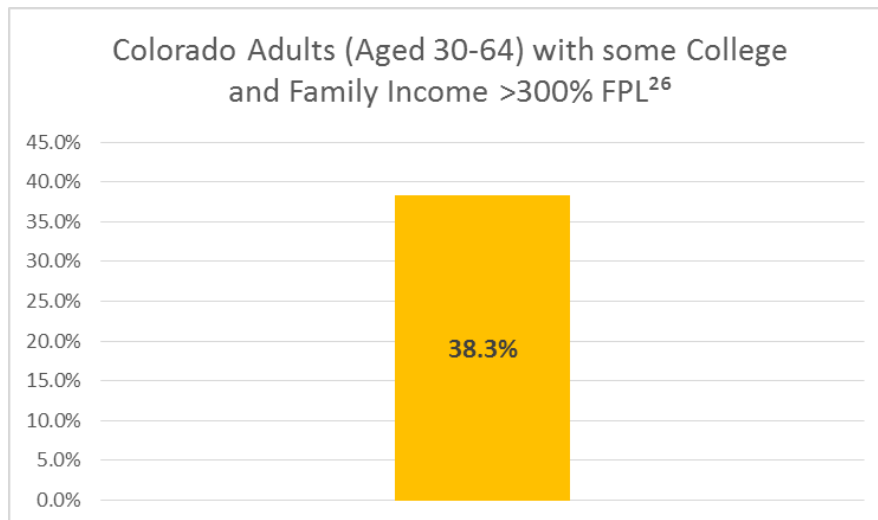
Source: [26] BRFSS 2012

Substance Use Disorders

"Substance use disorders occur when the recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home.
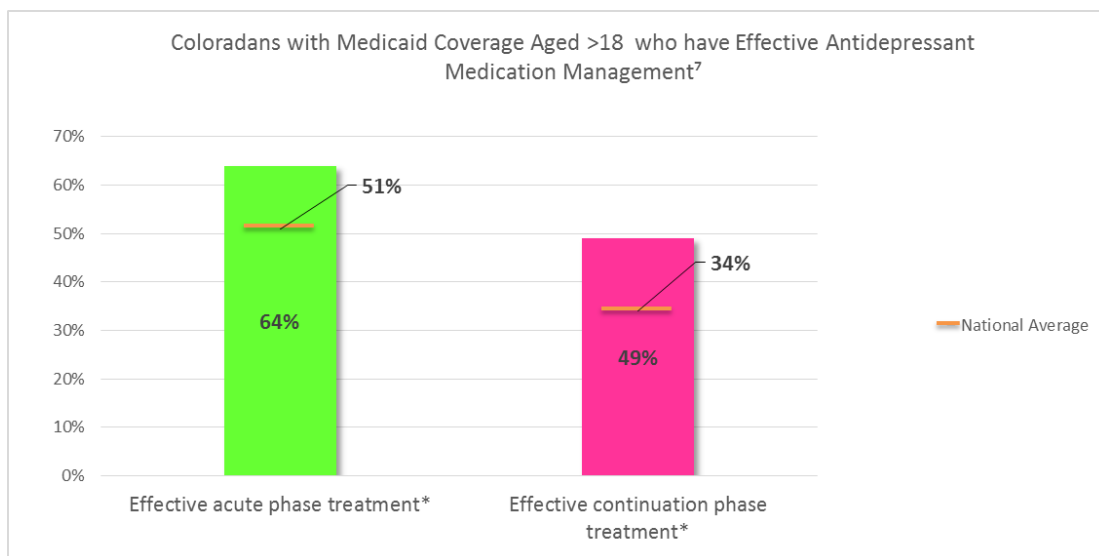
In 2012, about 22.2 million Americans ages 12 and older (8.5%) were classified with a substance use disorder in the past year. Of those, 2.8 million had problems with both alcohol and drugs, 4.5 million had problems with drugs but not alcohol, and 14.9 million had problems with alcohol only." – SAMHSA 2012
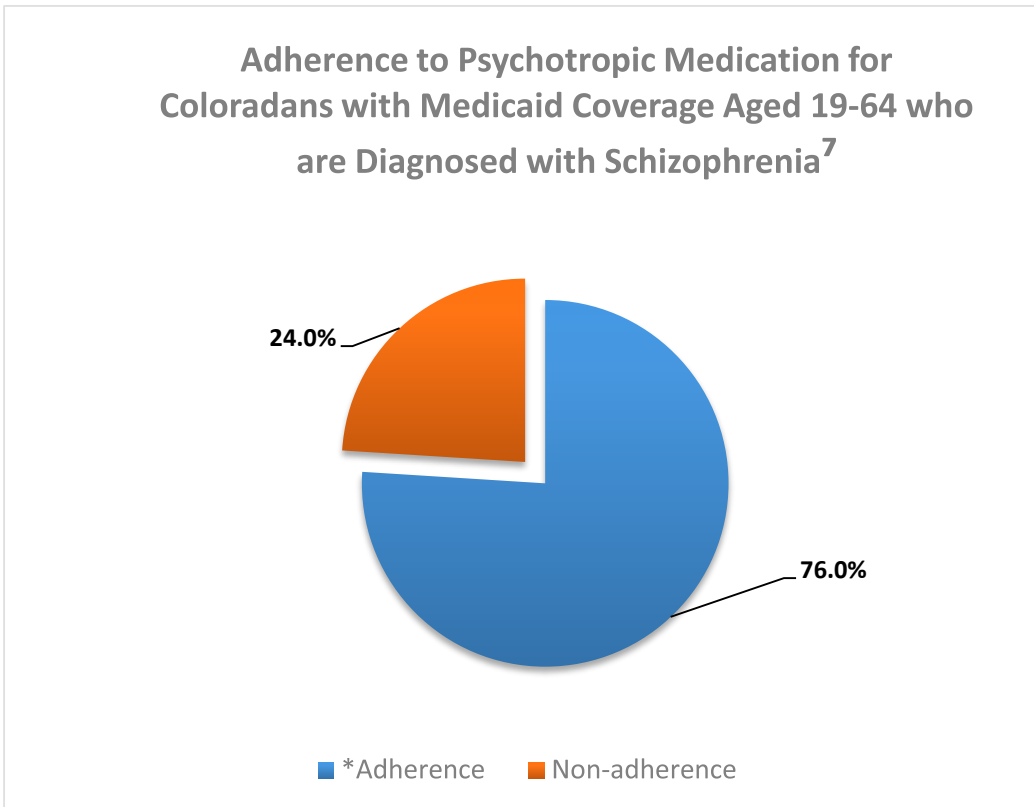
Additional Measures for Adulthood

I. Mental Health

Percentage of Coloradans who Gained Substance Use Disorder Treatment Access within 3 Days [27]
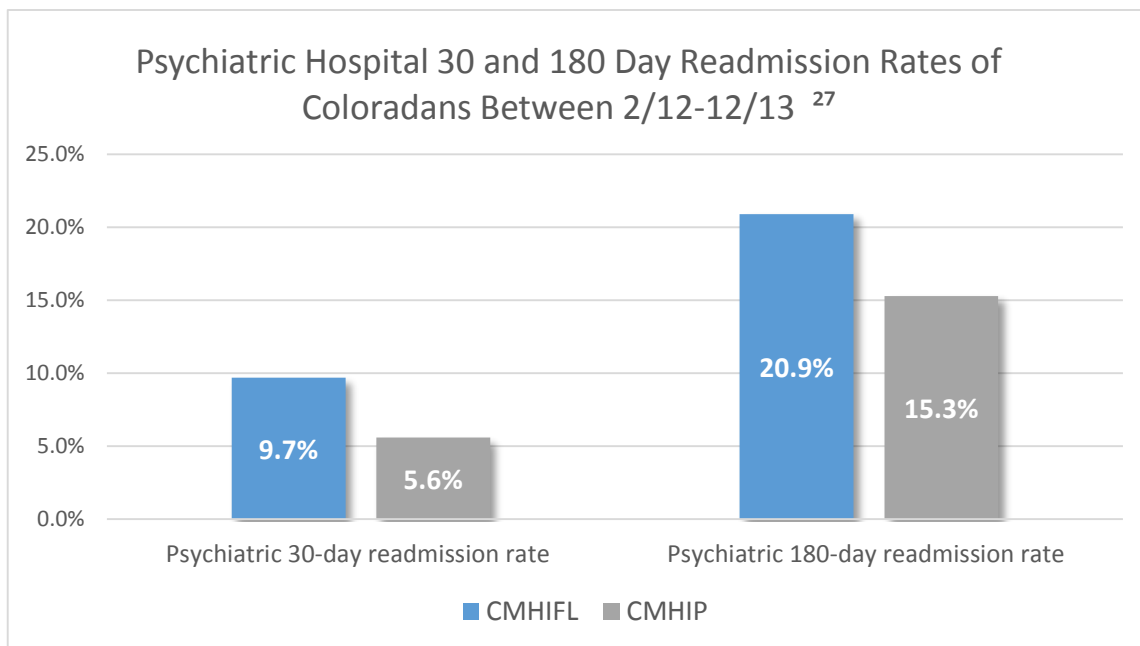
80.5%
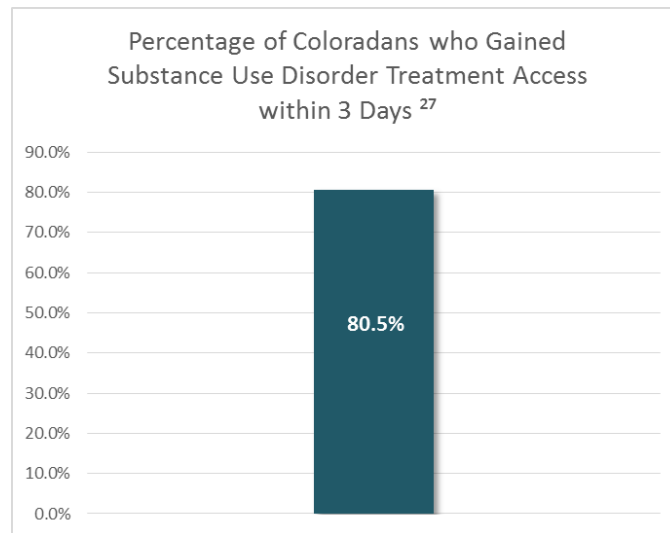
Source: [27] CSTAT Report, 2013, # of persons admitted into outpatient SUD treatment within 3 days from the date of first contact/ # of persons admitted to outpatient SUD treatment

Coloradans with Medicaid Coverage Aged >18 who have Effective Antidepressant Medication Management[7]

Effective acute phase treatment* — 64%, 51% National Average

Effective continuation phase treatment* — 49%, 34% National Average
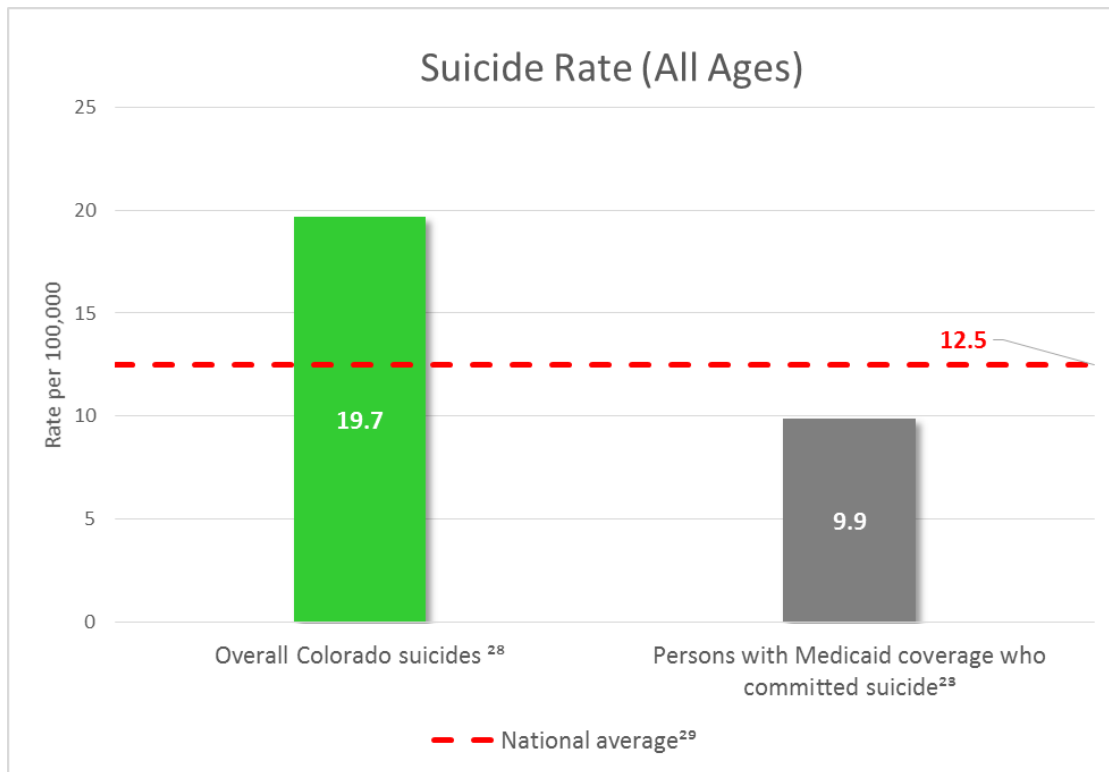
National Average

*Source: [7] HEDIS Report, 2013 (CY 2012 Data), *Acute- the percentage of newly diagnosed and treated people who remained on an antidepressant medication for at least 84 days (12 weeks). *Continuation- the percentage of newly diagnosed and treated people who remained on an antidepressant medication for at least 180 days (6 months).*

Adherence to Psychotropic Medication for Coloradans with Medicaid Coverage Aged 19-64 who are Diagnosed with Schizophrenia[7]

24.0%

76.0%

■ *Adherence ■ Non-adherence

*Source: [7] HEDIS Report, 2013 (CY 2012 Data) *Adherence-The percentage of members 19-64 years of age during measurement year with schizophrenia who were dispensed and remained on an anti-psychotic medication for at least 80% of their treatment period*

Psychiatric Hospital 30 and 180 Day Readmission Rates of Coloradans Between 2/12-12/13 [27]

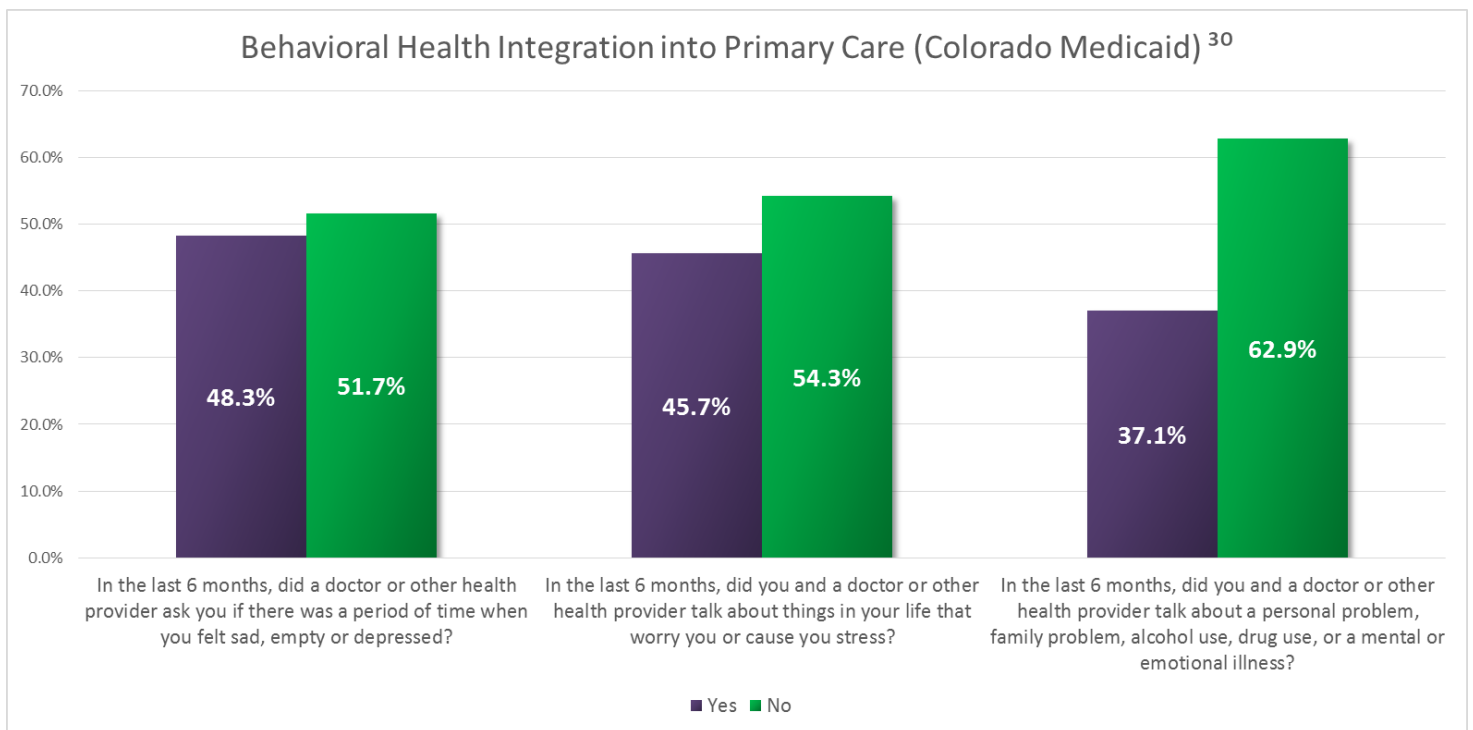|	Psychiatric 30-day readmission rate	Psychiatric 180-day readmission rate
CMHIFL	9.7%	20.9%
CMHIP	5.6%	15.3%

■ CMHIFL ■ CMHIP

Source: [27] CSTAT report, 2013, from Colorado Department of Human Services, CMHIFL- Colorado Mental Health Institute at Fort Logan, CMHIP-Colorado Mental Health Institute at Pueblo

Suicide Rate (All Ages)

Overall Colorado suicides [28]: 19.7
Persons with Medicaid coverage who committed suicide [23]: 9.9
National average [29]: 12.5

Source: [23] Medicaid reporting system FY 12-13 [28] 2012 Colorado Health Information Dataset [29] Organization for Economic Co-operation and Development (OECD) Health at a glance 2013

II. Consumer Assessment of Healthcare Providers and Systems (CAHPS) Survey- Your Health in the last 6 months

Behavioral Health Integration into Primary Care (Colorado Medicaid) [30]

In the last 6 months, did a doctor or other health provider ask you if there was a period of time when you felt sad, empty or depressed? — Yes: 48.3%, No: 51.7%

In the last 6 months, did you and a doctor or other health provider talk about things in your life that worry you or cause you stress? — Yes: 45.7%, No: 54.3%

In the last 6 months, did you and a doctor or other health provider talk about a personal problem, family problem, alcohol use, drug use, or a mental or emotional illness? — Yes: 37.1%, No: 62.9%

Source: [30] 2013 CAHPS

Appendix

List of Abbreviations

ACS	American Community Survey
BRFSS	Behavioral Risk Factor Surveillance System
CDC	Center for Disease Control and Prevention
CDPHE	Colorado Department of Public Health and Environment
CDHS	Colorado Department of Human Services
CAHPS	Consumer Assessment of Healthcare Providers and Systems
CY	Calendar Year
EPSDT	Early Periodic Screening, Diagnosis, and Treatment
FY	Fiscal Year
HCPF	Colorado Department of Health Care Policy and Financing
HEDIS	Healthcare Effectiveness Data and Information Set
NAEP	National Assessment of Educational Progress
NCANDS	National Child Abuse and Neglect Data System
NSDUH	National Survey on Drug Use and Health
OECD	Organization for Economic Co-operation and Development
PRAMS	Pregnancy Risk Assessment Monitoring System
SAMHSA	Substance Abuse and Mental Health Services Administration
WHO	World Health Organization
YRBS	Youth Risk Behavior Survey

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2. Colorado Department of Health Care Policy and Financing (HCPF) Medicaid Birth Certificate, FY 2012-2013

3. American Community Survey, 2012

4. Pregnancy Risk Assessment Monitoring System (PRAMS), 2010-2011

5. Centers for Disease Control and Prevention (CDC), National Vital Statistics Report 2012, http://www.cdc.gov/nchs/fastats/unmarry.htm

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7. Healthcare Effectiveness Data and Information Set (HEDIS) 2013 Report (CY 2012 data)

8. Early Periodic Screening, Diagnosis, and Treatment (EPSDT) billing data from HCPF, FY 12-13

9. Finer LB, Unintended pregnancy among U.S. adolescents: accounting for sexual activity, *Journal of Adolescent Health*, 2010, 47(3):312–314

10. *Division of Child Welfare Services, Colorado Department of Human Services 2012*

11. National Child Abuse and Neglect Data System (NCANDS FFY 2012) *http://www.ndacan.cornell.edu/datasets/dataset-details.cfm?ID=178*

12. Colorado Department of Education, 2013 https://cedar2.cde.state.co.us/documents /Assessmentdata/Reading-TCAP-State-2013.xls

13. National Assessment of Educational Progress (NAEP) Kids Count Data Center 2013, datacenter.kidscount.org/Databook

14. National Survey of Children's Health, 2011/2012 http://childhealthdata.org/browse/survey/results?q=2595&r=1

15. Colorado Evidence-Based Drug Utilization Review Program, 2012

16. Medicaid data (9-state comparison), 2011

17. Colorado Child Health Survey, 2012

18. Office of Research and Statistics, Colorado Bureau of Investigation 2012 http://www.colorado.gov/ccjjdir/ORS2/stats5.htm

19. US Department of Justice, 2011 http://www.ojjdp.gov/ojstatbb/crime/JAR.asp

20. National Center for Education Statistics, 2010http://nces.ed.gov/programs/coe/indicator_coi.asp

21. Hoffman, S. D. (2008). Consequences of teen childbearing for mothers: Updated estimates of the consequences of teen childbearing for mothers. In S. D. Hoffman, & R. A. Maynard (Eds.),*Kids having kids: Economic costs and social consequences of teen pregnancy* (2nd ed., pp. 74-92). Washington, DC: Urban Institute Press.

22. Medicaid reporting system FY11-12

23. Medicaid reporting system FY12-13

24. Youth Risk Behavior Survey(YRBS), 2011

25. National Survey on Drug Use and Health (NSDUH), 2011 http://www.childstats.gov/americaschildren/health4.asp Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. The NSDUH 2013 Report: State Estimates of Nonmedical Use of Prescription Pain Relievers. Rockville, MD.

[26] Behavioral Risk Factor Surveillance System (BRFSS), 2012

[27] C-Stat report from Colorado Department of Human Services, 2012

[28] Colorado Health Information Dataset, 2012

[29] Organization for Economic Co-operation and Development (OECD) Health at a glance 2013

[30] Consumer Assessment of Healthcare Providers and Systems (CAHPS) 2013 Survey

Federal Poverty Guidelines

Annual Federal Poverty Guidelines for 2014				
Family Size	100%	200%	250%	300%
1	$ 11,670	$ 23,340	$ 29,175	$ 35,010
2	$ 15,730	$ 31,460	$ 39,325	$ 47,190
3	$ 19,790	$ 39,580	$ 49,475	$ 59,370
4	$ 23,850	$ 47,700	$ 59,625	$ 71,550
5	$ 27,910	$ 55,820	$ 69,775	$ 83,730
6	$ 31,970	$ 63,940	$ 79,925	$ 95,910
7	$ 36,030	$ 72,060	$ 90,075	$ 108,090
8	$ 40,090	$ 80,180	$ 100,225	$ 120,270
Each Add'l	$ 4,060	$ 8,120	$ 10,150	$ 12,180

*The annual federal poverty guidelines are amended each year.

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