DENVER PUBLIC HEALTH

DEPRESSION IN DENVER:

THROUGH THE LIFESPAN

CONTENTS

EXECUTIVE SUMMARY

A comprehensive and collaborative approach to addressing depression is essential to the well-being of Denver residents and the success of our city. Depression is one of the most common mental illnesses, as well as one of the leading causes of illness, disability, and premature death in the United States. In addition to its impact on individual health, depression has significant implications for the well-being of families and communities.

The causes of depression are complex. Its development and trajectory are related to biological, medical, and genetic factors, as well as a person's social, economic, and environmental circumstances. As a result, depression is deeply associated with social inequities, and although depression can affect any person at any time in their lives, its impact is disproportionately felt by specific groups of people. As such, Denver must develop strategies to address depression within all of our communities to promote the health of all people in Denver.

This report brings together findings from both well-established and novel data sources to support a localized understanding of the scope and impact of depression. Such understanding is needed to drive actions among various stakeholder groups that can effectively mitigate the burden of depression in Denver.

DEPRESSION CAN APPEAR AT ANY POINT ACROSS ONE'S LIFESPAN

Key Themes and Findings

DEPRESSION IS A COMMON AND CRITICAL HEALTH ISSUE ACROSS THE LIFESPAN

- Mental health issues are of great concern to Denver youth, and there is interest among them in making resources and support more available to young people facing mental health challenges.
- Depression impacts Denver adults of all ages, races/ethnicities, and geographic locations.
- During and after pregnancy, many women in Denver struggle with depression. Depression can negatively impact their quality of life, as well as the health and development of their children.
- Depression is significantly associated with illness, disability, and premature death. It is more common among people with a number of chronic medical conditions (diabetes, cardiovascular disease, stroke, Alzheimer's disease, and drug and alcohol dependency), and the presence of depression can intensify the medical complications of these conditions. Depression is associated with an increased risk of mortality from all causes.
- Suicide rates in Denver are consistently higher than national rates, and depression is a key underlying factor in suicide.

DEPRESSION IS A HEALTH EQUITY ISSUE

- A person's mental health status is greatly impacted by their social, economic, and environmental circumstances. Psychological trauma, chronic stress, and social determinants of health are significant contributors to depression.
- A number of groups are disproportionately impacted by depression and/or underserved by existing treatment services. These include men, LGBTQ communities, communities of color, people involved with the justice system, pregnant women, people experiencing homelessness, people who are uninsured or underinsured, immigrants and refugees, and first responders.
- Concerns about the cost of treatment, lack of insurance, and lack of adequate insurance coverage for mental health services are common reasons that Denver residents do not receive mental health care or counseling services when needed.

EFFECTIVE TREATMENTS EXIST, BUT BARRIERS PERSIST

- Stigma, personal beliefs, attitudes, and experiences are strong drivers of whether or not a person seeks professional help for depression.
- Integrated care (where mental health and primary care providers collaborate to address both the physical and mental health needs of their patients) is a critical strategy for ensuring that people who are experiencing depression are promptly diagnosed and able to access timely and effective treatment services.
- Integrated care is increasingly available in Denver, but barriers inhibit the broad adoption of fully integrated practices throughout the metro region: challenges in institutionalizing screening and referral protocols, difficulty sharing information across providers, and challenges with reimbursement for integrated care services.

Moving Forward to Support Positive Mental Health

The findings of this report have implications for the work of health systems, policy makers, researchers, community-based organizations, employers, and community members.

Next steps include actions to:

- Undertake communication strategies to decrease stigma and increase knowledge and awareness of depression and its impacts.
- Conduct research to increase understanding of mechanisms and community solutions for addressing depression.
- Initiate policies and programs that address key contributors to depression.
- Identify and support individuals who are experiencing depression.
- Increase the availability of integrated care.
- Reduce stigma and other barriers to accessing mental health services.

SECTION ONE

INTRODUCTION

SCREENING AND INTERVENTION IN PRIMARY CARE ADDRESSES MENTAL HEALTH CONCERNS

A 32 year old Latino came for a follow-up HIV care visit. Before being seen by his primary care provider, screening questions by the clinic behavioral health specialist showed that he had developed feelings of hopelessness over the past three months and had begun drinking six to eight beers a day. Upon further questioning by the primary care provider, he noted financial difficulties and stresses within his family. He was offered counseling with the behavioral health specialist, but he did not have time to do so. (He was currently working 80 hours a week to support his family.) However, the patient visibly relaxed during an open, collaborative discussion about depression and alcohol use. At the end of the visit, he committed to markedly decreasing his alcohol intake and trying to fit some form of exercise into his very busy schedule.

Mental health is an essential component of overall health for every person at every stage of life. It is "a state of well-being in which every individual realizes [their] own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to [their] community."[1]

By actively promoting mental health for all Denver residents, we can support the success of everyone living in Denver and ensure a promising future for our city.

In 2017, approximately 76,100 (one out of every eight) Denver residents age five and older indicated that they had experienced eight or more days of poor mental health over the past month.[2] That is more than the total number of people living in Denver's four largest neighborhoods – Montbello, Hampden, Westwood, and Capitol Hill – combined. Previous studies have shown that people who respond affirmatively to this question often warrant a clinical diagnosis of depression.

Mental illnesses are health conditions that are associated with poor mental health, or changes in mood, thinking, and behavior. Mental illnesses represent the leading cause of disease burden in the United States, as measured by life years lost to illness, disability, and premature death.[3]

Affecting people of all ages and social groups, depression is one of the most common mental illnesses within the U.S., and it carries the highest disease burden of all mental health conditions.[4] People living with depression may experience feelings of persistent sadness, hopelessness, irritability, guilt, or worthlessness. Depression can lead to difficulty engaging in work and activities, problems with concentration and decision-making, changes in sleeping and eating patterns, and physical symptoms such as aches or pains, headaches, cramps, or digestive problems.

In recognition of the significant social, economic, and health burden of depression and other mental illnesses, national stakeholders have issued numerous foundational documents that call attention to the need for a public health approach to mental health issues and provide evidence for population-based mental health strategies.[5,6,7] Despite these calls to action, there is a relative shortage of information regarding the scope and impact of depression and other mental health issues at a local level. This local understanding is essential to the establishment of adequate and accessible treatment services, initiation of prevention strategies, and appropriate allocation of resources.

1 OUT OF 8

DENVER COUNTY RESIDENTS AGE FIVE AND OLDER INDICATED THAT THEY HAD EXPERIENCED EIGHT OR MORE DAYS OF POOR MENTAL HEALTH OVER THE PAST MONTH.

THIS IS MORE THAN THE TOTAL NUMBER OF PEOPLE LIVING IN DENVER'S FOUR LARGEST NEIGHBORHOODS—MONTBELLO, HAMPDEN, WESTWOOD, AND CAPITOL HILL—*COMBINED*.

Within the context of this report, the term "depression" refers to "clinical depression." *Clinical depression* is typically diagnosed when symptoms are present for at least two weeks and are sufficiently severe to interfere with daily activities. Clinical depression is understood to be caused by a confluence of biological, psychological, and social factors, with emotional trauma, chronic stress, and social inequities playing a critical role in its progression. Clinical depression is different from *situational depression,* which refers to the time-limited mood changes that one may experience in response to identifiable life events, such as illness, relationship problems, problems at work or school, or loss of a loved one. Clinical depression is often chronic and may rise and fall spontaneously or with treatment. The impacts of untreated clinical depression are wide-ranging, with implications for the health and well-being of individuals, families, and communities.

Overview of Data Sources on Depression

This report features three kinds of data to evaluate the frequency of depression and its complications:

TELEPHONE & WRITTEN SURVEYS

ELECTRONIC HEALTH RECORDS

QUALITATIVE DATA

from more detailed, in-person discussions with youth and key stakeholders.

No data source is superior and each has strengths and limitations. Together they provide a more complete picture of depression in Denver. See Appendix 1 for more detail about data sources and their strengths and limitations.

NOTE: At times, this report references information regarding outcomes and disparities associated with mental illness or mental health conditions. This occurs when depression-specific information is unavailable. Given our understanding of depression as one of the most common mental illnesses experienced within the United States, mental illness can be considered a proxy for depression in these circumstances.

How Can This Report Be Used?

Denver Public Health developed this report to provide a clearer picture of depression's impact in Denver, so as to:

- **ENHANCE UNDERSTANDING OF DEPRESSION AS A KEY LOCAL HEALTH ISSUE.**
- **CREATE RECOGNITION OF GAPS IN OUR CURRENT TREATMENT SYSTEMS.**
- **SUPPORT ACTIONS THAT CAN EFFECTIVELY MITIGATE THE BURDEN OF DEPRESSION IN OUR LOCAL COMMUNITIES.**

SECTION TWO

DEPRESSION THROUGH THE LIFESPAN

Depression can affect any individual at any time in their lives and can be caused by many factors, including genetics, brain biology, and chemistry, as well as life events such as trauma, loss of a loved one, a difficult relationship, an early childhood experience, or any stressful situation.[8] Since most of these factors are not specific to one age group, depression and depressive symptoms can appear at any point across one's lifespan.

Childhood and Adolescence

(0-17 YEARS OLD)

Less than three decades ago depression was seen as an adult disorder: children were considered too developmentally immature to experience depression disorders, and adolescent mood disorders were seen as part of 'normal' teenage mood swings.[9] More recently it has been recognized that children and adolescents also experience depression, making this stage of life an important time both for recognition and prevention of depression.

RELEVANT DATA

DENVER YOUTH HEALTH ASSESSMENT | *QUALITATIVE INTERVIEW AND WRITTEN SURVEY DATA*

15% **OF DENVER YOUTH SURVEYED**

cited mental health issues as the **most important issue** affecting their health

4% **MENTIONED DEPRESSION SPECIFICALLY**

Youth expressed concern about inadequate awareness of and access to mental health services. They also talked about stigma interfering with help-seeking behavior. Young people surveyed noted a lack of safe places for mental health conversations and stigma faced by peers, family, and the broader community. This caused them to worry that peers who were coping with mental health challenges may not reach their potential and might harm themselves.

HEALTHY KIDS COLORADO SURVEY | *WRITTEN SURVEY DATA*

According to the 2015 Health Kids Colorado Survey, nearly three in 10 middle and high school students in Denver indicated that during the past 12 months they felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities, which are symptoms consistent with depression. Depression among youth is statistically significantly higher in females than males (39% vs. 20%). While the rate does vary among race/ethnicity, age groups, and grade levels, there is no statistically significant difference among these groups. However, the data shows that gay, lesbian, and bisexual students were more than twice as likely to feel this way (58%) compared to their heterosexual classmates (26%).

NEARLY

3 IN 10 **MIDDLE & HIGH SCHOOL STUDENTS IN DENVER**

INDICATED THAT DURING THE PAST 12 MONTHS THEY FELT SO SAD OR HOPELESS ALMOST EVERY DAY FOR TWO WEEKS OR MORE IN A ROW THAT THEY STOPPED DOING SOME USUAL ACTIVITIES.

HETEROSEXUAL

GAY, LESBIAN OR BISEXUAL

PERCENTAGE OF STUDENTS WHO FELT SO SAD OR HOPELESS ALMOST EVERY DAY FOR TWO WEEKS OR MORE IN A ROW THAT THEY STOPPED DOING SOME USUAL ACTIVITIES DURING THE PAST 12 MONTHS (BY SEXUAL ORIENTATION)

Source: Healthy Kids Colorado Survey, 2015 (Question: During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?)

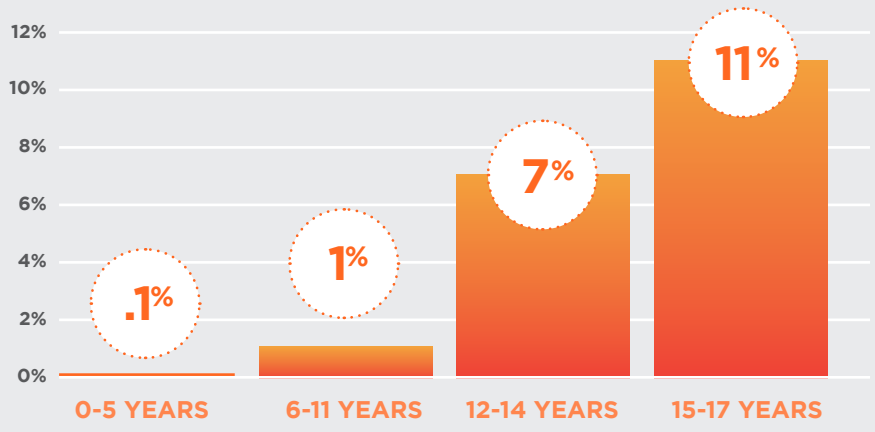
COLORADO HEALTH OBSERVATION REGIONAL DATA SERVICE (CHORDS)

ELECTRONIC HEALTH RECORD DATA

In Denver in 2016, 4% of children and adolescents ages 0-17 were diagnosed with depression at a CHORDS participating healthcare provider. This included 4% of non-Hispanic whites, 3% of non-Hispanic blacks and 4% of Hispanics.

WE SEE A PROGRESSIVE AND SIGNIFICANT INCREASE FROM ONE AGE GROUP TO THE NEXT.

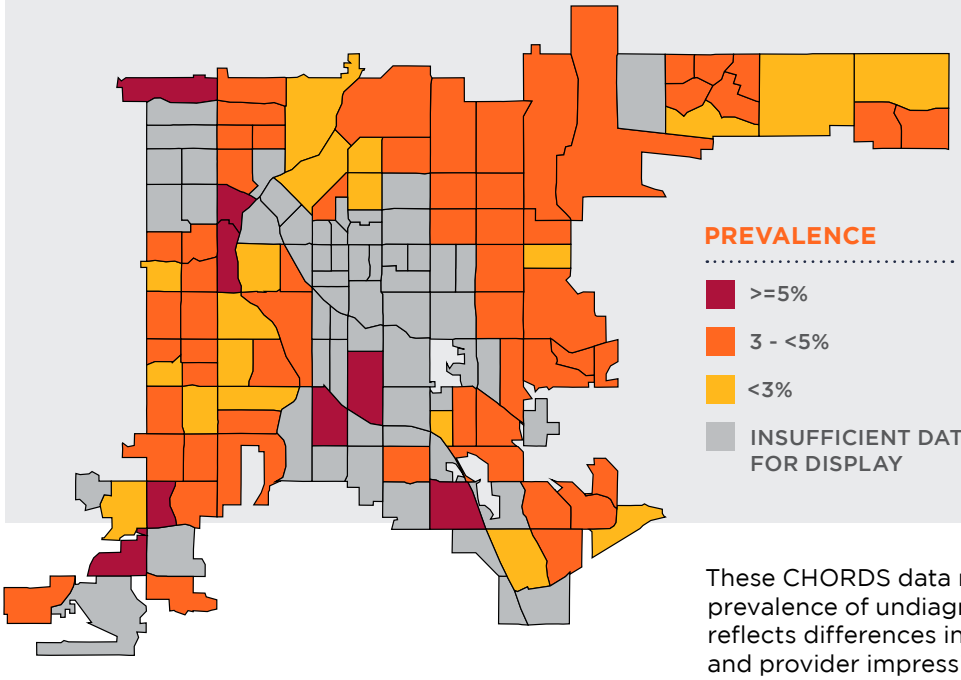
WHAT PERCENT OF CHILDREN HAVE BEEN DIAGNOSED WITH DEPRESSION BY A MEDICAL PROVIDER? (BY AGE GROUP)



Source: Colorado Health Observation Regional Data Service (CHORDS), 2016

CHORDS data also provide the ability to map the frequency of diagnosed depression by census tracts. This allows for resources to be allocated to areas most in need.

PREVALENCE OF DIAGNOSED DEPRESSION AMONG CHILDREN <= 17 YEARS OF AGE IN DENVER COUNTY BY CENSUS TRACT, 2016



Source: Colorado Health Observation Regional Data Service (CHORDS), 2016

These CHORDS data reflect diagnoses, and not the prevalence of undiagnosed depression. Thus, it also reflects differences in care-seeking, access to care, and provider impression.

Summary

Mental health and depression are of great concern to youth, and there is interest among them in making resources and support more available to young people facing mental health challenges. Symptoms of depression and clinical diagnoses of depression are common and affect all subgroups of children and youth throughout childhood and adolescence. Local data shows that there are differences between populations with an increasing frequency with age, and higher frequencies of symptoms among females and gay, lesbian, and bisexual individuals.

Adulthood
(18+ YEARS OLD)

Adulthood is a period of life that can encompass multiple different stages and experiences, such as post high school education as a young adult, starting a family, working many different jobs and careers through middle adulthood, and retirement in older adulthood. Each stage has risks for developing depression, whether related to financial worries, relationship breakdowns, or stressful events such as the death of a loved one.[10]

Pregnancy and After Delivery

Depression can be associated with pregnancy and the period following (postpartum period). According to The American Congress of Obstetricians and Gynecologists, between 14-23% of women will struggle with symptoms of depression during pregnancy, making depression the most common complication of pregnancy.[11,12] In contrast, the prevalence of depression in all women of reproductive age is only one in 20.[13] Depression not only impacts the mother's quality of life, but may also interfere with a mother's ability to maintain health during pregnancy or after birth and to bond with or respond to her infant. This can impair the parent-child interactions that are necessary for healthy brain development.[14]

BETWEEN

14-23% OF WOMEN

WILL STRUGGLE WITH SYMPTOMS OF DEPRESSION DURING PREGNANCY

Source: American Pregnancy Association, 2015

RELEVANT DATA

PREGNANCY RISK ASSESSMENT MONITORING SYSTEM (PRAMS)
TELEPHONE AND WRITTEN SURVEY DATA

COMPARED TO MOTHERS WHO DID NOT REPORT DEPRESSION, MOTHERS WHO DID WERE APPROXIMATELY:

2X AS LIKELY
TO REPORT DIFFICULTY PAYING THE BILLS.

2X AS LIKELY
TO REPORT HAVING A HUSBAND, PARTNER, OR ONE'S SELF INCARCERATED.

NEARLY 2X AS LIKELY
TO REPORT ARGUING MORE THAN NORMAL WITH A HUSBAND OR PARTNER.

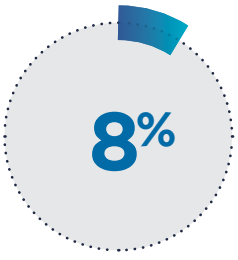
3X MORE LIKELY
TO REPORT EXPERIENCING HOMELESSNESS.

NEARLY 2X AS LIKELY
TO HAVE SOMEONE CLOSE TO HER EXPERIENCE A PROBLEM WITH DRINKING OR DRUGS.

Source: Pregnancy Risk Assessment Monitoring System (PRAMS), 2014-2016

In 2016, approximately 9% of Denver mothers (and a similar percentage of Colorado mothers) experienced postpartum depression. Among women told by a healthcare worker that they had postpartum depression:

TOOK PRESCRIPTION MEDICATION FOR DEPRESSION.



ENGAGED IN COUNSELING.

ENGAGED IN A SUPPORT GROUP.

Source: Pregnancy Risk Assessment Monitoring System (PRAMS), 2014-2016

DENVER HEALTH PREGNANCY-RELATED DEPRESSION SCREENING DATA

ELECTRONIC HEALTH RECORD DATA

In 2015, Denver Public Health began supporting the implementation of universal pregnancy-related depression screening in obstetric, family medicine, and pediatric settings within Denver Health. By September 2017, all Denver Health clinics had adopted screening protocols and nearly 80% of women were being screened at least once during pregnancy and during the first six months postpartum.

Based on data extracted from Denver Health electronic health records dating from January 2017 through December 2017, 24% of women had a positive screen during pregnancy, and 19% had a positive screen during their postpartum period. All women seen for prenatal care and delivery, as well as all children turning seven months old with at least one well-child visit, were included in this records review.

JAN 2017 — DEC 2017

24% OF WOMEN HAD A POSITIVE SCREEN DURING PREGNANCY

19% OF WOMEN HAD A POSITIVE SCREEN DURING THEIR POSTPARTUM PERIOD

Source: Denver Health Electronic Health Record Data, 2017

The number of positive screens is much higher than the prevalence identified in the PRAMS survey. While not all women with a positive screen will end up with a depression diagnosis, these data indicate that more than one in five pregnant or postpartum women presenting at Denver's largest safety net health care system are experiencing some depressive symptoms. Many women with a positive screen are accessing services from the integrated behavioral health specialist.

Non-Pregnant Adults

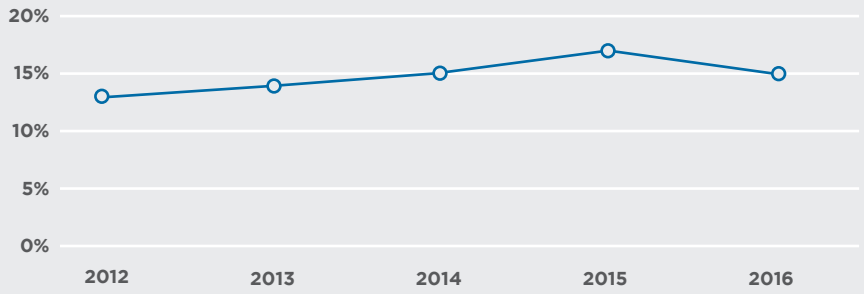
RELEVANT DATA

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

TELEPHONE SURVEY DATA

From 2012-2016, 15% of Denver adults surveyed indicated that they had eight or more days of poor mental health (which includes stress, depression, and problems with emotions) during the past 30 days (previous studies have shown that people who respond affirmatively to this question often warrant a clinical diagnosis of depression). It's unclear if there have been any significant increases or decreases over this time period.

WHAT PERCENT OF ADULTS REPORTED THEIR MENTAL HEALTH AS NOT GOOD EIGHT OR MORE DAYS DURING THE PAST 30 DAYS?



Source: Behavioral Risk Factor Surveillance System (BRFSS), 2016 (Question: Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?)

More women than men reported eight or more days of poor mental health during the past 30 days. More non-Hispanic black adults reported eight or more days of poor mental health during the past 30 days compared to non-Hispanic white adults or Hispanic adults.

WHAT PERCENT OF ADULTS REPORTED THEIR MENTAL HEALTH AS NOT GOOD EIGHT OR MORE DAYS DURING THE PAST 30 DAYS? BY GENDER & RACE/ETHNICITY

BY GENDER

MALE

FEMALE

BY RACE/ETHNICITY

NON-HISPANIC WHITE

NON-HISPANIC BLACK

HISPANIC

Source: Behavioral Risk Factor Surveillance System (BRFSS), 2016 (Question: Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?)

The frequency of symptoms of depression was similar across adult age groups.

14%	18%	15%	17%	16%	11%
18-24 YEARS	25-34 YEARS	35-44 YEARS	45-54 YEARS	55-64 YEARS	65+ YEARS

Source: Behavioral Risk Factor Surveillance System (BRFSS), 2016 (Question: Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?)

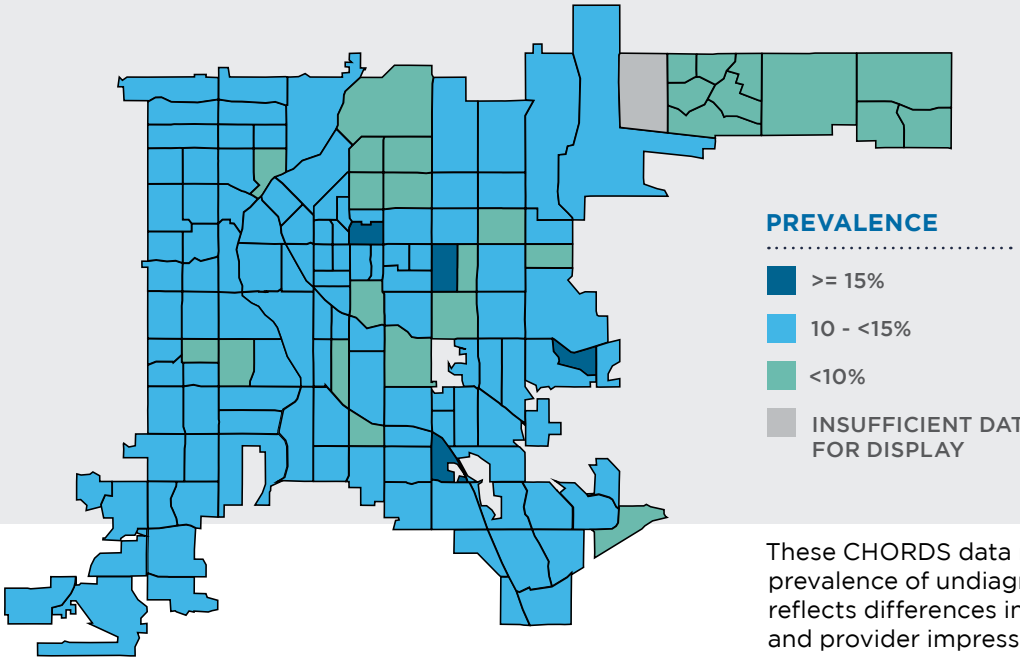
COLORADO HEALTH OBSERVATION REGIONAL DATA SERVICE (CHORDS)

ELECTRONIC HEALTH RECORD DATA

The frequency of a clinical diagnosis of depression from electronic health records (11%) was somewhat lower than the frequency of symptoms of depression from telephone survey data (14%). A discrepancy between these two estimates would be expected due to the stigma associated with seeking treatment, among other factors. Subgroup analyses suggest that the discrepancy between self-reported and diagnosed depression is similar for different demographic groups. Regardless of the data source, depression is common at all stages of adulthood, among men and women, and among persons in all racial and ethnic groups.

CHORDS data also provide the ability to map by census tracts. This allows for resources to be allocated to areas most in need.

PREVALENCE OF DIAGNOSED DEPRESSION AMONG ADULTS 18 YEARS AND OLDER IN DENVER COUNTY BY CENSUS TRACT, 2016



Source: Colorado Health Observation Regional Data Service (CHORDS), 2016

These CHORDS data reflect diagnoses, and not the prevalence of undiagnosed depression. Thus, it also reflects differences in care-seeking, access to care, and provider impression.

Summary

Adulthood is a complex interplay of many different individual events that can affect mental health. During and after pregnancy many women struggle with depression that can negatively affect quality of life for them and their children. Depression does not only impact pregnant women or those who have just given birth, however. Depression can and does impact adults of all ages, races/ethnicities, and in all of Denver's neighborhoods.

SECTION THREE

Downstream Effects of Untreated Depression

Depression is a leading cause of disease burden, or life years lost to illness, disability, and premature death within the U.S.[15] In addition to its negative impact on individual health, untreated depression also has significant implications for the well-being of families and communities.

Health Outcomes Associated with Untreated Depression

Chronic Health Conditions

Depression and chronic medical conditions are often inter-connected, with effects working in both directions. People with chronic health conditions (such as Parkinson's disease, cancer, diabetes, cardiovascular disease, cerebrovascular disease, and Alzheimer's disease) are more likely than others to experience depression.[16] Conversely, depression may increase one's risk for developing certain medical conditions, such as cardiovascular disease, diabetes, stroke, and Alzheimer's disease. Untreated depression may worsen the course and management of chronic illnesses, regardless of the causal relationship.[17]

Substance Use

A significant number of Americans who experience mental illness also struggle with co-occurring drug or alcohol dependency. In 2016, 18.5% of American adults with mental illness met the criteria for a substance use disorder, as compared to 5.4% of adults without mental illness.[18]

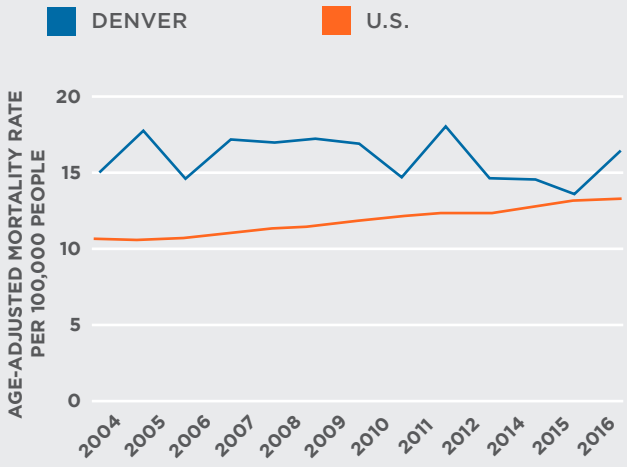
Premature Death

Depression is associated with a 50% increased risk of mortality from all causes.[19] People with persistent and severe mental illness die an average of 10 years earlier than people without mental illness.[20]

Suicide

Depression is a prominent risk factor for suicide. In 2013, suicide was the eighth leading cause of death in Denver, causing more deaths than homicide or motor vehicle crashes.[21] Between 2004-2016, 68% of Denver suicides were associated with a current depressed mood, and 25% were associated with a diagnosis of depression.[22]

DEATHS DUE TO SUICIDE, 2004-2016



Source: Colorado Violent Death Reporting System

The Impact of Untreated Depression on Families and Communities

Children's Health

Colorado data reveal that children who have a parent with depression are more than twice as likely as other children to experience overall poor mental health, need mental health care, and receive a mental health diagnosis. At the same time, children who have a parent with depression are also less likely to access needed mental health care.[23] In addition, untreated depression during pregnancy can impact the developing fetus, resulting in physiological, behavioral, hormonal, and cognitive effects.[24] Depression also interferes with parenting practices after birth. Mothers experiencing depression are less likely to start or maintain breastfeeding, use age appropriate well child visits, or engage in interactive play with their infants, all of which have the potential to impact child health and development.[25] Maternal depression is also associated with detrimental outcomes for children, including lower performance on cognitive, emotional, and behavioral assessments and increased risk for mental health problems later in life.[26]

Educational Attainment

Depression is significantly related to educational attainment. Children and youth who have depression and other mental health conditions have an increased risk of not completing high school.[27,28]

Workplace

Approximately 88% of people with severe depression indicate that they have experienced some level of functional impairment as a result of their symptoms, and 43% report having experienced serious difficulties with work, home, or social activities.[29] Companies that put resources into supporting the mental health of employees with depression can expect a significant return on their investment related to reduced absences and increased productivity.[30]

"If we can enhance the well-being of patients that we are working with in our community, we are not only going to see an improvement in family relationships and interactions with people in the work place but also in physical health outcomes, because people might be more invested and engaged in taking care of themselves."

CAITLIN HERNANDEZ, PH.D.
BEHAVIORAL HEALTH CONSULTANT

SECTION FOUR

Key Contributors

A variety of factors are involved in the development of depression, including brain chemistry, hormonal changes, genetics, and the presence of other chronic health conditions. Across the lifespan, a person's mental health status is also greatly impacted by their social, economic, and environmental circumstances. Social inequities are associated with an increased risk of depression and other mental illnesses.[31] Experiences of psychological trauma and chronic stress also increase vulnerability for the development of depression, particularly in the absence of healthy relationships and other factors that contribute to one's ability to cope with adversity.[32,33]

SOCIAL DETERMINANTS OF HEALTH refer to social, economic, and environmental conditions that impact health outcomes. These conditions are shaped by the distribution of wealth, power, and resources and as such, social determinants of health often contribute to social inequities. Examples of social determinants of health include income, housing, food security, living conditions, social support, social inclusion, and immigration status.

PSYCHOLOGICAL TRAUMA is an emotional response to an "event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being."[34] Witnessing community violence (such as mass shootings, bullying, or gang activity), being the victim of sexual or physical abuse, natural disasters, and war or political violence are examples of events or circumstances that can lead to psychological trauma.

CHRONIC STRESS is associated with ongoing, stressful conditions that lack discrete beginnings and endings, such as those associated with psychological trauma or social determinants of health.

"A lot of [our patients] require case management because they need access to food, they need cheaper housing – that's a big one that's been coming up – they don't have a place to live or they live in an unsafe place because they don't have means to go find anywhere else to live...they have all of these other things that really do require immediate assistance, so mental health is kind of way at the end."

CLAUDIA MURO | *MENTAL HEALTH CLINICAL SUPERVISOR*

KEY CONTRIBUTORS TO DEPRESSION

- HEALTH STATUS
- PARENTAL MENTAL HEALTH STATUS
- BRAIN CHEMISTRY
- SOCIAL, ECONOMIC, AND ENVIRONMENTAL CONDITIONS
- ABSENCE OF HEALTHY RELATIONSHIPS & OTHER FACTORS THAT CONTRIBUTE TO RESILIENCE
- PSYCHOLOGICAL TRAUMA
- GENETICS
- CHRONIC STRESS

SECTION FIVE

Specific Populations

A number of groups are disproportionately impacted by depression and/or underserved by existing treatment services in Denver.[35] An understanding of trauma, chronic stress, and social determinants of health as significant contributors to depression can provide critical context for understanding identified differences in depression rates and treatment access among each of these groups.

Men

Compared to women, men experience higher rates of substance use and overdose.[36] They are also disproportionately impacted by suicide, with men representing 76% of Denver suicide-related deaths between 2004-2016.[37] These differences suggest high rates of undiagnosed and untreated depression among men. The under-diagnosis of depression among men may be perpetuated by lower rates of healthcare utilization and the use of screening tools that do not accurately identify the depressive symptoms most frequently experienced by men, such as anger and aggression.[38] Men are also overrepresented within other groups of people that are disproportionately impacted by depression, accounting for 75% of those who experience chronic homelessness and 80% of those arrested for all violent crimes.[39,40]

Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ)

Youth and adults who identify as LGBT are more likely than other people to experience depression, poor mental health, and substance abuse.[41,42] "Homosexuality" was labeled as a disease within the Diagnostic and Statistical Manual (DSM) until 1973 and within the International Classification of Diseases (ICD) until 1990. This resulted in stigmatization and a focus on "treating homosexuality," rather than working to address the mental health needs of LGBTQ patient populations. Many treatment providers lack training in caring for LGBTQ patients, and care settings may not meet their needs.

MEN REPRESENT 76% OF DENVER SUICIDE-RELATED DEATHS BETWEEN 2004-2016

Source: Colorado Violent Death Reporting System

Communities of Color

Most communities of color experience rates of depression that are similar to those seen within majority populations. However, these communities bear a disproportionately high disability burden associated with mental illness. This is likely indicative of differences in disease trajectory and severity, as well as disparities in treatment access and barriers related to biases and cultural differences between patients and clinicians.[43] These comparably poor mental health outcomes may also be driven by the historical adversity experienced by many communities of color in the United States; race-based exclusion from health, educational, social, and economic resources has led to socioeconomic disparities that are, in turn, linked to mental health.[44]

People Involved with the Justice System

Among people who are or have been involved with the criminal justice system in Colorado, 25% have a serious mental illness, and 80% have an addiction disorder.[45] Former prison inmates are at a particularly high risk for death in the weeks following their release from prison, with drug overdose and suicide among the leading causes of demise during this time period. This reveals a need to provide sustained physical and mental health care upon release from prison.[46] In addition, parental imprisonment increases the risk of depression among children, and paternal imprisonment increases the risk of depression among female partners. [47,48]

"If we are going to help the community, we have to help everybody. If we do so, then I think that [individuals who are justice-involved] will be less likely to return to jail. They will be more likely to comply with parole, probation, substance abuse treatment, and mental health counseling."

CINZIA AYITE | *CASE COORDINATOR*

AMONG PEOPLE WHO ARE OR HAVE BEEN INVOLVED WITH THE CRIMINAL JUSTICE SYSTEM IN COLORADO:

HAVE A SERIOUS MENTAL ILLNESS

HAVE AN ADDICTION DISORDER

Source: Colorado Criminal Justice Reform Coalition

Pregnant Women

As noted and expanded upon previously within this report, between 14-23% of women will struggle with symptoms of depression during pregnancy, in contrast to just 5% of all women of reproductive age.[49, 50, 51]

People Experiencing Homelessness

Mental illness increases a person's likelihood of experiencing homelessness. Approximately 19% of Coloradans who experience chronic homelessness have a severe mental illness.[52] Mental illness may be exacerbated by chronic stressors related to homelessness, such as exposure to the elements and heightened risk of violence.[53]

Uninsured/ Underinsured

Mental health providers in the Denver area have noted a persistent coverage gap for people who are not eligible for Medicaid but who cannot afford the costs associated with purchasing or utilizing private insurance.[57]

Immigrants & Refugees

Rates of depression and other mental health conditions are elevated among some immigrant and refugee populations, particularly those who have been exposed to war, violence, or torture, as well as those who have experienced forced migration, exile, or uncertainty regarding their legal status. Recognizing and treating mental health conditions among immigrants and refugees can pose a challenge for healthcare providers, due to differences in language and culture that may impact communication and presentation of symptoms.[54] In addition, Denver-area health clinics have recently experienced an average 17% decrease in appointments made by members of immigrant and refugee communities, 19% increase in "no-show" rates, and 20% increase in mental health resource inquiries stemming from persecution-related stress.[55] This may be related to the "chilling effect" that has been observed nationally, wherein immigrants and refugees are becoming increasingly reluctant to seek healthcare due to fear of persecution.[56]

First Responders

As people who are trained and designated to respond in an emergency, first responders are typically among the first present at trauma sites and often the first to attend to the victims. A 2017 survey of 2,000 U.S. adults who are employed as firefighters, police officers, EMT/ paramedics, and nurses revealed that as many as 85% of first responders have experienced symptoms related to mental health issues, and approximately 34% have received a formal diagnosis of a mental health disorder, such as depression.[58] These prevalence rates are understood to be notably higher than those reported within the general population.[59] In Colorado, suicide is the leading occupational cause of death among emergency responders, and leadership within emergency responder departments report significant challenges to maintaining mental health of first responders. These challenges include persistent stigma about admitting "weakness," inadequate funding and training to provide ongoing support within departments, and a lack of treatment providers trained to address the trauma experienced by first responders.[60]

SECTION SIX

Barriers to Mental Health Care

People experiencing depression often fail to seek professional help, despite the existence of effective treatment. These treatment gaps are associated with barriers to accessing professional services, as well as low levels of professional help-seeking behavior among people with depression. This illustrates a need for both improved access and enhanced awareness of available resources.

RELEVANT DATA

COLORADO HEALTH ACCESS SURVEY | *TELEPHONE SURVEY DATA*

What Barriers do Denver County Residents Face in Accessing Professional Services for Depression?

In 2017, it is estimated that 12% of Denver County residents five years and older indicated that they had poor mental health (eight or more days of poor mental health) during the past 30 days.

While some Denver County residents did talk about mental health with their general doctor or primary care provider (14%), or a mental health provider (18%), many Denver County residents did not receive the mental health care or counseling services they needed. Roughly 10% of Denver County residents five years and older indicated that they needed mental health care or counseling services but did not get it during the past 12 months. The reasons for why they did not get the needed mental health care or counseling services varies among this population, and can be seen in the table on the next page.

REASONS WHY THOSE INDICATING THEY NEEDED MENTAL HEALTH CARE OR COUNSELING SERVICES DIDN'T GET IT AT THE TIME DURING THE PAST 12 MONTHS

CONCERNED ABOUT THE COST OF TREATMENT	65%
DID NOT FEEL COMFORTABLE TALKING WITH A HEALTH PROFESSIONAL ABOUT THEIR PERSONAL PROBLEMS	38%
CONCERNED ABOUT WHAT WOULD HAPPEN IF SOMEONE FOUND OUT THEY HAD A PROBLEM	33%
HAD A HARD TIME GETTING AN APPOINTMENT	34%
DID NOT THINK THEIR HEALTH INSURANCE WOULD COVER IT	50%
DID NOT SEEK AN APPOINTMENT BECAUSE THEY WERE UNINSURED	85%

Young people (19-29 years) were most concerned about cost of treatment (99%).

Individuals who identified as **non-Hispanic Black** or **Hispanic** were twice as likely as **non-Hispanic Whites** to report that they were not comfortable talking with a health professional about their personal problems (51% and 62% vs. 26%, respectively).

Women were more likely to not seek care as a result of concern about the cost of treatment or because they did not think their insurance would cover it.

Men were more likely to feel uncomfortable talking with a health care provider about their problems and worried that someone might find out they have a problem.

Source: Colorado Health Access Survey, 2017

What Other Factors May Prevent People from Seeking Care for Depression?

Personal beliefs, attitudes, and experiences – as well as the beliefs, attitudes, and experiences of family members and other close relations – may impact whether or not a person seeks professional help for depression. These may be shaped by:[61]

- BELIEFS THAT DEPRESSION AND HELP-SEEKING ARE DISCORDANT WITH ONE'S SELF-IDENTITY OR PERSONAL GOALS.
- STIGMATIZING ATTITUDES AND MESSAGES BY FAMILY AND FRIENDS ABOUT DEPRESSION AND HELP-SEEKING BEHAVIORS.
- RELIANCE ON ALTERNATIVE COPING STRATEGIES, INCLUDING NORMALIZATION OF SYMPTOMS AS EVERYDAY LIFE PROBLEMS.
- USE OF MALADAPTIVE COPING STRATEGIES, SUCH AS ALCOHOL OR OTHER DRUG USE.
- ATTITUDES AND BELIEFS ABOUT HEALTH CARE PROVIDERS AND EFFECTIVENESS OF TREATMENT OPTIONS.
- CULTURAL AND/OR LINGUISTIC APPROPRIATENESS OF AVAILABLE INTERVENTIONS.

SECTION SEVEN

Diagnosis and Treatment of Depression in Denver

Effective treatments exist for depression, including numerous evidence-based options for counseling and several types of antidepressant medications. The earlier treatment begins, the more effective it is. Integrated care is a critical strategy for ensuring that people who are experiencing depression are promptly diagnosed and able to access timely and effective treatment services.

What is Integrated Care?

In an integrated care system, different types of health care providers work closely together to produce the best outcomes for people with multiple healthcare needs. Within the context of treating depression, integrated care occurs when mental health specialty and primary care providers collaborate to address both the physical and mental health needs of their patients. This can include bringing mental health care into a primary care setting, as well as bringing primary care to settings in which people receive mental health treatment.

CHARACTERISTICS OF FULLY INTEGRATED PRACTICES[62]

Source: Substance Abuse and Mental Health Services Administration, 2013

- Function in the same space within the same facility as one integrated system.
- Communicate consistently at the system, team, and individual levels.
- Collaborate, driven by a shared concept of team care.
- Have formal and informal meetings to support an integrated model of care.
- Have professional roles and cultures that blur and blend.

Additionally, using patient navigation services to help patients identify and overcome barriers to care can enhance the degree of integrated care for people with depression and other mental health concerns.[63] Patient navigators link patients with essential health and community services by facilitating communication between the patient and their care team and by providing health education, health coaching, advocacy, health assessment, and triage. Patient navigators may also provide and/or mobilize social support for patients.

Why Integrated Care?

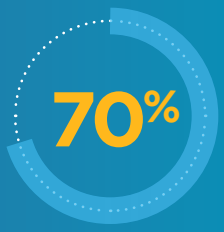
Physical and mental health problems often occur at the same time. Primary care providers manage care for a large percentage of people who are in treatment for depression and other mental health conditions, and an integrated care approach can enable them to collaborate with mental health specialists in the provision of this care. Additionally, the utilization of integrated care models can facilitate access to mental health treatment for people who would not otherwise seek or have access to mental health services, as well as primary care treatment for those who are currently in treatment for a chronic mental health condition. Almost 70% of people with poor mental health do not seek professional help or do so only from their primary care clinician, who may not be trained to assist them with mental health concerns.[64] Moreover, 70% of Coloradans who were unable to access needed mental health services in the past year indicated that they had access to a primary care doctor during this time.[65] The practice of integrated care may also have implications for suicide prevention; more than one-third of people who attempted suicide had seen a healthcare provider in the week prior to their attempt.[66]

Integrated care also holds promise as a cost-efficient model of care delivery. People with chronic medical and comorbid mental health or substance use disorder conditions can incur healthcare costs that are two to three times as high as those of individuals without these comorbidities. It is thought that a portion of this additional spending may be saved through effective care integration.[67]

ALMOST

70% OF PEOPLE WITH POOR MENTAL HEALTH

DO NOT SEEK PROFESSIONAL HELP OR DO SO ONLY FROM THEIR PRIMARY CARE CLINICIAN, WHO MAY NOT BE TRAINED TO ASSIST THEM WITH MENTAL HEALTH CONCERNS



OF COLORADANS WHO WERE UNABLE TO ACCESS NEEDED MENTAL HEALTH SERVICES IN THE PAST YEAR INDICATED THAT THEY HAD ACCESS TO A PRIMARY CARE DOCTOR DURING THIS TIME.

Integrated Care in Denver

INTEGRATED CARE PRACTICES WITHIN DENVER METRO AREA COMMUNITY HEALTH CENTERS

Interviews conducted with 32 community health centers in the Denver Metro Area revealed significant progress towards the adoption of integrated care models in Denver.[68]

- Approximately 80% of clinics have a protocol for screening all patients for mental health concerns on a regular basis.
- Nearly two-thirds of clinics have a workflow or processes to support a warm handoff in the event of a positive screen, wherein a primary care provider can introduce a patient to a mental health provider during the appointment.
- Almost half of clinics reported close or full collaboration, indicating that they were approaching or functioning as an integrated practice, as defined by the Substance Abuse and Mental Health Services Administration-Health Resources and Services Administration Center for Integrated Health Solution's Standard Framework for Levels of Integrated Healthcare.

INTEGRATED CARE PRACTICES WITHIN COLORADO SIM PRACTICE SITES

Colorado's State Innovation Model (SIM) provides support for mental health integration within hundreds of primary care practices across the state. Among Colorado SIM practices, larger practices are more likely to be integrated. Rates of screening for depression are higher among large clinics, adult practices, and practices with greater percentages of patients on Medicaid or with no insurance.[69]

INTEGRATED CARE PRACTICES FOR PERINATAL POPULATIONS

"[As navigators], we try to see if there is anything that we can help [patients] with like giving them medication, working along with their family doctor, or with the psychologist. More and more, visit by visit, they come back to us. And they open up to us and we find more ways to help them."

TOM CASSIO
PATIENT NAVIGATOR

Approximately 73% of Denver mothers said they were asked if they felt down or depressed by a healthcare provider, either during the prenatal or postpartum periods.[70] Rates of screening for pregnancy-related depression appear to be higher within Denver's largest safety net health care system, where 83% of mothers are being screened for depression during pregnancy, and 92% of mothers are screened during their postpartum period.[71] Regardless of whether a mother was identified as depressed, 75% discussed what to do if depressed during or after pregnancy with a healthcare provider.[72]

Challenges to Integrated Care in Denver

WITHIN COMMUNITY HEALTH CENTERS IN THE DENVER METRO AREA, HEALTH CARE PROVIDERS HAVE IDENTIFIED CHALLENGES TO INSTITUTIONALIZING SCREENING AND REFERRAL PROTOCOLS THAT INCLUDE:[73]

- Competing priorities for time.
- Language and cultural barriers.
- Staff capacity and training.
- Lack of streamlined intake processes at community mental health centers.
- Length of time from intake to treatment at community mental health centers.
- Barriers to sharing protected health information.
- Lack of standardized screening and referral protocols to support broad adoption of best practices.

> **"A lot of people build relationships over time with their primary care doctor, and when they present [behavioral health providers] as [part of the] team and someone who can assist and support them, it plays down the stigma that something is wrong with you, that you're diseased or bad, that it can't be a part of your health care, that it's something separate. I think having that integrated model really helps reduce stigma. It makes it just a normal part of your care."**
>
> KC LOMONACO, PSY.D. | *LICENSED CLINICAL PSYCHOLOGIST*

COLORADO SIM PRACTICES HAVE ALSO NOTED SEVERAL CHALLENGES TO INTEGRATED CARE, INCLUDING:[74]

- Available funding does not fully meet the gaps left by non-billable services.
- Challenges with attaining alternative payment models.
- Barriers to information sharing.

EFFORTS TO INSTITUTIONALIZE PREGNANCY-RELATED DEPRESSION SCREENING AND REFERRAL PRACTICES WITHIN DENVER'S LARGEST SAFETY NET HEALTH CARE SYSTEM HAVE EXPOSED NEEDS RELATED TO:

- Culturally and linguistically appropriate screening instruments for populations speaking languages other than English and Spanish.
- Destigmatizing depressive symptoms across racial and ethnic groups.
- Education for providers regarding differences in screening outcomes, and the need to use clinical judgment in addition to screening results.

Moving Forward to Support Positive Mental Health

The information presented within this report has served to: establish the frequency of depression in Denver, as it presents throughout the lifespan; draw attention to key factors, critical disparities, and barriers to care; and provide an understanding of current integrated care practices in Denver. These findings can be used by health systems, policy makers, community-based organizations, researchers, employers, and community members to support positive mental health.

Next Steps for Health Systems

- Incorporate processes for screening and referral. Identify and use screening instruments and referral processes that are appropriate for men, people of color, LGBTQ populations, and women who are pregnant or postpartum.
- Incorporate integrated care models.
- Incorporate patient navigation services.
- Incorporate innovative strategies to support patients during waiting periods for first therapy appointments. This may include offering psychoeducation, peer support, and/or tools to help clients gather data that will be useful for developing their treatment plan (e.g. mood trackers, etc.).
- Promote the use of counseling and support groups as a complementary or alternative strategy to prescription medication for treating depression.
- Raise awareness of mental health by sharing public awareness campaign materials. Examples of local public awareness campaigns include Let's Talk (letstalkco.org) and Colorado's Pregnancy-Related Depression Campaign (postpartum.net/colorado).

Next Steps for Policy Makers

- Address social determinants of health that contribute to and/or exacerbate mental health issues, including economic instability and food and housing insecurity.
- Recognize the importance of infant and early childhood mental health and social and emotional learning for preventing future mental health concerns.
- Support policy approaches – such as paid parental leave – that support both parental mental health and children's social and emotional learning.
- Incentivize the use of integrated care models and include opportunities for mental health promotion and prevention work.
- Ensure adequate insurance coverage (across all payors) for evidence-based mental health services, without unnecessary barriers.
- Ensure adequate, evidence-based mental health services within correctional facilities, with support for careful transitions of care for people with identified mental health or substance abuse disorders.

SPOTLIGHT

Denver's School-Based Health Centers' Adolescent Depression Care Model

Denver's School Based Health Centers (SBHCs) have utilized their Adolescent Depression Care Model since 2003. During the 2017-2018 school year, 521 children and adolescents received support under this integrated care model. Program features include:

- Medical and mental health providers work in partnership to address depression in children and adolescents, with the medical provider typically serving as the first point of contact.
- Standardized screening tools are utilized to identify symptoms of depression and support formulation of a working depression diagnosis. Following initial diagnosis, screenings are repeated monthly.
- Identified patients are typically seen by mental health providers on a weekly basis.
- Medical providers provide ongoing, monthly follow-up treatment and support for those patients who choose not to participate in therapy.
- SBHC medical providers are able to prescribe anti-depressant medications when indicated. Psychiatrists are utilized for more complex cases.
- Patient progress is reviewed regularly at interdisciplinary clinic team meetings.

Next Steps for Community-Based Organizations

- Raise awareness of mental health by sharing public awareness campaign materials. Examples of local public awareness campaigns include Let's Talk (letstalkco.org) and Colorado's Pregnancy Related Depression Campaign (postpartum.net/colorado).
- Support approaches that address parental mental health concerns while supporting children's social and emotional learning.
- Address social determinants of health that contribute to and/or exacerbate mental health issues, including economic instability and food and housing insecurity.

SPOTLIGHT

Alma Program and Mindful Mood Balance for Moms (MMB)

These programs employ new models for assisting women who are experiencing post-partum or prenatal depression, using peers (Alma) and online modules (MMB). For more information, visit: mentalhealthinnovation.org/portfolio-item/alma/ and mentalhealthinnovation.org/portfolio-item/mmb-online-tool-for-moms.

Next Steps for Researchers

- Evaluate associations between aspects of the built environment (parks, traffic, density, ambient noise) and depression.
- Evaluate the role of community connectedness and social support in depression outcomes.
- Evaluate patient outcomes and medical costs of integrated care models.
- Investigate reasons for the noted gap between the number of people who take prescription medications for depression and the number of people who engage in counseling or support groups.
- Evaluate the effect of early childhood support programs and subsequent risk of depression.
- Evaluate the interactions between drug and alcohol mis-use and depression.

SPOTLIGHT

Executives Partnering to Invest in Children (EPIC)

EPIC undertakes efforts to understand and promote family-friendly workplace policies and practices that can support both children's social and emotional learning and parental mental health. EPIC's employer toolkits can be found here: coloradoepic.org/initiatives/fftoolkit.

Next Steps for Employers

- Place mental health professionals at job sites to talk to workers about challenges they are experiencing and provide assistance in addressing stressors.
- Create policies that support employees with mental illness, including systems to help employees in transitioning back to work after a medical leave.
- Institute policies - such as paid parental leave - that support both parental mental health and children's social and emotional learning.
- Ensure that all employee insurance plans offer adequate mental health coverage and that employees are aware of their ability to access mental health services through their insurance.
- Offer opportunities for employees to participate in mental health awareness training – such as Mental Health First Aid (visit mhfaco.org for a schedule of available classes).
- Raise awareness of mental health by sharing public awareness campaign materials. Examples of local public awareness campaigns include Let's Talk (letstalkco.org) and Colorado's Pregnancy Related Depression Campaign (postpartum.net/colorado).

Next Steps for Community Members

- Complete a mental health awareness training – such as Mental Health First Aid (visit mhfaco.org for a schedule of available classes).
- Advocate on behalf of mental health issues, including increasing access to services.
- Contribute to community efforts that address social determinants of health.

APPENDIX: **DATA SOURCES**

This report contains multiple data sources. As outlined below, each of these data sources are unique in the way that they collect and analyze data, and each come with their own strengths and limitations. This does not mean that one source is correct and another is incorrect. These data sources can be used to complement one another and provide a more complete picture of what depression looks like in Denver.

Survey Data

Behavioral Risk Factor Surveillance System (BRFSS)

An annual telephone survey for adults that includes questions on health-related risk behaviors, health conditions, and use of healthcare services.

STRENGTHS

- Estimates are representative of adults in Colorado
- Survey question consistency allows reasonable comparisons between states

WEAKNESSES

- Self-reported data can be biased
- Small sample size
- Limited clinical information

Colorado Health Access Survey (CHAS)

A bi-annual telephone survey administered to randomly selected households in Colorado that is used as the premier source of information on health insurance coverage, access to health care, and use of health care services in Colorado.

STRENGTHS

- Estimates are representative of adults in Colorado
- Only survey that focuses solely on the health insurance status, access to health care, and utilization of health care services of Coloradans

WEAKNESSES

- Self-reported data can be biased
- Limited sample size
- Limited clinical information

Healthy Kids Colorado Survey (HKCS)

A bi-annual survey for Colorado public school students used to better understand youth health, risk and protective behaviors, and what factors support youth to make healthy choices.

STRENGTHS

- Several levels of estimates – state level, Health Statistics Region level, district level, and school level
- Estimates are representative of all students in grade 9-12 attending public schools in Colorado
- Most survey question are consistent and allow reasonable comparisons between states

WEAKNESSES

- Students can be opted-in/opted-out by their parents depending on the school district
- Local, district and school level sample size may not allow for in-depth analysis
- Self-reported data can be biased
- Limited clinical information

Pregnancy Risk Assessment Monitoring System (PRAMS)

A statewide mailed survey and telephone follow-up administered to women who have recently given birth to identify and monitor behaviors and experiences of women before, during, and after their pregnancy.

STRENGTHS

- Population-based source of data on maternal and infant health in Colorado
- Links behavioral and clinical information

WEAKNESSES

- Self-reported data can be biased
- Limited sample size

Electronic Health Record (EHR) Data

Colorado Health Observation Regional Data Service (CHORDS)

A regional collaborative partnership between Colorado health providers, public health departments, the University of Colorado Anschutz Medical Campus, the Colorado Regional Health Information Organization, and the Colorado Health Institute used to collect, analyze, and present data from participating health providers' EHRs to monitor population health and conduct research. For more information, please visit chordsnetwork.org.

STRENGTHS

- Includes clinical information
- Includes patient location data for local mapping capabilities and targeted resource deployment

WEAKNESSES

- Can't track individuals who aren't receiving care at a participating health care organization
- Can't de-duplicate individuals who seek care at multiple participating health providers

Denver Health Pregnancy-Related Depression Screening Data

An initiative between Denver Public Health and Denver Health Ambulatory Care Services to implement universal pregnancy-related depression screening in obstetric, family medicine, and pediatric settings within Denver Health.

STRENGTHS

- Use of the Edinburgh Postnatal Depression Scale as a validated screening tool for depression
- Includes a large portion of the Denver Health patient population
- Timely availability of data
- Sufficient number of women screened to examine by subpopulations

WEAKNESSES

- Screening tool is not diagnostic
- Information is limited to Denver Health patients

Qualitative Data Collection

Key Informant Interviews

A set of 12 telephone interviews with community stakeholders interested in improving mental health in Denver.

STRENGTHS

- Provides personal, in-depth perspective on individual or community level challenges and opportunities
- Can build or strengthen relationships with important community stakeholders

WEAKNESSES

- Difficult to generalize results to the larger population
- Responses represent personal backgrounds, viewpoints and opinions

Youth Health Assessment (YHA)

A collaborative report produced by Denver Public Health and the Denver Department of Public Health and Environment designed to provide a comprehensive and clear understanding of the health status of young Denver residents.

STRENGTHS

- Focused on health challenges facing youth in Denver specifically, allowing for a deep dive into issues youth highlighted
- Gathered information through open-ended survey questions answered by 447 young people and key informant interviews with leaders at youth serving organizations in Denver

WEAKNESSES

- Difficult to generalize results to the larger population
- Small sample size

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ENDNOTES

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