Results First

Presented to the
Legislative Finance Committee
June 7, 2017

Children's Behavioral Health

AT A GLANCE

Behavioral health problems affect one out of five children nationally[1]. Behavioral health includes mental health and substance use disorders. These issues can affect a child's school success, social relationships, and put a child at risk for future physical and behavioral health problems. New Mexico has high rates of poverty, adult substance use, unemployment, single parent or non-biological parent guardianship, and low educational attainment. These factors put children at higher risk of poor behavioral health outcomes.

Forty-six percent of the state's children's behavioral health spending in 2015 was for acute out-of-home treatment without evidence of its effectiveness. Greater investment in prevention and early and community-based interventions, emphasizing evidence-based practices, is needed to reduce out-of-home treatment and improve outcomes.

New Mexico spent approximately $200 million in FY16 on children's behavioral health through Medicaid and the Children, Youth, and Families Department. (CYFD) Almost half of total spending was for acute out-of-home care for a few children. Strengthening the state's evidence-based community services would lead to better outcomes and less reliance on acute care over time. However, limited data prevents the state from knowing if the current system is adequately addressing children's needs.

Ensuring the behavioral health system is effectively meeting needs of the state's children requires increased data collection, matching service and provider access to need, implementation of additional evidence-based practices at the community level, and effective monitoring and evaluation of programs. This report, a joint collaboration between CYFD, HSD, and LFC, reviews the current children's behavioral health system, identifies constraints, and compiles an inventory of behavioral health programs and practices offered in New Mexico, identifying which practices are evidence-based. Return on investment analysis identifies the best programs in which to invest limited resources. The report suggests various next steps to establish a cohesive plan to coordinate efforts and resources among the Human Services Department, CYFD, and other agencies.

A Collaboration Between

NEW MEXICO LEGISLATIVE FINANCE COMMITTEE

HUMAN SERVICES DEPARTMENT

cyfd

Results First uses a national recognized, peer-reviewed model with a three-step process: (1) Use the best national research to identify what works, what doesn't, and how effective various programs are in achieving policy goals. (2) Apply state-specific data to the national results.
(3) Compare costs with projected benefits.

BACKGROUND

Throughout the United States, an estimated 20 percent of children have behavioral health problems[1]. Children's behavioral health problems are defined as mental disorders, including severe distress and substance use disorders, specifically alcohol and drug addiction[2]. Total estimated lifetime economic cost of children in the United States affected by behavioral health problems is at least $2.1 trillion dollars[3]. Using comparable methods, LFC staff estimate New Mexico loses at least $8 billion in lifetime earnings for children currently under age 20 affected by childhood psychological and substance use problems. This total is a conservative estimate and does not include state money that would be saved due to improved mental outcomes for these individuals.

Figure 1. Definitions of Most Prevalent Behavioral Disorders for Children in New Mexico

Post Traumatic Stress Disorder (PTSD)
- Symptoms occur at least 1 month after exposure to trauma
- Trauma is consistently re-experienced
- Avoidance of trauma related factors
- Increased negative thoughts and reactivity
- Child adversity may increase risk

Depressive Disorders
- Loss of interest or pleasure
- Symptoms present every day for at least 2 weeks.
- Individual may seem sad or irritable
- Suicidal thoughts may occur
- Adverse childhood experiences known to increase risk

Attention Deficit Hyperactivity Disorder (ADHD)
- Persistent pattern of inattention
- May also include hyperactivity or impulsivity
- May lead to difficulties in school, social interactions, and staying on task

Oppositional Defiant Disorder (ODD)
- Persistent angry mood with defiant behavior
- Related to harsh, neglectful or inconsistent parenting
- Symptoms must occur for at least 6 months

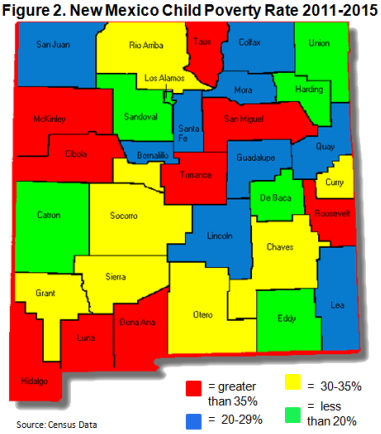
Anxiety Disorders
- Excessive fear or anxiety that in hard to control and affects daily functioning
- Typically develop in childhood
- Adverse childhood experiences may increase risk for developing anxiety disorders

Source: SAMHSA, Department of Veterans Affairs

Determinants of Behavioral Health.

New Mexico has a higher rate of individuals living at or below the poverty line than the rest of the country, putting the state at higher risk for individuals developing behavioral health problems. According to the 2015 Census, New Mexico's child poverty rate was 29.4 percent, while the US had a rate of 21.7 percent[4]. Based upon well-established research, increased poverty leads to an increase risk for behavioral health problems. Recent scientific studies examining the effects of poverty on behavioral health found individuals who are in poverty or have a low socioeconomic status are more likely to be depressed, have a higher rate of psychiatric symptoms and substance use disorders, as well as children having a higher rate of general mental health problems[5-8]. According to one study examining the causal relationship between poverty and child mental health, poverty exposes children to more risk factors potentially contributing to a higher likelihood of mental health and behavioral disorders[9]; however as this one study was conducted with a small population, more large highly controlled studies should be conducted. In addition to poverty playing a role in the level of child mental health symptoms, parental supervision may help to improve child mental health symptomology[9].

Figure 2. New Mexico Child Poverty Rate 2011-2015

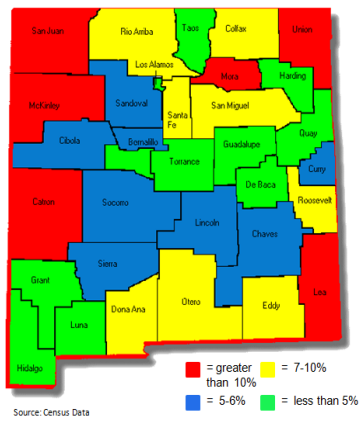


Exposure to adverse childhood experiences may lead to child behavioral health problems. Current research identifies up to ten experiences including abuse (sexual, verbal or physical), emotional or physical neglect, parental separation, substance use, mental illness, incarceration, and witnessing intimate partner violence, to which exposure can lead a child to have increased mental and physical health risk. Children exposed to a high number of adverse childhood experiences (ACES) have an increased risk for depressive disorders, anxiety, memory problems, and poor emotional regulation[10]. In New Mexico, 14 percent of youth experienced three or more ACEs, higher than the national average of 11 percent[11]. Additionally, children in New Mexico's juvenile justice facilities have been exposed to more ACEs than the general population, with 86 percent exposed to four or more adverse experiences[12].

Children exposed to a high number of adverse childhood experiences (ACES) have an increased risk for depressive disorders, anxiety, memory problems, and poor emotional regulation[1]

New Mexico also has high levels of familial substance use and domestic violence. New Mexico has higher levels of substance use disorders than the rest of the country[13]. Youth whose parents are addicted to alcohol are more likely to use substances[14]. In addition to parental substance use disorders, children in New Mexico are also exposed to higher rates of inter-parental violence. New Mexico's lifetime prevalence rate for domestic violence was 24 percent in 2015, with 32 percent of incidents occurring with children present[15]. Children exposed to inter-parental violence have an increased risk of depression, anxiety, and trauma-related symptoms[16].

Figure 3. New Mexico Rate of Uninsured Children 2011-2015



Parents exposed to higher levels of adversity are likely to have children who are also exposed to higher levels of adversity[17]. Specifically, without effective intervention, there is intergenerational transmission of ACEs with parent

experiences of child abuse or family violence increasing the child's risk for mental illness, substance use, incarceration, teen pregnancy, and school failure. Therefore, in order to decrease a child's likelihood of being exposed to adverse experiences, and be at risk for behavioral health problems, interventions must also consider and address parent adverse childhood experiences[18].

Adverse experiences and low socioeconomic status increase a child's susceptibility to behavioral health problems; however resiliency factors decrease a child's chances of these problems. Resiliency factors are positive influences in a child's environment that can counteract negative factors. Some resiliency factors include a supportive caregiver, positive social relationships, religiosity, and housing stability and quality[19-21]. These factors decrease trauma effects, anxiety and depression, and improve child cognition, and behavior. When examining a child's risk of developing behavioral health problems, one needs to consider both risk factors, such as poverty and ACE exposure, as well as resiliency factors such as positive social relationships, religiosity, and housing factors.

Prevalence of Behavioral Health Problems.

New Mexico youth have high rates of drug use, persistent feelings of sadness or hopelessness, and suicide. According to Youth Risk and Resiliency Survey data from 2005 to 2015, New Mexico youth report higher rates than the rest of the nation for a number of measures related to behavioral health, specifically:

- New Mexico high school students reported trying marijuana before age 13 at more than double the national rate and drinking before age 13 at a rate 17 percent higher than the rest of the nation.
- The number of children using marijuana before age 13 is particularly high for American Indian youth at 29.8 percent, double the New Mexico average.
- New Mexico youth are 16.5 percent more likely to use marijuana than other youth throughout the United States.
- New Mexico is significantly above the national average for other illicit drug use such as cocaine, heroin, and ecstasy.
- Youth also report higher rates of persistent feelings of sadness or hopelessness. It is unclear whether drug use is higher because of these feelings or if drug use causes these feelings of hopelessness.
- In addition to higher levels of depression symptomology and drug use, teen suicide deaths in New Mexico are also almost double the national average, although this is down from almost 2.5 times the national average in 2008.
- However, New Mexico youth did report lower current alcohol use and binge drinking compared to the rest of the nation, as well as lower prescription drug use.

Table 1. Prevalence of Most Expensive Child Behavioral Health Disorders in New Mexico, 2015

Diagnosis	National Prevalence Rates	Estimated Number of NM children
Post Traumatic Stress Disorder	4%	22,063
Mood Disorders (Depression, Bipolar and Other/Unspecified)	14%	77,222
Attention Deficit Hyper-activity Disorder	11.0%	60,674
Adjustment disorder	7.4%*	40,817
Oppositional defiant disorder	12.6%	69,500

Source: Mediciad, CDC and Cornelius et al. 2014[22]* Number may be unreliable due to lack of national epidemiological survey data

The outcomes of drug use, depression symptomology, and suicide deaths are likely to be inter-related, with research suggesting mental health disorders and substance use disorders are the most important risk factors related to adolescent suicide[23].

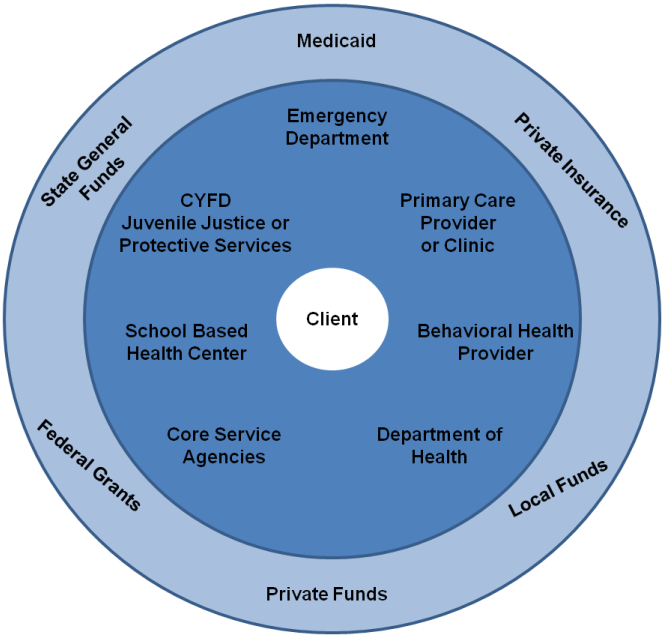
Due to the high rates of substance use and mental health symptomology, child poverty, and exposure to adverse experiences, the state of New Mexico has high risk for children's behavioral health diagnoses and needs to have effective services to prevent and treat these issues. Over 70 percent of youth who seek treatment for a substance use problem have a co-occurring mental health disorder[24]. Substance use disorders and mental health are mostly examined separately; however, these disorders should also be examined together as nationally, 29 percent of teens with a substance use disorder also exhibit a major depressive episode[25]. Conversely, only 11.6 percent had a major depressive disorder without a co-occurring substance use disorder.

As New Mexico has an increased rate of children younger than age 13 using substances, the state should be aware of the likelihood of co-occurring substance use and mental health disorders. Therefore, if a teen is screened for either a mental health or substance use disorder, the behavioral health provider should also screen for an underlying co-occurring disorder. When examining rates of treatment for both co-occurring major depressive episode and substance use disorders in teens, nationally 59.4 percent only received mental health care, 3.8 percent received both mental health care and substance use treatment, and over 33 percent received no treatment for either problem[25]. Additionally, the numbers in the National Survey of Drug Use and Health (NSDUH) report are likely higher than what is reported above because the NSDUH only examined the co-occurrence for major depression and substance use.

New Mexico Behavioral Health Access Points.

Children enter the behavioral health system through various access points such as: through the health care system by way of primary care and behavioral health service providers, through the education system, and through involvement with CYFD. CYFD, especially in its role as the state's child welfare and juvenile justice agency, is directly involved in managing delivery of various children's behavioral health services. These different service providers are funded by various revenue sources, of which Medicaid is the largest. Additionally, state general revenue appropriated to CYFD are another significant funder of children's behavioral health services, followed by federal grants, private insurance, local funds, and private funders such as nonprofits.

Figure 4. Funding and Access Points for Children's Behavioral Health Services



The New Mexico Behavioral Health Collaborative is positioned to play a vital role in overseeing and supporting children's behavioral health in New Mexico. The New Mexico Behavioral Health Collaborative (the Collaborative) was created in 2004 with representatives from 16 state agencies with the goal of working to build a family-focused and individually-centered behavioral healthcare system with services to foster an individual's capacity for recovery and resiliency. The Collaborative is statutorily required to:

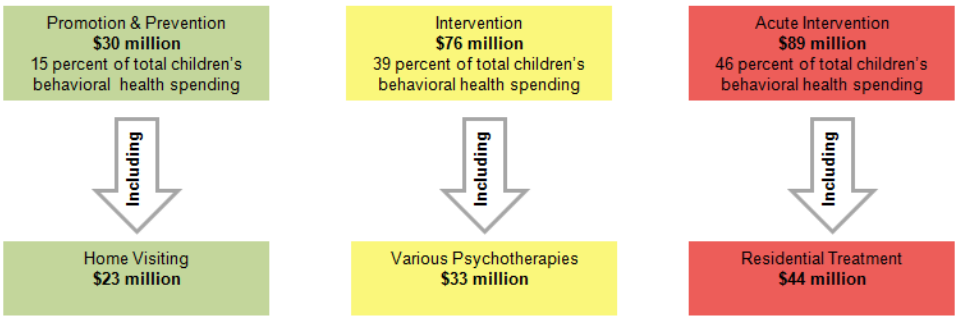
- Develop a delivery system of culturally relevant behavioral health services for infants, children, adolescents, adults, and seniors. This system must be accessible from urban, rural, and frontier locations, and must also address workforce development and retention, including quality improvement issues;
- Meet quarterly and report to the LFC quarterly and annually on measures and outcomes; and
- Bring together state agencies and build partnerships and funding streams to improve the state's behavioral health care system.

Member agencies contract for delivery of behavioral health services with local providers, or, in the case of Medicaid, work through managed care organizations (MCOs).

New Mexico Behavioral Health Spending.

In FY16, the state of New Mexico spent $625 million dollars for behavioral health services for adults and children, primarily through Medicaid. HSD, via Medicaid, is a mission critical funder of behavioral health services., serving 43 thousand children through Centennial Care in CY15. Of this total, $196 million, or 31 percent, was spent on services for children, as shown in Figure 5. The largest part of children's behavioral health funding, $89 million or 46 percent, went to providing acute interventions, most commonly provided outside the home, through residential treatment centers and treatment foster care. While spending has dropped from 72 percent of total children's behavioral health expenditures in FY07, residential treatment is the largest service category, treating a little over 1,000 clients in 2015 at a cost per client of $42 thousand. A national study of Medicaid children found that while less than 4 percent received acute out-of-home care, their care cost 19 percent of total behavioral health costs, at an average of $22,000 per client[26].

Figure 5. FY16 Publicly- Funded Behavioral Health Spending



Note: Medicaid spending from CY15
Source: Medicaid Report #41, NMBHC FY18 Behavioral Health Compilation from All State Agencies, CYFD, Home-visiting Providers

The next most costly service was treatment foster care, serving 928 clients at a cost of $25 thousand per client. As will be discussed later in this report, these high-cost acute interventions are not evidence-based as a service and have inconsistent client outcomes.

Next, interventions where a child received community-based behavioral health services cost $75.9 million. Individual psychotherapy, at $24 million, was the largest service category for community-based intervention. In 2015, almost 37 thousand children received individual psychotherapy, with a cost per client of $648. Based on this data alone, effectively addressing children's behavioral health needs in the community is less expensive than resorting to acute interventions which take the child out of the home environment. However, rebalancing the system to reduce reliance on acute care will take time while access to prevention and community-based services increase. It is important to note acute care services will always be needed for a small population of clients.

The lowest amount of expenditures was for promotion and prevention programs, such as home visiting, representing 15 percent of the total for FY16. For purposes of this report, home visiting is classified as a behavioral health prevention program due to research showing its impact on behavioral health outcomes.

Diagnoses related to childhood trauma are the most expensive overall category of conditions. These include post-traumatic stress disorder (PTSD), adjustment disorder, and oppositional defiant disorder, as shown in Table 2 below.

Table 2. Most Expensive Child Behavioral Health Disorders in New Mexico, 2015

Diagnosis	Expenditures
Post Traumatic Stress Disorder (PTSD)	$18,693,766
Mood Disorders (Depression, Bipolar and Other/Unspecified)	$16,981,272
ADHD	$14,698,563
Adjustment disorder	$10,673,540
Oppositional defiant disorder	$7,329,244

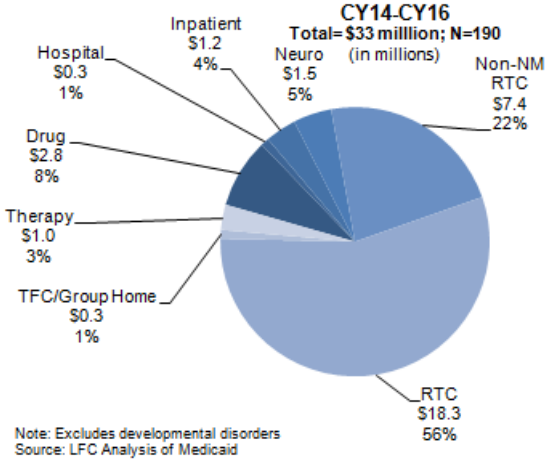
Source: Medicaid Encounter data

High-Cost Clients.

New Mexico spends significant amounts treating a small number of children experiencing depression and trauma in a potentially ineffective way. Medicaid spent $33 million, or an estimated 6 percent of its children's behavioral health spending to treat 190 high acuity clients, for an average cost close to $60 thousand per client per year for the three-year period between 2014 and 2016. High acuity care, discussed in more detail later, is the most expensive children's behavioral health service. It involves out-of-home care in a residential treatment facility, psychiatric hospital, or other facility. To determine if high acuity care was a predominant driver of New Mexico behavioral health expenses, LFC staff examined most expensive clients to treat defined as clients ages 0-20 representing the top 10 percent of Medicaid behavioral health spending.

Seventy-eight percent of the highest cost children's behavioral health clients were in residential treatment. One hundred thirty-two clients were treated in New Mexico residential treatment centers (RTCs) at a $139 thousand average cost per client over the three-year period totaling $18.3 million. Medicaid paid an additional $7.4 million between CY14 and CY16 for out-of-state RTC placement for 53 clients also averaging $139 thousand average cost per client. Twenty-two clients were both in an in-state and out-of state RTC during the three-year period.

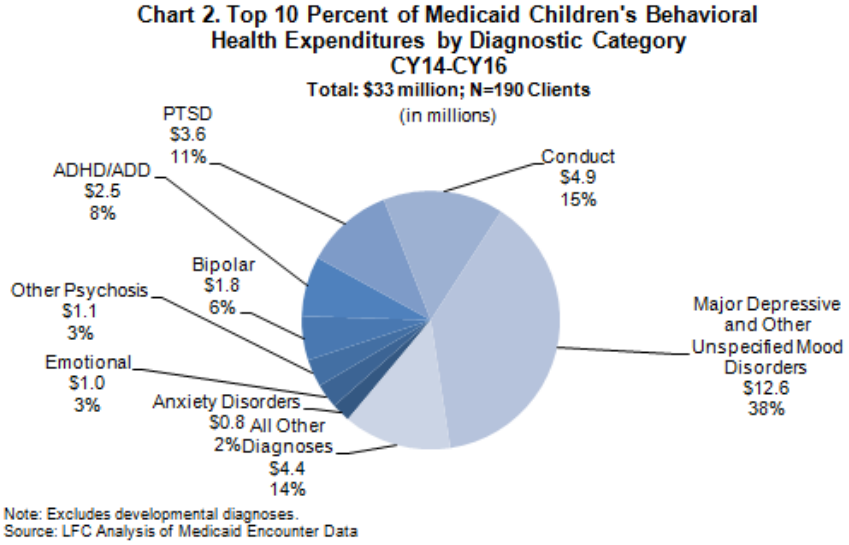
Chart 1. Three-Year Expenditures for Top 10 Percent of Medicaid Children's Behavioral Health Ages 0-20 CY14-CY16
Total= $33 milllion; N=190
(in millions)



Note: Excludes developmental disorders
Source: LFC Analysis of Medicaid

The next largest service category was prescription drugs, accounting for $2.8 million, or 8 percent, of expenditures for 195 high cost clients. Ninety percent of RTC clients were also receiving pharmaceuticals. A further discussion of the use of psychotropic medications to treat children's behavioral health issues in New Mexico is located in **Appendix G**. This makes residential treatment the most costly children's behavioral health service. High cost clients receiving therapeutic services through core service agencies, schools, FQHCs, and others accounted for another $1 million in expenditures to serve 146 clients.

Major depressive and other mood disorders was the top diagnostic category for high-cost Medicaid children's behavioral health clients. Beyond this, conduct disorders, PTSD, attention deficit with and without hyperactivity, and bipolar disorder were top diagnoses for the clients generating the top ten percent of Medicaid behavioral health expenses. Of the 190 clients identified as the most costly, all but two were diagnosed with one of the seven disorders specified in Chart 2.



It is also important to note the high prevalence of co-occurring disorders within the top 10 percent most costly clients. Of the 190 unique clients in this category, 112 had co-occurring disorders, of which 85 clients had two or more additional diagnoses. Two clients in this group had a total of 12 diagnoses.

Understanding the diagnoses and treatment of high acuity children's behavioral health clients is vital in designing a system to more effectively reduce future need for this type of care. High acuity care is both costly and does not generally lead to strong positive outcomes. Therefore, understanding the needs of children who eventually required acute care is important in designing mechanisms to effectively treat those at risk for high acuity care therefore reducing the need for this acute out-of-home treatment. This can be achieved by analyzing children currently in high acuity care and tracking back their diagnostic and treatment history that led to placement in a RTC. By identifying some key risk factors for out-of-home treatment, effective evidence-based interventions can be built out at the community level to help minimize the number of children needing this highest level of care.

Performance Measurement.

The state needs an improved suite of performance metrics that clearly assesses the effectiveness of the children's behavioral health system. Some sample metrics include whether children remain in their homes, perform in school, do not use drugs or alcohol, avoid involvement with the juvenile justice system, or commit suicide. Understanding these outcomes would also help target resources to practices that can improve these metrics. The New Mexico Behavioral Health Collaborative previously collected outcome data, showing the state was outperforming on outcome targets. The Collaborative should continue collecting and reporting this data regularly.

Report Methodology.

The goal of this report is to inventory children's behavioral health services currently available in New Mexico and identify evidence-based practices used. This inventory includes program costs, analysis of client needs and service availability, as well as the number of children served. Additionally, this report proposes next steps in continuing to develop the footprint of New Mexico's children's behavioral health services, how to evaluate these practices, and ensure practice fidelity. The scope of this project is focused on programs under HSD and CYFD, as these agencies are the primary funders of children's behavioral health services in the state. While various programs funded or operated at different levels of government or by nonprofits are mentioned, there are many other entities whose work impacts children's behavioral health. These programs include pre-natal education and substance use interventions, childhood screening and assessments, public health programs, and services funded through private insurance or direct pay.

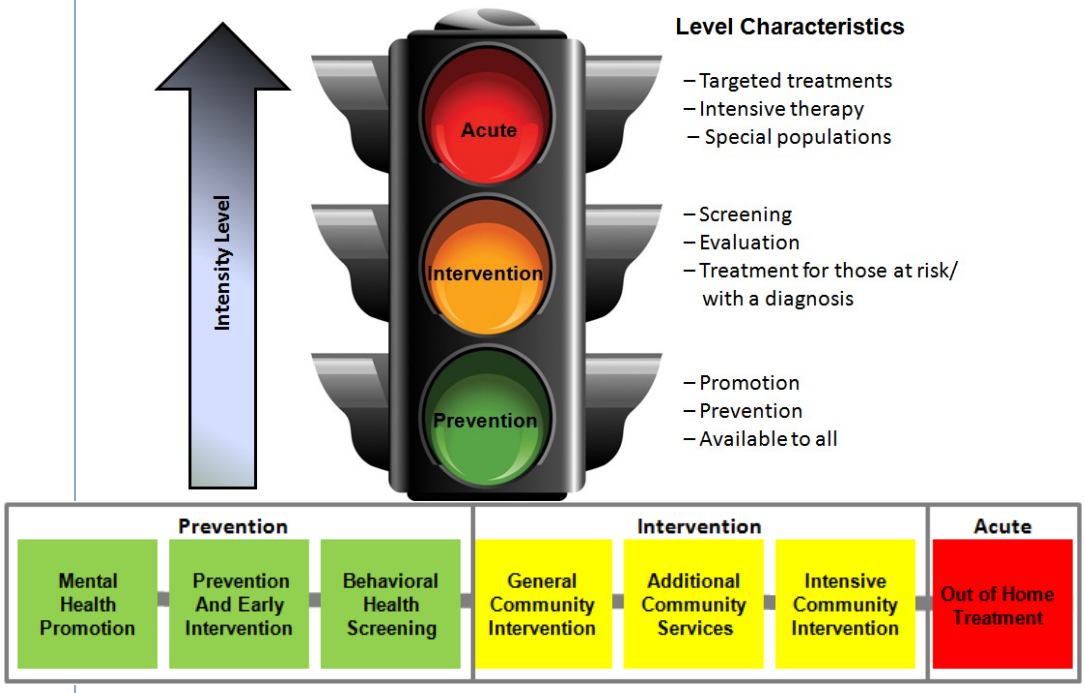
This report includes a comprehensive list of evidence-based practices for children's behavioral health identifying the programs available in New Mexico starting on page 13. Following this is further program analysis divided into three sections: promotion and prevention, intervention, and acute intervention services. Each section will outline currently available services, which services are evidence-based, program funding, and number of clients served. The definitions of evidence-based, promising, and non-evidence-based programs included in this report are based upon the Results First Clearinghouse Database. If a program is included in the Clearinghouse, the rating provided is used. If a program is not included, then, for the purposes of this report, the program would be categorized as non-evidence-based. except where otherwise noted. If a program is included in the Results First model and not the Clearinghouse, for the purposes of this report it is classified as evidence-based.

After determining if the program is evidence-based, the Results First approach to cost-benefit analysis is used, looking at return on investment for New Mexico programs and other programs that could serve the same population or need. The expected return on investment is based upon programs being run with high fidelity. If fidelity is not maintained, the return on investment will likely decrease. The benefits are derived from costs saved through reduced crime, healthcare costs, public assistance, child abuse and neglect, out-of-home placement, and improved educational attainment. The Results First approach is further described in **Appendix B**.

Evidence-based: A program or practice that: (1) incorporates methods demonstrated to be effective for the intended population through scientifically based research, including statistically controlled evaluations or randomized trials; (2) can be implemented with a set of procedures to allow successful replication in New Mexico; and (3) when possible, has been determined to be cost beneficial.

Promising : A program or practice, based on statistical analyses or preliminary research, that presents potential for becoming research-based or evidence-based.

Figure 6. Levels to Intervene



Levels of Intervention. In order to prevent and treat children's behavioral health problems, stakeholders can intervene at multiple levels (see Figure 6). Based upon the public health model for intervention, there are three general levels at which to intervene starting at a global level and increasing in intensity. The first level is targeted towards all individuals. These programs are not aimed towards a specific group of at-risk individuals and generally serves to educate and inform those throughout society at large. Some examples of promotion and prevention programs would include school health prevention programs as promotion or home visiting as a prevention program, which in New Mexico is primarily targeted for at-risk families.

A comprehensive system for children's behavioral health should have a service continuum of effective prevention, early intervention, and acute care services.

The second level of intervention targets individuals or families who are receiving treatment in the community. This intervention level frequently takes the form of evaluations and outpatient treatment. The third level or acute intervention is for individuals or families who fall into the highest acuity level. These individuals require specialized interventions and targeted treatments in order to address their behavioral health needs. This intervention level most frequently takes the form of out-of-home residential treatment or hospitalization.

TABLE 3. INVENTORY OF CHILDREN'S BEHAVIORAL HEALTH PROGRAMS

	Program Name	Description	Evidence Based Practice?	Return on Investment per dollar spent	Used in New Mexico?	Total New Mexico Program Cost
Promotion and Prevention	Good Behavior Game	School based intervention that focusing on increasing child self regulation to decrease dysfunctional behavior.	YES	$40	YES	$565,000
	Hope Initiative	Media campaign to decrease opiod and prescription drug use in Bernalillo	NO		YES	
	A Dose of Reality	Media campaign on the benefits of Naloxone and the dangers of opioids and pain medication	NO		YES	$100,000
	Dare to Be You	School based program focused on increasing resiliency skills in children to decrease substance use	YES, PROMISING		YES	$50,000
	Triple P (all levels)	Multilevel prevention program focusing on increasing positive parenting skills in order to decrease the likelihood of child behavioral health problems and child welfare involvement	YES	$9*	Only level 2 available in NM	$3,136
	Family Friends and Neighbors	Home visiting program for non parental caregivers to teach how to engage with children and keep them safe	YES, PROMISING		YES	$151,500
	First Born- excluding Chi St. Joseph's	Universal homegrown home visiting model where practitioner focuses on health and wellness of mother and baby	YES, PROMISING		YES	$3,073,800
	First Born-Chi St. Joseph's model	Similar to model above but with added case management services	NO		YES	$5,182,000
	Great Start Family Support	Short term home visiting for mothers immediately after childbirth	NO		YES	$175,000
	Early Head Start	Federal program for low income families to improve child outcomes related to health and development and to strengthen families	YES	$0.20*	YES	$12,164,349
	Nurturing Parenting	Family based home visiting to prevent child abuse and neglect focused on teaching parenting skills	YES		YES	$347,571
	Home Based	Homegrown home visiting focused on child safety and parenting skills with case management	NO		YES	$1,004,500
	Nurse Family Partnership	Home visiting by nurses to focus on health and wellness of child with a focus on child development and safety	YES	$10*	YES	$749,226
	Parents as Teachers	Home visiting program focused on parent education, school readiness and family support for children up to age 5	YES	$2*	YES	$2,717,987
	Other Standards Based Home Visiting Programs	Broad group of home visiting programs with specific standards for practitio-ners as well as a specified curricula	YES	$1*	YES	$4,068,123
Intervention	Cognitive Behavioral Therapy (CBT) for Child Trauma	Behavioral therapy focused on restructuring thoughts and behaviors to lead to change in feelings and actions related to previous trauma.	YES	$8	YES	$2,668,385-$5,230,034
	CBT for PTSD	Similar framework as above.	YES	$86^	YES	$4,673,442-$9,159,945
	CBT for Children with ADHD	Similar use of behavioral therapy, but focused on cognitive training and targeting problem solving to improve self regulation of behavior	YES	($1)	YES	$7,349,281-$11,023,922
	CBT for Adolescents with Depression	Similar behavioral treatment as above, focused on cognitive restructuring and increasing emotional regulation	YES	$1	YES	$2,057,380-$3,086,070
	CBT Plus Antidepressants for Adolescents with Depression	Above therapy but with the use of antidepressants	YES	$0.18	YES	$2,057,380-$3,086,070
	Group CBT for Child Depres-sion	Use of behavioral techniques in a group setting focused on improving emo-tional regulation and cognitive restructuring	YES	$24	YES	$2,057,380-$3,086,070

Source: Results First Analysis: ^Based on adult information, *Return on Investment information from 2014 LFC Child Maltreatment or Early Education Reports, First Born and Nurturing Parenting are promising based upon federal MIECHV funding.

	Program Name	Description	Evidence Based Practice?	Return on Investment per dollar spent	Used in New Mexico?	Total New Mexico Program Cost
Intervention	Group CBT for Anxious Children	Behavioral therapy focused on restructuring thoughts and behaviors to lead to change in feelings and actions related to anxiety.	YES	$10	YES	$247,222-$370,833
	Eye Movement Desensitization and Reprocessing for	Individual treatment where client focuses on traumatic memory while therapist guides the client to refocus	YES	$9	YES	$1,113,626-$2,672,704
	Play Therapy	Therapist creates a relationship with the child using play to match the developmentally appropriate communication style of children	NO		YES	$2,364,505-$5,911,262
	Multisystemic Therapy for Youth with Serious Emo-	Team delivered treatment to child and parents to improve symptoms and family relations	YES	$2	YES	$6,727,641
	MultiSystemic Therapy for Substance Abuse	Same as above but for substance abuse	YES		NO	N/A
	Multidimensional Family Therapy for Substance Abusers	Family based treatment for youth with substance use and behavior problems to engage youth, increase parental involvement, decrease conflict and increase community collaboration	YES	$0.64	YES	less than $900,738
	Brief Strategic Family Therapy	Therapy focused on maladaptive interactions and problems within the family for children at risk of serious behavior problems	YES	$2	YES	$900,738 - $2,161,771
	Parent Child Interaction Therapy for Children with	Focus on increasing attachment through therapist observing parent child interactions while coaching the parent	YES	$3	YES	$900,738 - $2,161,771
	Motivational Interviewing	Technique used to increase client motivation and commitment to changing their behaviors.	YES	$29	YES	$1,832,311-$3,591,330
	Seeking Safety	Manualized therapy to treat trauma and substance use by focusing on safety, treating trauma, focusing on ideals, and attention to self care	YES	$33	YES	$22,400
	Parent Child Interaction Therapy for Families In-	Same as Parent child interaction therapy above	YES	$5*	NO	N/A
	Parent Infant/ Parent Child Psychotherapy	Attachment based intervention to improve relationship between parent and child, thus improving child behavior problems by increasing feelings	YES		YES	$513,500
	Infant Mental Health Teams	Intense parent child psychotherapy focused on creating infant attachment with caregiver	See Narrative		YES	$754,652
	MultiSystemic Therapy for Child Abuse and Neglect	Same as above but for youth who have experienced child abuse and neglect	YES		NO	N/A
	Multisystemic Therapy for Juvenile Offenders	Intense family and community base therapy for youth with antisocial behaviors	YES	$3	YES	$6,727,641
	Multisystemic Therapy for Problem Sexual Behavior	Same as above but for youth with problem sexual behavior	YES	$2	YES	$6,727,641
	Functional Family Therapy for Youth in State Institutions	Structured family based intervention with a multistep approach to reduce risk and enhance protective factors within the family	YES	$11	NO	N/A
	Functional Family Therapy for Youth on Probation	Same as above	YES	$8	NO	N/A
	Juvenile Drug Courts	Therapeutic courts involving a team of stakeholders with several components including treatment, monitoring, incentive and sanctions	YES	$5	YES	$3,022,500
	12-Step Facilitation	Program that encourages patents active participation involving a brief structure and manual driven approach usually with weekly meetings	YES	$10^	YES	Not enough data
	Wraparound Services	Intense and individualized care planning and coordination where a team develops and monitors the care plan	YES, PROMISING		YES	$231,202
	CBT for Juvenile Offenders	Skill building in group or individual setting with foundation in traditional behavioral approaches	Yes	$33	YES	Not enough data

Source: Results First Analysis: ^Based on adult information; #Return on Investment information from the 2014 LFC Child Maltreatment Report; Cost ranges are due to ranges from LFC survey of provider treatment modality utilization.

	Program Name	Description	Evidence Based Practice?	Return on Investment per dollar spent	Used in New Mexico?	Total New Mexico Program Cost
Acute	Residential Treatment Centers	Intense inpatient treatment for child behavioral disorders	NO		YES	$44,125,111
	Treatment Foster Care	Out of home treatment for child behavioral disorders where child stays with a foster family and receives behavioral services	NO		YES	$23,039,926
	Multidimensional Treatment Foster Care	Intensive therapeutic foster care focusing on skills training and therapy with support for foster and biological parents	Yes	$2	NO	N/A
	Relapse Prevention	Cognitive behavioral approach teaching clients to anticipate problem and identify strategies to avoid substances	Yes	$4^	YES	Unable to calculate full cost
	Restorative Justice	Meetings with victim and offender with a trained mediator	Yes	$5^	YES	Unable to calculate full cost
	Wilderness Experience Programs	Programs exposing youth to the outdoors using challenge as a means to help youth through self discovery	Yes	$4	YES	$599,340

Source: Results First Analysis: ^Based on adult information,

This page intentionally left blank.

Table 4. FY16 Prevention Overview

Amount Spent	$30,352,192
Clients Served	9,388
Cost per Client	$3,233

Source: CYFD, providers; Note: Clients served may have duplications due to summing across service categories

Promotion and Prevention Programs.

Programs that focus on promotion of children's behavioral health and the prevention of behavioral health problems are the first level of intervention. In these types of programs, providers and stakeholders teach children and families healthy practices to reduce future behavioral health problems. Behavioral health promotion programs in New Mexico include substance use disorder prevention campaigns, parenting classes and school based programs. Prevention services include many home visiting programs throughout the state such as Parents as Teachers and Nurse Family Partnership, which have been shown to positively affect a child's behavioral health[27]. Promotion and prevention are important components of the children's behavioral health system as these programs may lead to a decrease in utilization of more intense and costly care by reducing the risk of a variety of behavioral health problems[28]. Due to the ability of these programs to reduce behavioral health problems, ensuring promotion and prevention programs are available may decrease future behavioral health problems. Currently, almost half of the promotion and prevention programs implemented in the state are evidence-based or promising, and further research needs to be conducted to determine the effectiveness of other programs currently in use. In addition, for the evidence-based programs implemented in New Mexico, provider adherence to program models should be evaluated to determine if New Mexico will receive the expected returns on investment listed in Table 5.

LFC staff identified various programs related to promotion and prevention currently run in New Mexico in Table 5. Where possible, the most recent data on costs and clients served are included.

Table 5. FY16 Primary Intervention Programs Offered in New Mexico

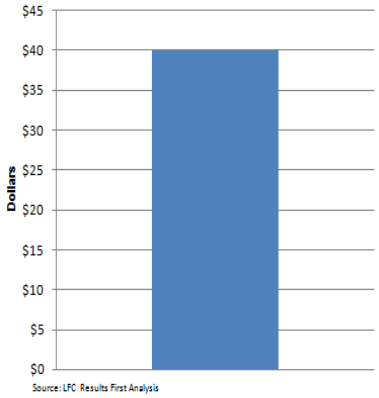
Program Name	Evidence-Based Practice	Expense	Clients Served	Cost per Client	Return on Investment (per dollar spent)
Promotion					
HOPE Initiative	No				
A Dose of Reality	No	$100,000	66,109,403 views*		
PAX Good Behavior Game	Yes	$565,000	3,329	$170	$40
Family, Friends, and Neighbors	No	$151,500	25	$6,060	
Prevention					
Dare to be You	Yes (Promising)	$50,000	120	$417	
Triple P Parenting Classes (Level 2)	Yes	$3,136	91	$34	$9
Early Head Start	Yes	$12,164,349	1,424	$8,542	$0.18
First Born- excluding Chi St Joseph's model~	Yes (Promising)	$3,073,800	872	$3,525	
First Born- Chi St Joseph's model^~	Yes (Promising)	$5,182,000	787	$6,584	
Great Start Family Support	No	$175,000	284	$616	
Parents as Teachers#	Yes	$2,717,987	736	$3,137	$2
Nurse Family Partnership#	Yes	$749,226	120	$3,000	$10
Nurturing Parenting	Yes (Promising)	$347,571	103	$3,374	
Home Based	No	$1,004,500	287	$3,500	
Other Home visiting models- unspecified#	No	$4,068,123	1,210	$3,043	$1
Total		**$30,352,192**	**9,388**	**$3,233**	

Source: CYFD, providers, Notes: *Number of hits, rather than clients served, ^The CHI St Josephs model includes case management and overhead costs, #Cost and Return on Investment information is taken from the 2014 Results First Child Maltreatment report, cost per client data represents the cost to the state per client; ~First Born and Nurturing Parenting are promising based upon federal MIECHV funding.

Mental Health Promotion. New Mexico uses public schools and the media as its main delivery systems for children's behavioral health promotion. Within the school setting, children are taught behavior management through programs such as the Good Behavior Game and basic behavioral health information through school curriculum. Mass media substance use prevention programs are prevalent throughout the state, with programs run by the U.S. Attorney and the Office of Substance Use Disorders Prevention at the Behavioral Health Services Division (BHSD) of the Human Services Department (HSD).

The Good Behavior Game, shown to build self-regulation, is implemented throughout four New Mexico school districts. In spring 2016, HSD spent $565 thousand to implement the PAX Good Behavior Game in three school districts (Bloomington, Santa Fe and Española) and provide continuing training for another district (Farmington). The PAX Good Behavior Game is an evidence-based program used in elementary schools to help children learn to regulate behavior, leading to decreased child disruptive behavior, future child substance use, depression, antisocial and aggressive behavior, and conduct disorder[29]. Over the six weeks studied, disruptive behavior decreased an average of 60 percent across participating New Mexico school districts. Stronger evaluation of this implementation is needed to determine if the program is achieving the benefits shown in other parts of the country, as HSD plans to further expand the program into other school districts.

Chart 3. Good Behavior Game Expected Return On Investment per dollar spent



Few additional health promotion activities occur in public schools with some exceptions. In Sandoval County, BHSD funds Dare to Be You, a substance use disorder prevention program that can be implemented for children ages 2-5, 5-8 or 11-14. The program focuses on positive development, which contributes to decreasing substance use disorders. Over FY16, this program received $50 thousand and served 120 children. While this program is a promising practice, no current monetizable outcomes have been reported.

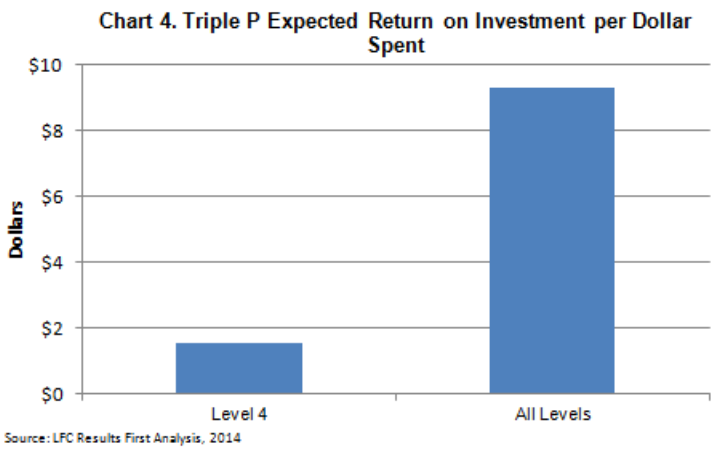
New Mexico currently has two large scale prevention campaigns, focused on reducing heroin and opioid use throughout the state. These large scale media campaigns are not evidence-based for substance use. The HOPE initiative, conducted by the University of New Mexico Health Sciences Center and the U.S. Attorney, and A Dose of Reality, conducted by HSD, are two public health campaigns designed to decrease opiate and prescription drug use. The HOPE Initiative provides additional information and opiate training to medical providers. This initiative is currently in Bernalillo County only, however there are plans to implement the initiative throughout the state.

HOPE Initiative/ A Dose of Reality		
Benefit-Cost Ratio	**Level of Research**	**Used in New Mexico**
N/A	No Consistent Evidence	YES

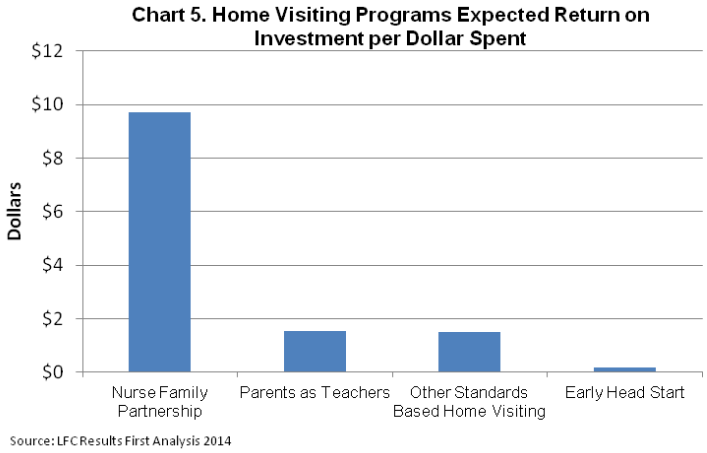
A Dose of Reality included a media campaign run throughout 2015, focused on the benefits of Naloxone as well as the dangers of opioids and prescription pain pills. In 2016, the campaign began printing information about Naloxone on pharmacy bags and using messaging billboards, spending an additional $100 thousand. Research examining the effects of public mass media

campaigns has not shown strong evidence of effectiveness. Campaigns such as Above the Influence were associated with less marijuana use for some; however, there was also no effect for others[30, 31].

Prevention and Early Intervention. New Mexico only implements one level of Triple P and may not be leveraging the program effectively. Currently, the United Way of Santa Fe is utilizing one level of the Triple P Parenting Program spending $3,136 to teach 91 parents positive parenting techniques. Triple P is an evidence-based program with five levels of intervention, from universal health promotion through interventions for specialized populations. Research shows the program increases parent mental health, marital adjustment, and decreases dysfunctional parenting, and child behavior problems and ADHD symptoms[32, 33]. However, New Mexico does not offer the complete program. In addition, New Mexico is not using the only level which alone has been shown to have positive effects. CYFD Protective Services previously funded this level, Triple P level 4 (intense intervention), however discontinued the program due to high cost. The return on investment for level 4 is less than a quarter of the complete program's expected return at $9. For New Mexico to get the most benefit from Triple P, the complete program should be used effectively and with fidelity.



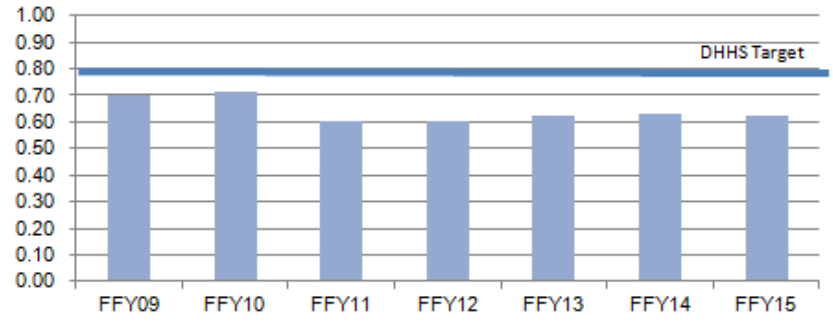
In 2016, New Mexico spent over $29 million on home visiting, (including Early Head Start) serving 5,823 families through CYFD contractors and nonprofit organizations. Home visiting programs are in 31 counties throughout New Mexico[34]. In New Mexico for every contracted slot, 1.47 families are served; likely due to churn in the system, but may be due to contractors underestimating their capacity to serve. While home visiting is not typically viewed as a prevention program for children's behavioral health, home visiting can affect a child's behavioral health either directly or by decreasing the chances of child welfare involvement, thus decreasing risk for trauma, and increasing child social and educational development. Not all home visiting models have been shown to impact children's behavioral health equally. Research shows standards-based programs such as Nurse Family Partnership and Parents as Teachers increase child social development and health[27]. Nurse Family Partnership benefits both the mother and the child, such as greater social support and participation in the workforce for the mother and fewer substantiated cases of child abuse and neglect and less future substance use for the child[35].



The Results First model includes a category of other home visiting programs, combining programs with some academic research, but not enough to alone classify the program as evidence-based. Some of these programs are run in New Mexico. Most of these programs may increase family functioning, leading to more positive children's behavioral health outcomes. While these programs may be beneficial to children and families, there is not enough research on these programs. Other programs should follow in the footsteps of First Born, a homegrown program that is now promising, after being studied using rigorous methods[36]. Early Head Start, a federally-funded and administered program which can be implemented as home-based, center-based, or mixed (home and center), is generally grouped with home visiting programs, and, while there are positive effects of the program[37, 38], due to the high cost, it does not have a strong return on investment. Most home visiting models are targeted towards at-risk children, as these are the individuals who may benefit the most from this type of program. Universal home visiting investments likely would lead to smaller effects, and small to no return on investment, because many of the families would not be at-risk. Therefore, a universal approach to fund intensive home visiting programs discussed in this section may not be cost effective.

Behavioral Health Screening. Childhood screenings are needed to identify behavioral health issues as close to onset as possible. Early Periodic Screening, Diagnosis, and Treatment (EPSDT) services are available to all Medicaid clients under age 21, during well visits. New Mexico requires 25 screenings from birth through age 20 based on recommendations from the American Academy of Pediatrics. The timing and frequency of these screenings vary, with psychosocial/behavioral assessments required in all EPSDT screenings from birth to age 21; tobacco, alcohol, or drug use assessments required from ages 11 to 21; and depression screenings required from ages 12 to 21. EPSDT requires children identified as needing services through the screening process be appropriately referred. The state is not required to report what percentage of referrals are related to behavioral health issues identified through EPSDT. The only available referral data shows 302 children were referred for additional services in FFY15, but does not specify the purpose of the referral.

Chart 6. New Mexico EPSDT Screenings Participant Ratio FFY09-FFY15



Note: Participant ratio measures children eligible for one screening receiving that screening. DHHS goal for participant ratio is 0.80.
Source: HSD EPSDT Annual Report Form CMS-416

Although New Mexico performs better than other states, it could improve its rates of EPSDT, which would increase identification of child needs related to physical, developmental, and behavioral health. A 2010 Department of Health and Human Services (DHHS) Office of Inspector General report found states continue to fall short of the 80 percent ratio set by

the DHHS Secretary for children eligible to receive at least one screening receiving that screening[39]. Based on FFY07 data included in the DHHS report, the national EPSDT participation rate was 58 percent, far below the 80 percent expectation. While the report focused on the states with the highest and lowest participant ratio, the report concluded most Medicaid children in the selected states did not receive required EPSDT screenings. In addition to EPSDT, CYFD is instituting a new screening tool, Child and Adolescent Needs and Strengths Assessment (CANS), for children who come into contact with the child welfare or juvenile justice system to examine risk and resiliency factors, helping to better target services and improve outcomes for these children.

Conclusion. New Mexico spent $30 million in FY16 on promotion and prevention programs, with 82 percent spent on evidence-based or promising interventions used to head off potential risk and improve overall behavioral health. About 40 percent of total spending is directed by the federal government through Early Head Start, which is outside of the state's control. While Early Head Start is an evidence-based practice, and shows modest positive outcomes, the benefits are unable to outweigh the high program cost.

There are relatively few universal promotion programs being offered and slightly more prevention programs, mainly due to the push to increase home visiting over the last five years. These returns are likely to be higher than the return on investment from higher levels of intervention, because the cost of prevention is lower than the cost of intervention. Prevention programs would benefit from increased information regarding program capacity as well as an increase in rigorous evaluation to assist homegrown programs become promising or evidence based.

The state uses its discretion to fund home visiting programs that are unlikely to yield a high return on investment or that do not have enough research to determine return on investment. For example, currently both Nurse Family Partnership and Parents as Teachers are evidence-based programs with a positive return on investment, and First Born, a homegrown, promising program is moving towards this level of recognition, through evaluations conducted by RAND[36,] however the state directs most spending to home visiting programs without rigorous research but with a robust accountability system. In addition to examining program outcomes, model fidelity should be examined through to determine if these anticipated returns on investment are reliable based upon the quality of programs in New Mexico.

In addition to providing strong prevention and promotion programs, effective screening for behavioral health issues is an important first step to diagnosing behavioral health issues. Improving screening rates for children ages 10-21 should be a priority and Medicaid MCOs should be held accountable for improving screening rates.

Table 6. FY16 Intervention Overview

Amount Spent	$75,993,882
Clients Served	112,344
Cost per Client	$676

Source: CYFD, HSD Medicaid Report 41, combination of FY16 and CY15 data

Note: Clients served may have duplications due to summing across service categories

Intervention Programs.

New Mexico has a high prevalence of behavioral health problems. Effective treatment of these behavioral health issues is vital to reduce the lifetime impact of these diagnoses and prevent the need for higher acuity care. This section reviews services offered in New Mexico at the community-based intervention level. Intervention programs address specific client needs and include treatment services such as psychotherapy (individual, family, group, etc.), hospital or clinic-based services, outpatient or intensive outpatient programs, and drug therapy. Availability of community-based interventions is critical, as children who remain in their community while receiving behavioral health services experience better outcomes and reduced need for higher acuity care such as residential treatment.

The main public funder of behavioral health intervention services for children in New Mexico is Medicaid. In CY15, Medicaid paid $76 million for 112 thousand clients across various community-based service categories including psychotherapy, community support services and juvenile drug courts. Additionally, CYFD funds behavioral health services managed through Optum, which are also included in Table 7. Further intervention program analyses are located in **Appendix I**.

While there are data within the Medicaid program and through Optum to see treatments utilized on a broader scale, due to the nature of medical billing, limited data are available on treatment types (modalities) used and whether they are evidence-based. Due to this limitation, LFC staff conducted a survey of behavioral health providers.

Table 7. Intervention Children's Behavioral Health Services FY16 Ages 0-20

	Evidence-Based Practice	Expense	Clients	Cost Per Client
Individual Psychotherapy, All Levels^	YES, see narrative	$23,695,046	36,561	$648
Family Psychotherapy, All Levels^	YES, see narrative	$9,007,380	15,367	$586
Juvenile Drug Court	YES	$3,022,500	362	$8,349
Multisystemic therapy^	YES	$6,727,641	830	$8,106
Parent Infant Psychotherapy*	YES	$513,500	552	$930
Wraparound Services*	YES, promising	$231,202	68	$3,400
Behavior Management Skills Development	NO	$9,380,268	4,209	$919
Comprehensive Community Support Services^	NO	$5,608,796	4,319	$1,299
Other Behavioral Health Treatment/Service FQHC or Rural Health	NO	$3,869,930	4,209	$919
Infant Mental Health Teams*	See narrative	$754,652	378	$1,996
All Other Services	NO	$13,182,967	45,489	$290
Total		**$75,993,882**	**112,344**	**$676**

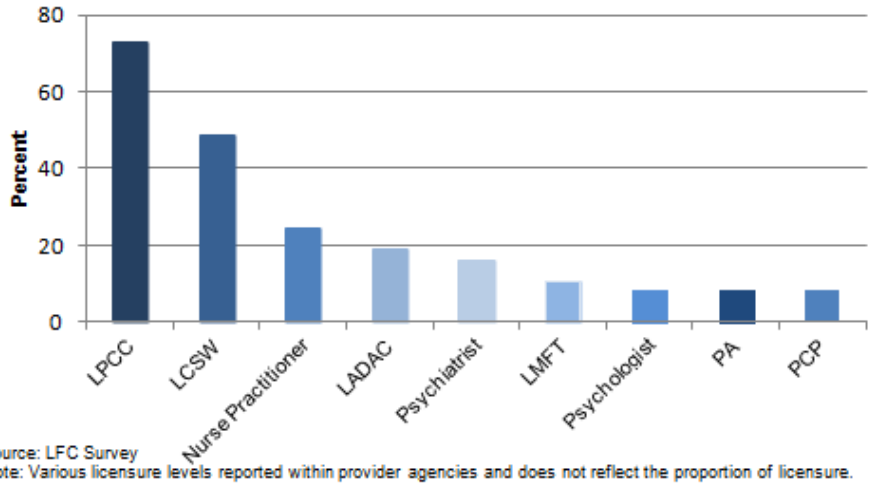
Source: CY15 Centennial Care Report #41 and CYFD; Note: Excludes fee-for-service and value added services. Client count is unduplicated, however due to summing across service categories, client total may have duplications;*Fiscal Year 2016 data, ^Combination of CY15 report 41 data and FY16 Optum data,

Crisis Intervention. New Mexico offers various crisis intervention services such as the New Mexico Crisis and Access Line. While these services are not specifically targeted to children, they may utilize this service. In CY16, four percent of calls into the Crisis Line were from children or youth. HSD is currently exploring adding a texting option to the line to increase access for youth. Bernalillo County is planning to expand mobile crisis units to work with law enforcement in the field. While this type of intervention's effects have not been studied for children, they will likely be exposed to this intervention.

General Community Intervention. Between Medicaid and CYFD, $34 million was spent on behavioral health counseling in 2015. In order to determine what types of therapies were used throughout the state, LFC staff conducted a survey of providers. This survey sought to ascertain the prevalence of evidence-based modalities in serving children's behavioral health needs. The most frequently used treatment modalities across various diagnoses offered in New Mexico as identified by the provider survey are detailed in Table 8 on page 24.

LFC staff contacted 120 children's behavioral health service providers, including providers in every county in New Mexico, with a disproportionate number of providers from rural areas. The survey received 37 responses, most of which were licensed professional clinical counselors from private practice, and were reimbursed primarily through Medicaid and private insurance. LFC staff received responses from providers located in all counties except Curry, Guadalupe, Harding, Hidalgo, Lincoln, Los Alamos, and Union, with practices serving all counties except Guadalupe, Harding and Union (one provider said they serve all counties in the state).

Chart 7. Behavioral Health Provider Licensure



Source: LFC Survey
Note: Various licensure levels reported within provider agencies and does not reflect the proportion of licensure.

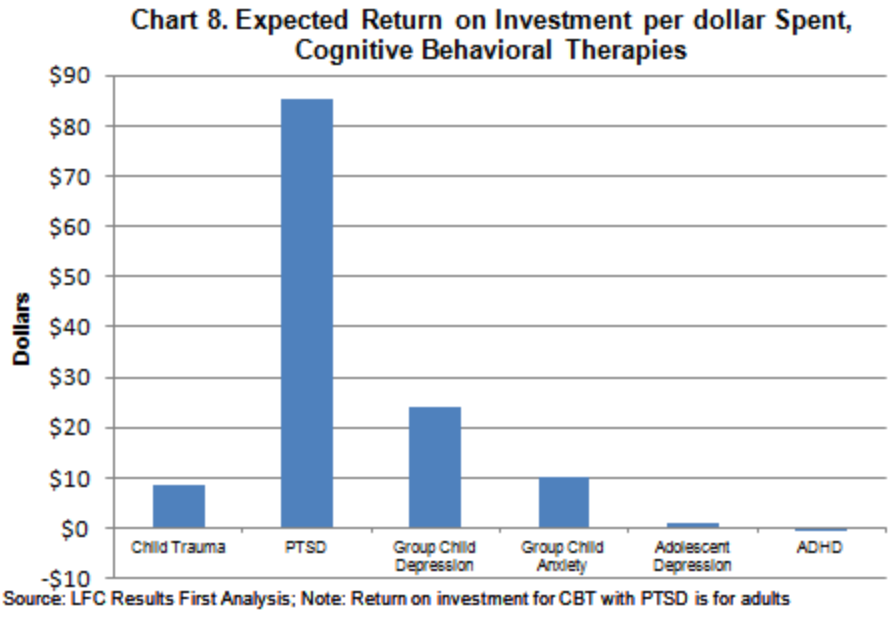
The providers were asked to select the appropriate range relating to how often they utilized a particular modality. The most commonly used therapies for a variety of diagnoses were Cognitive Behavioral Therapy, Play Therapy, and Dialectical Behavioral Therapy. Other therapies commonly used for specific diagnoses were Eye Movement Desensitization and Reprocessing as well as Motivational Interviewing. All therapies mentioned in the survey not discussed below are summarized in Appendix I. All expected return on investment analyses for psychotherapy are based on Washington State cost information as New Mexico cost information by treatment modality is not available. The LFC staff survey showed practitioners predominantly rely on behavioral models such as cognitive behavioral therapy for a variety of child behavioral health diagnoses.

General Community Intervention for Individuals. Individual behavioral therapy is the most commonly used therapy category, at a cost of $23 million in CY15, double that of the next most utilized therapy category. The LFC staff survey of providers found cognitive behavioral therapy (CBT) was used an average of 50 percent to 75 percent of the time, most frequently for depressive, bipolar and anxiety disorders. CBT may also be an effective tool in decreasing Post-traumatic stress disorder (PTSD) symptomology, depression, anxiety and conduct problems[40].

Table 8. Frequency of Treatment Modality by Diagnosis Based on LFC Survey Results

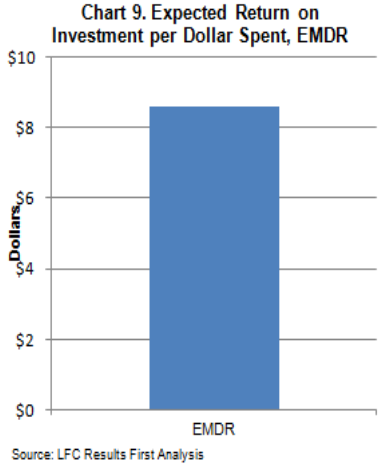
	Post Traumatic Stress Disorder	Bipolar Disorder	Depressive Disorders	ADHD	Oppositional Defiance Disorder	Anxiety Disorder	Substance Abuse
Cognitive Behavioral Therapy	25-49%	50-75%	50-75%	50-75%	25-49%	50-75%	25-49%
Activity (Play) Therapy	10-24%	50-75%	10-24%	25-49%		50-75%	10-24%
Dialectical Behavioral Therapy	10-24%	10-24%	10-24%	<10%	<10%	<10%	<10%
Motivational Interviewing					25-49%		25-49%

While CBT may be effective for a variety of diagnoses, consideration must be given to the age and mental capacity of the client. CBT treatments are often adapted from adult models in order to be used with children. CBT is highly effective for some diagnoses, but cannot be used effectively for others (as shown in Chart 8), and attention should be given to the client age, mental capacity and diagnosis before using this modality.



Source: LFC Results First Analysis; Note: Return on investment for CBT with PTSD is for adults

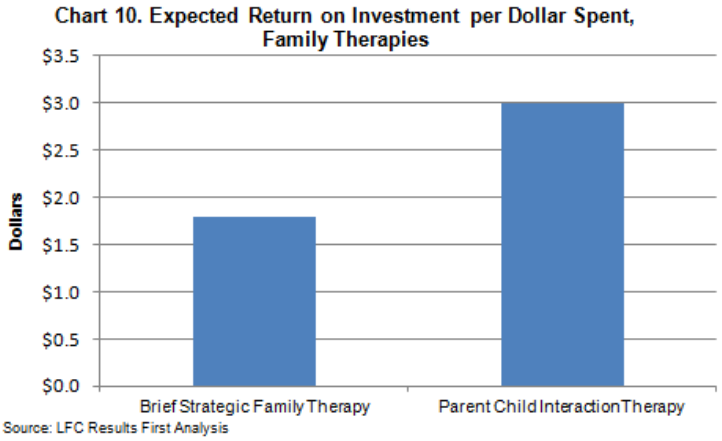
Another therapeutic modality frequently used for trauma with a positive return on investment is Eye Movement Desensitization and Reprocessing (EMDR). The LFC staff survey of children's behavioral health service providers showed 55 percent of respondents used EMDR at varying rates in treating children with PTSD. EMDR is an evidence-based practice that offers positive results in addressing trauma in children[41] and, similar to CBT, has a strong return on investment of $8.59 for every dollar spent. EMDR and CBT, both established evidence-based programs with low costs and positive returns on investment, could have a substantial impact on those in New Mexico suffering from PTSD, which was the most costly diagnosis for patients aged 0 -20 according to CY15 Medicaid data.



New Mexico providers also indicated they frequently use play therapy especially for treatment of anxiety and depression. This intervention creates a relationship between counselor and child using play to match the developmentally appropriate communication style of children[42]. Play therapy has moderate effects on child externalizing, academic, and total problems and a smaller effect on child internalizing problems and self-efficacy[41] and is most effective when the parent is involved with the therapy[43]. Currently, no cost-benefit analysis information is available as play therapy is not listed as an evidence-based practice in the Results First Clearinghouse Database. While therapists should use modalities they believe are the most helpful to clients, more rigorous evaluation is needed to determine if this type of therapy is able to provide results on a large scale and whether it may have a positive return on investment.

Play Therapy		
Benefit-Cost Ratio	**Level of Research**	**Used in New Mexico**
N/A	No consistent evidence	YES

General Community Intervention for Families. While family therapies have a lower return on investment, these therapies may be necessary to address specific child needs based upon family relationships, and some youth may respond better to family rather than individual therapy. The most common family therapies in New Mexico, according to the LFC survey, are Brief Strategic Family Therapy, Parent Child Interaction Therapy, and Child Parent Psychotherapy (also referred to as Parent Infant Psychotherapy). Other family therapies used less frequently in New Mexico are summarized in Appendix I. Brief Strategic Family Therapy is effective in engaging family members in treatment and improving family functioning as well as decreasing the number of self-reported drug use days[44]. This therapy is particularly effective for Hispanic populations as well as other ethnicities[44,45]. Brief Strategic Family Therapy has a modest return on investment of $1.79 for every dollar spent. The other two commonly used family therapies, Child Parent Psychotherapy and Parent Child Interaction Therapy, are used with younger children and focus on improving the parent child relationship.



Child Parent Psychotherapy can decrease child PTSD, depressive symptomology, behavior problems, and co-occurring diagnoses, increasing child secure attachment and cognition[46, 47]. While this is an evidence base practice, no cost-benefit analysis has been completed. However, since there is evidence of treatment effectiveness, continued utilization of this program may be beneficial.

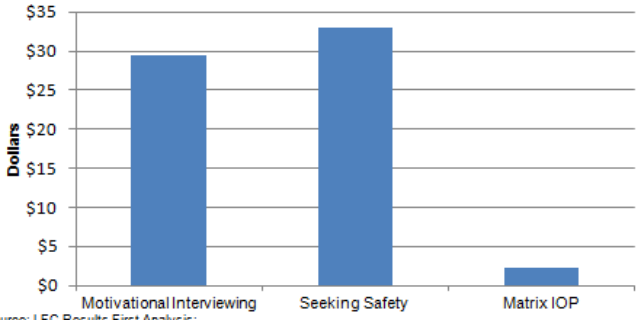
Parent Child Interaction therapy uses direct observation and parental instruction to improve child attachment leading to improved child externalizing and internalizing behaviors as well as improved disruptive behavior[32,, 48]. Parent Child Interaction therapy has a return of investment of $5 for every dollar spent and a 90 percent chance of the program having higher benefits than costs (both programs are also used for families involved with child welfare and will be discussed later in this section).

Seeking Safety is an evidence-based program that treats PTSD and substance abuse. Because it can treat two problems at the same time, it has a high return on investment of $33 per every dollar spent.

General Community Intervention for Substance Use. Effective treatments for substance use disorders can occur at the individual or group level. Motivational Interviewing is an evidence-based program with a high return on investment and is widely used for substance use disorders as well as Oppositional Defiant Disorder by modifying habitualized behaviors and helping to increase the client's motivation to change[49]. Motivational Interviewing to increase treatment engagement has an expected return on investment of $29.41 for every dollar spent; however, this analysis focused on adults rather than youth, so the return on investment may vary for a younger population.

Seeking Safety is an evidence-based program that can be run in individual or group settings that has a high return on investment. Seeking Safety is unique in that it treats PTSD and substance use disorders concurrently, leading to significantly better outcomes[50]. Because this treatment modality is able to address two problems simultaneously, it may be less costly and more beneficial to the client than treating these problems individually, leading to a strong return on investment of $33. The Children, Youth and Families Department spent $22 thousand in FY16 to train 38 staff and providers to increase use of this program throughout the state. Further collaboration and communication between CYFD and providers including utilizing an interactive web portal may increase provider awareness of programs such as Seeking Safety.

Chart 11. Expected Return on Investment per Dollar Spent, Substance Use Therapies



Source: LFC Results First Analysis;
Note: Motivational Interviewing return on investment calculated for adults

Through intensive outpatient program (IOP), youth receive a mixture of different evidence-based programs to address substance use problems. These programs are

targeted towards youth whose treatment needs are too complex for a traditional outpatient setting, but are not so severe as to warrant inpatient treatment. In New Mexico, the Matrix Model is utilized, which combines aspects of several treatment approaches, including CBT, contingency management, Motivational Interviewing, 12-step facilitation, family involvement, and supportive/person-centered therapy. Medicaid spent $535 thousand in CY15 to serve 294 clients with IOP.

Intensive Community Intervention for Child Welfare. Children who become involved with CYFD Protective Services may receive a variety of services to address needs related to trauma and other behavioral health conditions. Children involved with child welfare are able to access a variety of services to address issues funded through the Medicaid program or through CYFD. The number of children in protective services has risen by 32 percent since 2012 (see table 9), concerning as children involved with child welfare have an increased risk of mental health problems such as a PTSD rate six times that of the general population and are five times more likely to have a substance use disorder[51]. Due to these increase risks, it is vital to address the behavioral health needs of this population.

Table 9. CYFD 360 Reported Average Number of Children in Care Through Protective Services Division

	FY12	FY13	FY14	FY15	FY16
Foster care	840	887	947	1069	1167
Relative Foster Care	334	381	464	468	472
Pre-Adoption	112	83	96	78	81
Relative Pre-Adoption	44	36	36	35	35
Special Arranged/DD	32	46	56	57	58
Treatment Foster Care	**237**	**218**	**224**	**269**	**270**
Relative Treatment Foster Care	16	13	11	17	16
Institutional Care	34	38	45	46	44
Group Home	21	25	34	33	30
Residential Treatment	**30**	**35**	**47**	**66**	**76**
Independent Living	11	13	13	12	10
Total	**1715**	**1779**	**1872**	**2156**	**2264**

Source: CYFD FY16 360 Report.
Note: This table illustrates the average number of children in care by type from FY11 through FY16. The numbers displayed are 12-month average

Infant Mental Health Teams		
Benefit-Cost Ratio	**Level of Research**	**Used in New Mexico**
N/A	No research to date	YES

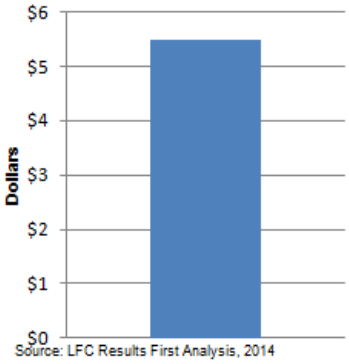
The Children, Youth, and Families Department (CYFD) spent almost $1.3 million in FY16 to serve 930 children through Infant Mental Health Teams and Parent Infant Psychotherapy (Child Parent Psychotherapy). Infants brought into Protective Services custody with high level of risk are referred to an infant mental health team. These teams provide coordinated services that are both trauma and developmentally informed, with all clinical interventions used being evidence-based or promising according to the Results First Clearinghouse. These services focus on both the child and parent (if reunification is recommended) and help to teach parents or other caregivers how to best care for infants who have dealt with trauma, abuse, or neglect through Child

Child Parent Psychotherapy		
Benefit-Cost Ratio	Level of Research	Used in New Mexico
N/A	Evidence Based	YES

Parent Psychotherapy. More program data is available in **Appendix I**.

Child Parent Psychotherapy is used for infants and other young children in custody who may not have as high risk as those enrolled in Infant Mental Health Teams. This therapeutic modality is long established and has many positive effects; yet the outcomes studied have not been monetized. However, since Parent Infant Psychotherapy requires no initial investment beyond the cost of the therapist employed and their initial training, this treatment modality should be relatively cost effective. Therefore, while Child Parent Psychotherapy is an evidence-based program, currently no cost-benefit analysis using the Results First model can be calculated. While CYFD is currently collecting data on Infant Mental Health Teams, no outcome data has been collected to determine the effectiveness of this program, targeted to children in CYFD custody in New Mexico. This lack of return on investment information does not diminish the positive effects of this modality, and speaks to the need for monetizable outcome evaluations so return on investment can be determined. More program data is available in **Appendix I**.

Chart 12. Expected Return on Investment per Dollar Spent, Parent Child Interaction Therapy (Child Welfare)



Source: LFC Results First Analysis, 2014

Parent Child Interaction Therapy (PCIT) an evidence-based therapy focused on building parenting skills has a positive return on investment which is greater for families involved with the child welfare system. As this therapy focuses on teaching parents how to interact with their child in order to increase parent child attachment, it may be a useful therapy to utilize with parents whose children are in protective custody. Indeed, PCIT may lead to significantly fewer repeat reports of child maltreatment[52]. This type of attachment-based therapy has a positive return on investment of over $5 for every dollar spent. These numbers are higher than the return on investment shown previously; as in this section this therapy is used to decrease child welfare involvement, while in the previous section it was used to help control child behavioral problems. This program is currently not used by CYFD as, according to CYFD, no scientific evidence has been found to show this model may be effective for children under 2 years of age and to their knowledge, the model is not trauma informed. However, the National Child Traumatic Stress Network lists it as a promising intervention addressing child trauma .

Intensive Community Intervention for Juvenile Justice. In FY16, 173 youth entered committed facilities and 879 were placed on juvenile probation, where many had contact with the behavioral health system. There are two main pathways related to juvenile justice in New Mexico: cases that are adjudicated through children's court resulting in commitment or probation or an informal process where the youth is referred to community-based services based on the severity of the referring incident. Within the state's juvenile facilities, the Cambiar model sets the stage for behavioral health treatment where clients attend group and complete individual work with onsite therapists. Committed youth who enter reintegration centers prior to release continue therapy at the center. Juveniles on probation receive behavioral health treatment through community providers.

Multisystemic Therapy (MST) is an evidence-based treatment using a team-based community approach to address behavioral challenges most commonly used in New Mexico for clients on juvenile probation. MST focuses on systems in the client's life, such as family, teachers, and others in positions of support or influence. Treatment occurs in various community settings. Providers must be certified through the MST Institute, the national organization for MST and also report on various outcome measures. A 2016 LFC program evaluation of the juvenile justice system reviewed various benchmarks comparing national outcomes to New Mexico outcomes and found New Mexico MST clients were less likely to be put in out-of-home placement and almost as likely to complete MST treatment as MST clients nationally between 2014 and 2016[53]. MST has a positive return on investment of $2.67 for every dollar invested in the program. More information on MST is located in **Appendix I**. It is noteworthy that New Mexico has a high average cost per client, in 2015, the state's cost per client was $8,106. A Washington State Institute for Public Policy report on MST reported a cost of $7,800 in 2016 dollars. Over the past three years, New Mexico's length of stay ranged from 19.2 weeks in 2014 to 17.5 weeks in 2016, the average length of stay should be 16 weeks[54]. This increased length of stay may account for New Mexico's higher cost. Understanding what is leading to increased costs for New Mexico is important to ensure MST is consistently delivered to fidelity. Opportunities to share costs among MST teams for training and reporting should be leveraged.

Multisystemic Therapy		
Benefit-Cost Ratio	**Level of Research**	**Used in New Mexico**
Juvenile Offenders		
$2.69	Evidence Based	YES
Problem Sexual Behavior		
$1.79	Evidence Based	YES
Serious Emotional Disturbance		
$1.57	Evidence Based	YES
Child Abuse and Neglect		
N/A	Evidence Based	NO
Substance Use		
N/A	Evidence Based	UNKNOWN

Source: Results First Clearinghouse Database; LFC Results First Analysis

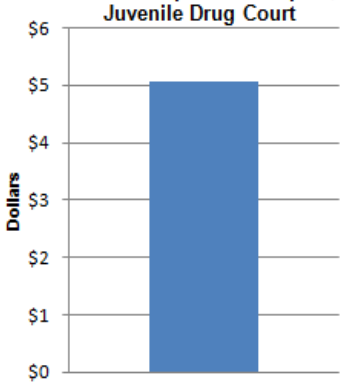
Functional Family Therapy is an evidence-based program based on the family systems theory and views youth problem behavior or substance use within the context of the family unit. Functional Family Therapy (FFT) is particularly effective in treating conduct or behavior problems such as Oppositional Defiant Disorder and substance use disorder. FFT's return on investment is $8 for every dollar spent for youth on probation and $11 for every dollar spent for committed youth, and program costs are $3,431 per client. CYFD is not currently using FFT, but is looking at ways to deploy this service in a telehealth format to areas of the state unable to establish MST teams. It is important to note FFT should not necessarily be seen as a more cost-effective replacement for MST, as in areas offering MST, results are very promising. However, in the reality of giving access to services in rural and frontier areas of the state, FFT offers a viable option for strengthening access to behavioral health services for the juvenile justice population.

Functional Family Therapy		
Benefit-Cost Ratio	**Level of Research**	**Used in New Mexico**
Substance Use		
$0.13	Evidence Based	NO
Youth in State Institutions		
$11.10	Evidence Based	NO
Youth on Probation		
$8.03	Evidence Based	NO

Source: Results First Clearinghouse Database; LFC Results First Analysis

Juvenile drug courts are an evidence-based program built on addressing juvenile substance use issues under the supervision of the judicial system. There are 15 juvenile drug courts in New Mexico operating under the purview of the state's district courts. They combine components of the judicial system, such as accountability to a judge through court room appearances with community-based treatment and the building of a support team interested in the client's success. Clients are on juvenile probation throughout the drug court process. When analyzing the cost-benefit of juvenile drug courts, for every dollar we invest in these courts in New Mexico,

Chart 13. Expected Return on Investment per Dollar Spent, Juvenile Drug Court



Source: LFC Results First Analysis

the public receives $5 back in benefits through reduced crime, increased earnings, and reduced health care costs due to high school graduation. New Mexico's high return on investment for juvenile drug courts is also influenced by low program costs, are only for treatment and supervision. There is not a direct budgetary cost for judge and judicial staff time, so judicial costs were $0, which differs from other states While this speaks to the commitment courts have to using the drug court model, it also presents risk to the long-term viability of juvenile drug courts. Moreover, program costs vary greatly from court to court, which may be a function of low client counts in smaller court districts, but could also present concerns about program fidelity. This issue warrants further study.

Behavioral Management Services		
Benefit-Cost Ratio	**Level of Research**	**Used in New Mexico**
N/A	No research to date	YES

Additional Community Services. Behavioral management services (BMS) is a Medicaid service offered for children under age 21 with a behavioral health diagnosis. BMS cost Medicaid $9.4 million to serve children in 2015. BMS can be provided and billed to Medicaid to address risk for residential or inpatient hospitalization as part of a client's treatment plan. Services can include teaching, training, and coaching the client and his/her natural supports (parents, guardians, etc.) in appropriate behavioral management skills. These skills are intended to improve various targeted behaviors, reduce emotional and behavioral episodic events, and increase social skills among other goals. BMS is not an evidence-based model, and outcome data for clients receiving BMS is not currently collected.

Comprehensive Community Support Services		
Benefit-Cost Ratio	**Level of Research**	**Used in New Mexico**
N/A	No research to date	YES

Another similar service, comprehensive community support services (CCSS), is a Medicaid-eligible service with the goal of providing individuals and families with resources and services to promote recovery, rehabilitation and resiliency. To be eligible for CCSS, a child must be either at risk for or experiencing a serious emotional, neurobiological, or behavioral disorder. Chronic substance abuse and co-occurring mental illness and substance abuse disorders are also qualifying diagnoses to receive CCSS. CCSS providers must be certified peer or family specialists. Peer support models have been primarily studied for use with adults, showing various positive effects, however research is weak for applications with children and adolescents. In CY15, CCSS accounted for $5.6 million in Medicaid expenditures for children ages 0-20, serving a total of 4,319 clients, the majority under the age of 18. However, with the broad requirements to receive CCSS, and the expansive list of services constituting CCSS, it is difficult to determine what services are being offered and which are effective. While HSD and CYFD are currently working on a youth peer specialist certification this service would benefit from further evaluation of its impact on children.

Wraparound		
Benefit-Cost Ratio	**Level of Research**	**Used in New Mexico**
N/A	Promising	YES

High fidelity wraparound services is an promising model with research showing the service may reduce the number of children utilizing higher and more costly levels of care as well as keep high acuity children in their community. This approach utilizes coordinators with small caseloads (8-10 clients per coordinator) to provide individualized support and coordination to

high risk clients. The wraparound approach to care coordination has shown positive effects in other states both in terms of child outcomes and expenditure reduction and is currently being explored as a viable method of care coordination in New Mexico.

When wraparound was used in Milwaukee, costs per client decreased from more than $5 thousand per month to less than $3.3 thousand per month, with a 60 percent decrease in the use of residential treatment centers[55]

When wraparound was used in Milwaukee, costs per client decreased from more than $5 thousand per month to less than $3.3 thousand per month, with a 60 percent decrease in the use of residential treatment centers[55]. CYFD, a community-based service provider and a Medicaid MCO, are currently collaborating to implement a community of care grant to provide high fidelity wraparound services for 50 protective services-involved youth from Bernalillo County. These children will be in RTCs, or will be at high risk of being placed in a high level of care setting such as RTC. CYFD funded training for 18 individuals at a cost of $45.5 thousand in FY16 to provide wraparound services for these children, replacing the Medicaid care coordinator with the wraparound service provider. While this program is in the process of being developed, as part of the grant, CYFD is also providing funding to work with the University of New Mexico to evaluate the effects of this pilot project. If the evaluation shows positive effects of high fidelity wraparound, the pilot may expand to other MCOs, other counties, or other agencies., providing an excellent opportunity to leverage an evidence-based model to keep children in their community while addressing their behavioral health needs.

Additional Therapeutic Considerations. The therapeutic relationship strongly influences client outcomes, making a positive relationship necessary to successfully administer evidence-based programs. In addition to the type of therapy used, it is important to highlight the relationship between client and therapist, as this relationship may be more indicative of a positive outcome than the treatment modality used[56]. Specifically, the treatment modality accounts for about 15 percent of variance in adult treatment outcomes, while factors such as therapist qualities, change processes, treatment structures, and relationship account for 30 percent to 70 percent of the variance in outcomes[57-58]. Due to the impact of the therapeutic relationship, therapists should develop a rapport with their client, and may switch therapeutic modalities based upon client response as well as client history and other preferences. Improving the therapeutic relationship may lead to an increase in client adherence to treatment due to the client more readily complying and feeling comfortable with different aspects of therapy.

Therapists may combine therapeutic modalities based upon client need; however this combination makes it difficult to determine when a therapy is being utilized as well as to assess fidelity to a given modality. Based upon discussions with providers as well as responses to the LFC staff survey examining therapeutic modalities used by providers throughout the state, it was discovered providers may frequently use multiple treatment modalities, even within one therapeutic session. Providers use multiple modalities based on client need. There should be evaluations of state programs after

implementation to determine continued effectiveness and adherence to fidelity. This monitoring and reporting could be conducted by a group such as the New Mexico Behavioral Health Collaborative, or could be conducted by the agency funding the program of interest. These evaluations should also be reported to the public via a children's behavioral health web portal so New Mexicans can use this information to determine which therapy to utilize.

Conclusion. As the primary conduit to keep children out of higher acuity care, maintaining a strong and accessible community-based service network using effective treatment modalities is imperative. New Mexico continues to have low treatment rates while having high prevalence rates of behavioral health problems. Currently, LFC staff estimates 46 percent of spending on community-based intervention services are targeted to evidence-based practices based on survey data collected from providers. Homegrown and non-evidence based programs should be evaluated to determine effectiveness. CYFD and HSD, as well as Results First project staff from LFC could offer technical assistance to providers in designing rigorous evaluations of homegrown and promising practices. Lastly, high fidelity wraparound services for those children most at risk of out of home treatment should be implemented on a larger scale to reduce utilization of these high acuity services that generally do not focus on evidence based programming and often result in poor long term outcomes.

Table 10. FY16 Acute Intervention Overview

Amount Spent	$89,382,237
Clients Served	12,791
Cost per Client	$6,988

Source: CY15 Centennial Care Report #41, CYFD Behavioral Health FY16 Optum Data

Note: Clients served may have duplications due to summing across service categories

Acute Intervention Programs.

Acute treatment programs encompass high intensity interventions occurring in facility settings. These services are the most costly children's behavioral health services. The number of children receiving this level of care is increasing, however strong community-based prevention and intervention programs could mitigate this increase.

Acute treatment is primarily funded through Medicaid, but is also funded through state general fund at CYFD. Acute interventions currently offered in New Mexico are listed in Table 11, including funding sources, as well as total clients served. These acute, out–of-home treatment services account for 46 percent of children's behavioral health spending, down from 72 percent in FY07.

Table 11. Top Acute Intervention Children's Behavior Health Services FY16 Ages 0-20

	Evidence-Based Practice	Expense	Clients	Cost per client
Wilderness Experience Programs*	YES	$599,340	1,516	$395
Residential Treatment All Levels	NO	$44,125,111	1,043	$42,306
Foster Care Therapeutic, All Levels	NO	$23,039,926	928	$24,828
Inpatient Hospitalization	NO	$9,154,149	1,343	$6,816
Group Homes	NO	$3,603,516	225	$16,016
Non-Medicaid Residential Treatment Services (ARTC, RTC, GH, TFC)	NO	$366,305	21	$17,443
All Other Services	NO	$8,493,890	7,715	$1,100
Total		**$80,888,347**	**12,791**	**$6,988**

Source: CY15 Centennial Care Report #41, CYFD Behavioral Health; Note: Excludes fee-for-service and value added services. Client counts are unduplicated, however due to summing across service categories the total client served may have duplications; *Fiscal Year 2016,

Residential treatment is a non-evidence based practice and the most costly behavioral health service for children, costing an average of $42 thousand for each of the 1,043 clients served in CY15 through Medicaid. Moreover, an analysis of high cost clients earlier in this report shows over the three-year period of CY14 through CY16, residential treatment accounted for 83 percent of costs for the most costly 10 percent of Medicaid clients ages 0-20. In CY15, of the over one thousand clients, 92, or 9 percent, of these clients were referred to a residential treatment center (RTC) through Protective Services, which indicates the vast majority of clients who received residential treatment were referred from outside of CYFD. Juvenile Justice Services does not currently track RTC placements of juvenile justice-involved youth, but will begin gathering this data in FY18.

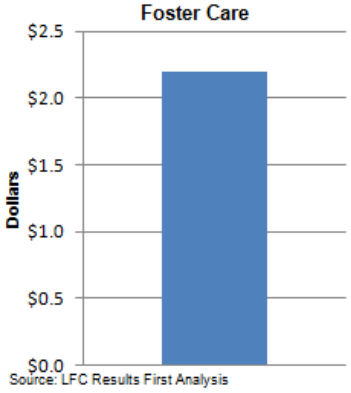
Residential Treatment Centers		
Benefit-Cost Ratio	**Level of Research**	**Used in New Mexico**
N/A	No consistent evidence	YES

CYFD licenses RTCs operating in New Mexico. Between FY12 and FY16, accredited RTC beds dropped 24 percent from 323 to 244 beds, while unaccredited beds decreased by 18 percent over the same timeframe from 181 to 149 beds. Therefore, 393 RTC beds were available in FY16. Over 1,000 clients received residential treatment in CY15, which is approximately double the number of clients served in FY06 at 576. For CY15, the average length of stay in a RTC was 109 days. However, 15 clients were in a RTC longer than

longer than one year. Some New Mexico youth received residential treatment outside of New Mexico, which is the most costly version of RTC care. In CY15, RTC clients were sent for treatment to Texas, Utah, and Colorado. While some out-of-state RTCs offer specialized treatment not offered in New Mexico, clients could be going into out-of-state treatment due to lack of capacity or other issues where a RTC may decline to accept a client.

Out-of-Home Treatment. There is a shortage of treatment foster care (TFC) homes and children in this level of care do not currently have access to nationally recognized evidence-based TFC practices. Children who enter TFC have a high level of behavioral health needs. In fact, TFC may be a suitable placement for children discharged from RTCs, as it would give an increased level of care as opposed to strictly re-entering the community without supports. TFC foster parents receive increased training compared to traditional foster care parents, and children within TFC meet with a behavioral health provider at least two times a month. Different providers use different TFC programs in order to address child needs. The providers interviewed for this report used Trauma Informed Care, Structured Intervention Treatment Foster Care, and Trauma Informed Sensory Attachment. These models are not evidence-based according to the Results First Clearinghouse.

Chart 14. Expected Return on Investment, per Dollar Spent Multidimensional Treatment Foster Care



Source: LFC Results First Analysis

Mulitdimensional Treatment Foster Care		
Benefit-Cost Ratio	Level of Research	Used in New Mexico
$2.20	Evidence Based	NO

The only TFC model currently evidence-based on the Results First Clearinghouse is Multidimensional Treatment Foster Care. This program is shown to decrease both substance use and mental health disorders[59-60]. The return on investment for this program is $2. As there has been little research for other TFC models, it is unknown whether the models currently used in New Mexico would have a higher or lower return on investment than Multidimensional Treatment Foster Care.

As of November 2016, there were 357 TFC licensed families; a 24 percent decrease since FY12. In FY15, 928 children were enrolled in TFC, a 66 percent decrease from FY06, which could be due to the decrease in available TFC families. The decrease in TFC families may exacerbate need as there has been an increase in the average number of children in protective services requiring foster care, from 1,715 in FY12 to 2,264 in FY16 (a 32 percent increase)[61], and therefore a corresponding increased need for TFC families. However, when examining the average number of child-welfare children in TFC from 2012 to 2016, there was only a 12 percent increase. It is unknown whether this smaller than expected increase in children placed in TFC is due to less children needing this level of care or if there are not enough places for children requiring this level of service. In CY15, the average length of stay in TFC was 177 days, but 88 clients were in a TFC placement for longer than one year. The more than doubling of children in RTC placement between FY12 and FY16 (from 30 to 76 average children)[58] may be evidence of a lack of appropriate placements for those leaving residential treatment.

Juvenile Justice facilities use a mixture of evidence-based, non-evidence-based and homegrown programs to treat behavioral health disorders. The evidence-based programs used are CBT, both traditional and trauma focused; Eye Movement Desensitization and Reprocessing; Relapse Prevention; Restorative Justice; Seeking Safety; Motivational Interviewing; Dialectical Behavioral Therapy Coping/Life Skills; and Alcoholics Anonymous/Narcotics Anonymous. Some of these programs are further detailed in **Appendix I**.

Conclusion. High-acuity treatment is the most expensive form of care, and many clients return, creating a costly cycle for the state and clients. While children requiring acute psychiatric or residential treatment represent the smallest number of clients receiving children's behavioral health services, they represent the highest cost component of the system. There will always be a need for acute out-of-home care, but it is vital to minimize the risk of future returns to this level as well as reduce the need for these services in general through increased prevention and early and community-based interventions. While the effects of increased prevention and community-based services in reducing the need for acute interventions will take time, in the long run this will allow acute services to be focused on those with the greatest need for this type of care.

Reducing re-entry to acute out-of-home care requires ensuring access to the correct levels of care for the appropriate length of stay, effective transitions to community-based levels of care, sufficient providers in the community, and effective coordination of services. To achieve this, data needs to be collected to evaluate current program and service effectiveness, as well as ascertain the availability of different levels of care to match the needs of children.

Currently, New Mexico spends less than 1 percent of acute intervention treatment dollars on evidence based practices. However, this does not account for any evidence based practices that may be used in a TFC or RTC environment. High return on investment evidence-based practices should be explored to address service needs. Evidence-based care coordination, such as high fidelity wraparound, should be pursued to determine if the same positive effects are shown in New Mexico as in the rest of the country. Utilization of residential treatment should be further reviewed to identify and address issues related to potential inappropriate referral to this treatment, overstays at this level of care, and the placement of clients in more costly out-of-state facilities. This review should include information about potentially avoidable residential treatment admissions to better inform what community-based services are needed to decrease future residential treatment admissions.

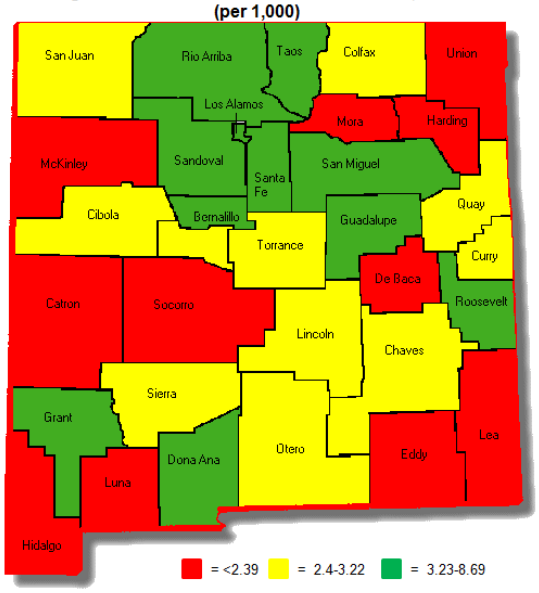
Managing the Children's Behavioral Health System

Planning. The children's behavioral health system would benefit from improved collaboration, data collection, and joint decision-making on strategic investment by HSD and CYFD. The state does not currently have a plan to comprehensively address what types of services nor where more services are needed. Having a unified multi-agency strategy, emphasizing evidence-based practices, would ensure greater efficiency and effectiveness in improving outcomes for children while minimizing overlap and duplication. Better utilization of performance data to manage programs and services is also needed to ensure the most effective use of limited public resources. Also, creating a system for children that is user-friendly and accessible would ensure better client engagement.

Medicaid uses standard geographic access definitions to measure provider adequacy. The New Mexico Healthcare Work Force Committee measures access by county per 1,000 residents. Neither of these measures can fully capture whether there are sufficient providers and services available to match client need.

Currently, there is not enough collected data to assess demand for children's behavioral health services or when the amount of available services would be sufficient. To effectively measure if there are enough providers to serve the state's children's behavioral health needs, information would be required on patient diagnoses and severity, provider types, location of patients and providers, measures of caseload, treatment standards by diagnosis and diagnostic severity, and service costs. Additionally, the state does not consistently report prevalence rates for children's behavioral health diagnoses. Furthermore, no data is collected on severity, which directly impacts treatment frequency. Varying adequacy measures do not sufficiently show whether there are enough providers and services to meet the behavioral health needs of New Mexico's children.

Figure 7. Behavioral Health Care Workforce, 2015 (per 1,000)



Source: New Mexico Healthcare Work Force committee report 2016

The 2016 New Mexico Healthcare Work Force Committee Report found eight counties have no access to behavioral health prescribers and three counties lack access to independently licensed clinicians. The report identified 463 behavioral health providers with the ability to prescribe medications, 4,609 independently licensed psychotherapists, 3,420 non-independently licensed psychotherapists, and 874 substance use treatment providers The report measured provider adequacy by number of behavioral health service providers per 1,000 of population, finding 11 counties with the least access to care had between 0 and 2.39 providers per 1,000, the next 11 counties had between 2.40 and 3.22 per 1,000, and the 11 counties with the greatest access to care had between 3.23 and 8.69 per 1,000 in population as shown in Figure 7.

Twenty-two counties included in this analysis with provider rates of 0.00 to 3.22 providers per 1,000 are designated as rural or frontier counties under Medicaid geographic access requirements. However, while seven counties that are Medicaid-designated rural or frontier areas had some of the highest concentrations of

providers per 1,000 people, this does not suggest there are sufficient providers to serve the behavioral health needs of these counties. Therefore, while this analysis offers insight as to where providers are located, it does not provide adequate data to evaluate whether these providers can sufficiently meet the behavioral health treatment needs of the population.

The New Mexico Healthcare Work Force Committee Report also shows 10 percent of surveyed behavioral health providers either planned to retire, significantly reduce patient hours, or move their practice out of state. Provider attrition is also an important consideration when looking at increasing and maintaining the supply of providers generated through the state's higher education institutions and licensure boards. For example, in 2013, 15 Medicaid behavioral health care providers in the state had Medicaid payments frozen and 5 new providers were brought in from out of state. Of these 15 providers, three continue operations and 12 could not remain open without Medicaid funding and closed operations. As of March 2017, three of the five out-of-state provider agencies, Turquoise Health, La Frontera, and Agave Health had left the state. While other provider entities, including federally-qualified health centers, have stepped in to address the ensuing provider shortage, long-term stability in the state's supply of behavioral health providers is crucial.

Implementation.

Service gaps in critical evidence-based services exist in the state's children behavioral health system. The program inventory in the previous section of this report identified 30 programs or services offered in New Mexico for children as evidence-based out of 43 programs reviewed. Another two programs were identified as promising based on the criteria set forth in the Results First Clearinghouse, and two home visiting programs were identified as promising by the federal government. The state can increase the proportion of evidence-based programs and services by bringing more of these practices into the state and also by rigorously evaluating homegrown programs to establish evidence of effectiveness.

Promotion and Prevention. Increasing the availability of evidence-based practices for children's behavioral health should start with increasing the use of promotion services such as the Good Behavior Game, which has a strong return on investment and promising outcomes when examining New Mexico data. In terms of prevention, most state home visiting dollars are not spent on programs with evidence of reducing trauma-related behavioral health outcomes. Childhood trauma is a significant driver of children's behavioral health diagnoses in New Mexico. Therefore, targeting limited home visiting resources to evidence-based programs proven to effectively reduce trauma and related outcomes is critical, reducing the need for more costly care in the future. Also, less than half of identified children's behavioral health prevention and promotion programs used in New Mexico are evidence-based, but with more rigorous evaluation, some of the other programs might become

promising or evidence-based.

Role of Health Homes and Telemedicine. HSD is leveraging the health home model to provide integrated behavioral, physical, and support services for Medicaid clients with serious behavioral health needs. Health homes are a model authorized under the Affordable Care Act (ACA) to integrate community-based health care and support services for clients who, in the case of children, are diagnosed with a serious emotional disturbance (SED). Agencies operating as health homes are required to offer comprehensive care management, care coordination and health promotion, comprehensive transitional care, individual and family support services, referral to community and social support services, and use health information technology to link services as detailed in **Appendix I**. Health home agencies will receive a per-member-per-month capitated rate for these core services. Agencies eligible to operate as a health home include federally-qualified health centers, Indian Health Services hospitals, core service agencies, behavioral health agencies, and community mental health centers. Medicaid clients who are already engaged with any of these agencies will automatically be enrolled in the program. Those Medicaid clients eligible for the health home program, but not currently engaged with a participating agency will be automatically enrolled with a requirement to opt in within 90 days if a managed care Medicaid client. Fee-for-service clients are required to enroll at a participating agency. As of April 2016, HSD was approved by CMS to establish health homes in Curry and San Juan Counties. There are two health homes, one located in Curry County and the other in San Juan County as of March 2017. HSD has a goal of increasing the total to 11 health homes by the end of 2017.

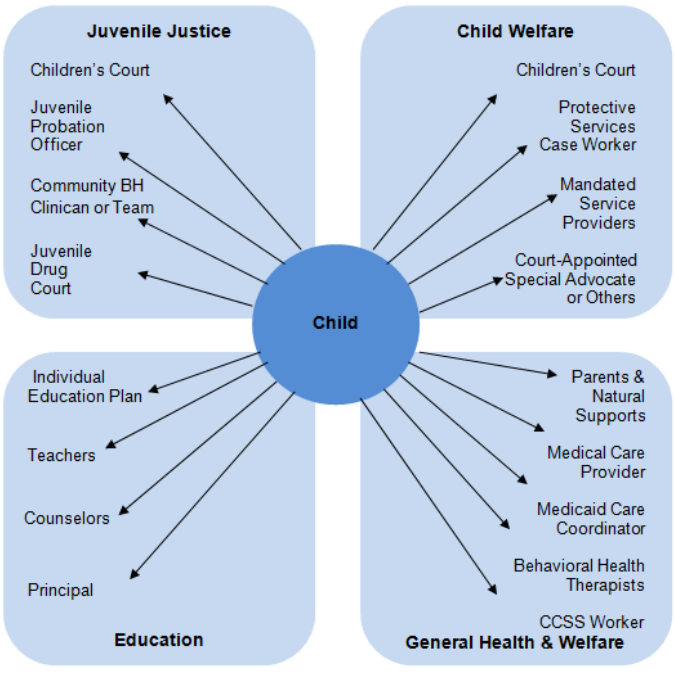
Telemedicine, uses technology to assist in direct care of clients and professional mentoring especially in areas of the state where traditional services are not readily available. In light of the access to care and workforce challenges referenced earlier in this report, telemedicine could increasingly be used to address service availability and adequacy. Under Centennial Care, all four MCOs are required to offer telemedicine services. The number of children ages 0-20 receiving services via telemedicine is not currently reported, and four counties had limited access through Medicaid. Another important aspect of telemedicine is workforce consulting. The state is working with Project ECHO to advise and consult providers in rural and frontier areas in serving their clients. Telemedicine also can be a valuable resource in increasing the amount of licensed behavioral health practitioners in the state by addressing requirements for clinically supervised hours. Expanding the role of telemedicine in rural and frontier areas should be an important part of a plan to address need in the system.

Multisystemic Therapy and Functional Family Therapy. Lack of MST services in half of New Mexico's counties could be addressed by supplementing this system with functional family therapy. As mentioned in the previous

section of this report, Functional Family Therapy (FFT), could fill service gaps in rural areas where MST is not available. A 2016 LFC evaluation of Juvenile Justice found a high number of probation violations in counties where MST was not offered, Finding an effective alternative to scale up services for high-risk clients is crucial to reducing the need for high acuity care and recidivism into the criminal justice system.

High-Fidelity Wraparound Services. Evidence-based wraparound service models could be incorporated into CCSS for high-acuity clients. With the value keeping a child at home receiving community-based services offers, coordinating a client's services becomes imperative. Currently, managing the care of children with multiple system involvements can be challenging. It is possible the client could be engaged with multiple systems including juvenile justice, child welfare, individual education plans at school, and community-based services. While some of these systems are more readily able to work together, other system components face coordination challenges. This makes for a complicated mix of potentially conflicting service plans, requirements, and stakeholders involved in the client's care, with no unifying element to ensure client compliance and success. For example, under the current Centennial Care waiver, Medicaid-eligible youth have a care coordinator assigned through a managed care organization. While the care coordinator plays a role in facilitating the delivery of Medicaid services, this person is not responsible for managing all components of the client's care, such as the client's adherence to court-ordered requirements.

Figure 8. Example of Current New Mexico Service Organization for Multi-System Involved Youth



Source: LFC Files, CYFD, and HSD

Creating a system where a lead person coordinates and manages the day-to-day components of a child's care could be beneficial to the child's ability to successfully maneuver various service requirements, specifically for children at risk for out-of-home treatment. A pilot project involving a Medicaid MCO and a community-based service provider will consolidate the role of case manager and Medicaid care coordinator using the evidence-based model of wraparound to effectively manage a client's care. Effective care management could result in more successful completion of court-ordered requirements, reduced probation violations, increased adherence to care, and minimizing future involvement with high-cost behavioral health services such as residential treatment. Pending the results of this pilot, HSD and CYFD should consider leveraging an evidence-based model for wraparound services in the provision of comprehensive community support services (CCSS).

Rebalancing the Children's Behavioral Health System. The chances of positive client outcomes when children reach the level of acute out-of-home care diminish. A greater emphasis on prevention and early and community-based interventions, with continued growth of evidence-based practices could more effectively address the needs of some of these children before they reach the point of needing acute interventions. This could lead to reduced admissions to residential treatment and treatment foster care and reduced costs for these services. However, it is important to note these potential savings could take years to materialize and may appear as increased investment in prevention and community-based interventions. It is also important to consider the need for services such as residential treatment will never be fully eliminated, as some diagnoses will require this highest level of care. Yet focusing acute interventions on those with the highest need should be the ultimate goal of the system.

Performance Monitoring. Creating a system that allows for regular data collection, fidelity checks, and evaluation of programs implemented in New Mexico plays a key role in creating a behavioral health system that improves child outcomes. To do this, specific data needs to be collected measuring program process, efficiency, output, and short and long-term outcome measures.

Data Collection. This report highlights the lack of data on community-based services currently available. While medical billing practices are unlikely to evolve to include detail of treatment modalities used with patients, HSD, with Medicaid MCOs, and CYFD needs to create a process to identify and regularly inventory different treatments available for children in New Mexico. HSD is leading an initiative called HHS2020, working with other agencies, such as CYFD and DOH, to create a database gathering data from various support programs including Medicaid, SNAP, public health, and early childhood to track outcomes over a client's lifetime. The project is estimated to go live in FY20. This level of data will be valuable in understanding the health and social service needs of New Mexico citizens participating in public programs, including managing the children's behavioral health system.

Another area important to consider in collecting and analyzing data is out-of-home acute interventions. While a small group of children receive services through residential treatment (RTC), treatment foster care (TFC), and other out-of-home providers, this level of care is both costly and inconsistently effective, therefore understanding the population receiving these services is crucial. CYFD, as the licensing body overseeing RTCs, TFC providers, and group homes, is well positioned to obtain various data including census totals, average length of stay by diagnosis, readmissions, admissions versus requests for placement, and outcome measures. It is important for the state to analyze children's behavioral health outcomes over the long-term. This will help identify who is at high-risk for acute out-of-home treatment Being able to identify these risks can allow for intensive community-based interventions to be used to reduce the need for expensive out-of-home care.

In addition to collecting the above data on programs, it is also essential agencies are aware of what and how frequently specific therapeutic modalities are used throughout the state. Provider surveys should be conducted annually by HSD or the MCOs in order to determine what therapies are being used by providers when they bill for services such as individual psychotherapy or comprehensive community support services. In addition to determining what therapies are being used, HSD or the MCOs should also inventory which programs are evidence based, and encourage providers to use evidence based interventions.

Fidelity Monitoring. After evidence-based practices offered in the state are identified, a process for regular fidelity monitoring needs to be put in place to ensure these practices are delivering expected results. If programs are not being run to fidelity, it can reduce positive outcomes or even lead to negative outcomes for clients in these programs. Therefore, HSD or the MCOs should regularly conduct fidelity checks of evidence-based programs implemented throughout the community as well as for out-of-home placements such as RTCs and Juvenile Justice facilities.

Evaluation. For programs identified as promising or non-evidence based, evaluation of these programs should be completed to determine whether these programs have positive effects. Evaluations should be designed to a high standard of rigor, as detailed in **Appendix E**. To perform evaluations in a cost-effective manner, private grant funding should be leveraged. For example, RAND recently completed an evaluation of the First Born home visiting program where no public funds were used. Also, the annual report on MST is produced by the University of Denver and financed by a federal block grant.

Report Conclusions

New Mexico experiences either higher or similar rates than national averages rates of children's behavioral health diagnoses. The state also experiences high suicide rates among both youth and the general population. Undiagnosed or untreated behavioral health issues have long-term effects including lower earnings, a decreased chance of being employed, and an increased chance of memory problems and emotional instability[62]. Addressing mental health and substance use disorders early may mitigate long-term negative effects that would require more intensive interventions. Effective programs need to be in place to provide prevention, intervention, and acute intervention treatment to address all levels of client need. Various services are offered in New Mexico to address children's behavioral health issues, however, it is unclear from currently used metrics if there are sufficient providers and services and if current services are effective. In order to determine whether programs are effectively identifying, addressing, and treating child behavioral health needs, data needs to be collected regularly and programs need to be evaluated. First, the state needs to look at the supply of behavioral health services and the demand for these services based on client need. This requires data already collected by various state and federal agencies that may not be readily available publicly, as well as collecting new data on provider caseloads. Completing a study of provider and service sufficiency would better inform policymakers of where investments to bolster the system are needed.

Second, when a program is newly implemented or has not been evaluated, it is essential to evaluate outcomes. This includes analyzing outcome data collected by various entities. If data is siloed, it is difficult to determine the effectiveness of programs. Data should be collected in such a manner that conclusions can be drawn from the evaluation on outcomes that benefit the client, as well as society at large. LFC staff observed examples of programs looking to complete evaluations, but the evaluation design was not rigorous enough to draw conclusions on the effect of the program or was not focused on outcomes that could be monetized. Moreover, due to a lack of funds for the purpose of evaluation, outcome evaluations are not completed consistently. Finally, even if programs are evaluated and services are inventoried, unless programs are run to fidelity, even strong evidence-based programs could fail to provide the intended outcomes. Program fidelity increases the likelihood of success at a programmatic level leading to decreased youth substance use disorders, suicide, and interactions with the juvenile justice and child welfare systems. This success will generate long-term savings to the state through reduced incarcerations, reduced need for residential treatment, less dependence on public assistance by way of higher educational attainment, and other more extensive benefits including less intergenerational risk for behavioral health.

This report identifies various services offered by different entities in New Mexico throughout the health care, educational, and judicial systems, among many others. While all of these stakeholders play a vital role in positively impacting children's behavioral health in the state, these entities sometimes overlap or unintentionally compete with each other. This can hinder the efforts of all parties to effectively carry out the universal mission of positively impacting children's behavioral health. Therefore, the state needs a unified strategy to deploy resources effectively to match the needs of the state's children. This will require a multi-agency effort, both public and private, effectively leveraging available funding to create an integrated behavioral health system that meets the specific needs of children and families. This report includes various next steps to assist the state in developing an actionable strategic plan and address the issues related to data collection, evaluation, and communication to better inform policymakers where to invest limited funds to create the most benefit for the state's children.

Next Steps

These next steps detailed below aim to create a more cohesive, efficient, and cost-effective children's behavioral health system for New Mexico. In writing this report, LFC staff identified potential areas to maximize use of grant and other funding, reduce duplication and overlap, and increase efficiencies in this system. In light of recent and potential future fiscal constraints, the following steps seek to create a uniform children's behavioral health system that emphasizes cost-effective, evidence-based programs to provide the best outcomes for New Mexico children.

PLAN

In the next collaborative strategic plan, focus on children's behavioral health throughout New Mexico with the following goals:

To strengthen New Mexico's children's behavioral health system emphasizing community based services over acute out of home care by addressing:

- Client Need (diagnosis, community based treatment, acuity)
- Access (availability of appropriate interventions and evidence-based programming, cost analysis, and a succession plan to ensure continued funding of programs)

IMPLEMENT

The strategic plan committee, through the behavioral health collaborative should:

- Identify outcome, output, and process measures as well as data sharing mechanisms needed;
- Complete preliminary data analysis to inform the strategic plan;
- Conduct fidelity monitoring to ensure fidelity to evidence based programming, collect child outcome data, and establish an evidence base for home-grown programs through rigorous evaluation;

- Facilitate communication and awareness between providers, clients, and other stakeholders;
- Bolster current community based services with evidence-based practices including adding FFT to supplement MST, and increasing use of Wrap-around;
- Address system barriers including prioritization of high risk families including those involved with juvenile justice or protective services;
- Maximize braided funding from sources such as grants and Medicaid and to avoid duplication and increase available services for New Mexico children;

Reduce need for high-cost non-evidence based acute interventions by use of lower cost evidence-based services, better addressing needs in the community to minimize need for out-of-home services.

MONITOR

The status of children's behavioral health in New Mexico will be monitored through examination of state child data located on a data dashboard.

This dashboard will be used to report information on the following:

- Client near-term and long-term outcomes;
- Input and process measures;
- State investment in evidence based programming and other (promising and home grown) programming (with the goal to increase funding for evidence based programming);
- Oversight of interventions through rigorous evaluation to ensure continued fidelity of programs and positive outcomes for children utilizing these programs throughout the state.

Accountability for progress against the strategic plan could be examined through:

- Performance measures as part of the Accountability in Government Act process or
- LFC producing an annual accountability report on the status of the children's behavioral health system.

This page intentionally left blank.

Appendix A: Acknowledgments

This project was a collaboration between the Program Evaluation Unit of the Legislative Finance Committee, the Human Services Department, and the Children, Youth , and Families Department. This report is the fifth in a series of Results First reports, published and presented to the Legislative Finance Committee. This report is the result of the work of various individuals participating in a collaborative workgroup over a period of eight months. The workgroup was comprised of the following:

Maria D. Griego, Lead Program Evaluator, Legislative Finance Committee
Sarah Dinces, Ph.D., Program Evaluator, Legislative Finance Committee
James Orr, Chief Data Analyst, Office of the Secretary, Children, Youth, and Families Department
Bryce Pittenger, LPCC, Director, Behavioral Health Services, Children, Youth, and Families Department
Edna Ortiz, Deputy Director, Behavioral Health Services, Children, Youth, and Families Department
Jeffrey Tintsman, ACSW/LISW, Senior Behavioral Health Administrator, Behavioral Health Services, Children, Youth, and Families Department
Wayne Lindstrom, Ph.D., Director, Behavioral Health Services Division, Human Services Department and CEO, NM Behavioral Health Collaborative
Julie Lovato, Special Projects Manager, Office of the Secretary, Human Services Department
Dauna Howerton, Ph.D., Quality and Compliance Manager, Behavioral Health Services Division, Human Services Department

This project would not have been possible without the support of:
David Abbey, Director, Legislative Finance Committee
Monique Jacobson, Secretary, Children, Youth, and Families Department
Brent Earnest, Secretary, Human Services Department
Charles Sallee, Deputy Director, Program Evaluation, Legislative Finance Committee
Jon R. Courtney, Ph.D., Manager, Program Evaluation, Legislative Finance Committee
Benjamin Fulton, Senior Associate, The Pew Charitable Trusts, Pew-MacArthur Results First Initiative
Michael Wilson, Technical Consultant, Pew-MacArthur Results First Initiative
Linda Freeman, Director, NM Sentencing Commission
Pete Kassetas, Chief, NM State Police and Deputy Secretary, Department of Public Safety
Peter Bochert, Division Director, Court Services and Statewide Drug Court Coordinator, Administrative Office of the Courts

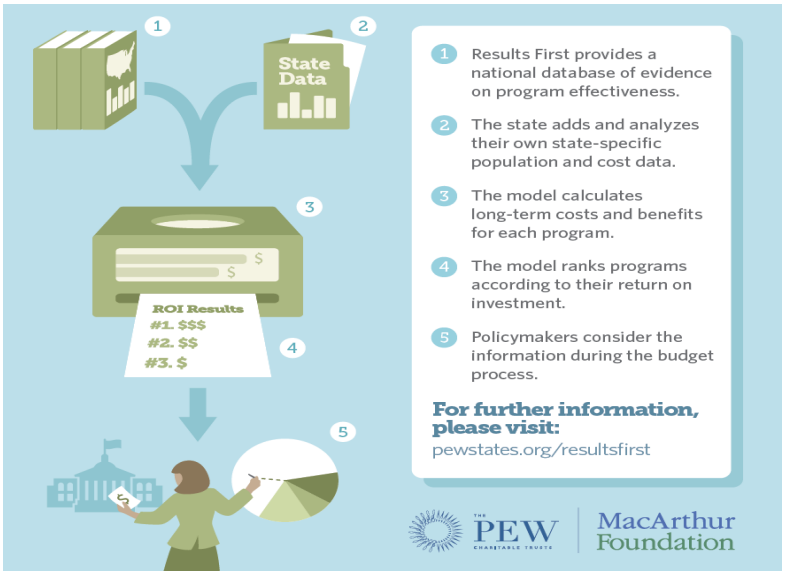
We would also like to acknowledge the participation of countless service providers, subject matter experts, and staff at HSD and CYFD who met with us, provided data, and participated in our survey.

This report is a matter of public record and will be available on the LFC website: https://www.nmlegis.gov/Entity/LFC/Evaluation_Unit_Reports.

Appendix B: History and Background of the New Mexico Results First Project

The Washington State Institute for Public Policy (WSIPP) has utilized a cost-benefit model to inform decisions of policy makers so they can invest in evidence-based programs delivering the best results for the lowest cost. WSIPP has attributed a number of positive outcomes to the use of the approach on which Results First is based, including a savings of $1.3 billion per biennium and improved outcomes in the state of Washington.

Results First: Five steps to evidence based policy making



Source: Adapted from the Pew Charitable Trusts

Cost-Benefit Analysis of Evidence-Based Programs. The result of the cost-benefit analysis conducted in this report indicates New Mexico could obtain favorable outcomes for child behavioral health consumers, if the state successfully implements evidence-based programs. The cost-benefit estimates were constructed conservatively to reflect the difficulty that can be encountered when implementing programs at scale. Likewise, well-run behavioral health service programs can achieve reported or better results while poorly run programs will not. Some of these programs are currently implemented in New Mexico and the results of this study present the outcomes these programs should be producing based on rigorous research. Several factors need to be considered when interpreting findings. Our analysis is based on an extensive and comprehensive review of research on program outcomes as well as an economic analysis of the benefits and costs of investments in evidence-based programs. The results indicate New Mexico can obtain favorable outcomes if it can substantially and successfully increase its use of several evidence-based programs. The predicted costs, benefits, and return on investment ratios for each program are calculated as accurately as possible but are, like all projections, subject to some level of uncertainty. Accordingly, it is more important to focus on the relative ranking of programs than small differences between them; some programs are predicted to produce large net benefits and represent 'best buys' for the state while others are predicted to generate small or even negative net benefits and represent neutral or poor investment opportunities.

Evidence-Based Program Implementation in Other States through Results First. States have made substantial progress in their implementation of Results First over the past few years and their use of the process to inform and strengthen policy and budget decisions. These efforts have resulted in millions of dollars in targeted funding, cost-savings, and cost-avoidance that will improve long-term outcomes for citizens. Collectively, this work can be instrumental in helping states live within their means while improving their ability to achieve critical goals, such as reducing recidivism, strengthening families, and preparing children for the future. The number of states participating in Results First has grown to 23. Most states have completed initial implementation of the Results First model's criminal justice component. Oregon has used the analysis broadly to determine whether a long-standing (10-year) statutory mandate directing agencies to invest in evidence-based programs has been cost-effective. New Mexico has published Results First reports related to adult criminal justice, child welfare, early education, and adult behavioral health. Results First reports can be found at https://www.nmlegis.gov/Entity/LFC/Evaluation_Unit_Reports.

Appendix C: History of Major Events in New Mexico's Behavioral Health System

2000	Behavioral health services are administered through regional care coordination entities contracted by managed care companies.
2001	The New Mexico Medicaid Behavioral Health Advisory Committee issues report on managed behavioral health care options and improved cross-agency coordination of services. The Committee made system-wide proposals considered essential to the effective functioning of any behavioral health model for the state, including topics related to access, quality, financing, and treatment of consumers and interagency coordination.
2002	At the direction of the legislature and administration, the New Mexico Behavioral Health Needs Assessment and Gap Analysis Project was completed. The report was funded by state agencies and managed care organizations.
2003	Governor Richardson directed all agencies tasked with the delivery, funding or oversight of behavioral health care services including, mental health and substance use disorders services and treatment to work collaboratively to create a single behavioral health service delivery system throughout the state.
2004	The New Mexico Legislature passes House Bill 271, establishing the Behavioral Health Purchasing Collaborative and Behavioral Health Planning Council.
2005	Behavioral health is separated from physical health. The Collaborative selects ValueOptions New Mexico, Inc. as the single statewide entity to manage mental health and substance use disorders programs and funding from six separate state agencies.
2008	The Collaborative selects OptumHealth New Mexico to replace ValueOptions as the single statewide entity.
2009	After the go-live of the OptumHealth New Mexico system, significant issues arose. A Directed Corrective Action Plan was imposed on OptumHealth, with consultant, Alicia Smith and Associates to monitor.
2012	The HSD submits an 1115 Medicaid waiver application to the Centers for Medicare and Medicaid Services. The New Mexico plan is called Centennial Care. CYFD funding is no longer directing funds through the Collaborative, but is administered by the agency.
2013	Federal government approves New Mexico's Medicaid Waiver proposal. Governor Martinez announces New Mexico will expand access to Medicaid for up to 170 thousand eligible New Mexicans under the Patient Protection and Affordable Care Act. Fifteen behavioral health providers have Medicaid payments suspended due to billing concerns. Many of the affected providers close down, and the state brought in Arizona-based providers to address the system gaps this caused.
2014	Centennial Care integrates physical and behavioral health and selects four MCOS to manage Medicaid funding and providers and one third party administrator to manage state general and federal grant funds. This change coincided with Medicaid expansion and the establishment of the New Mexico Health Insurance Exchange.

Source: LFC Files

Appendix D: Components of the Children Behavioral Health System

Role of Medicaid. As the primary public single funder for medical services in the state, the majority of children's behavioral health services are paid for through Medicaid. As of the end of February, 390 thousand children ages 0 through 20 were enrolled in the state Medicaid program. The majority of clients were served through Centennial Care, the state's managed care Medicaid program.

Primary Care. A growing number of behavioral health services are occurring through a primary care setting such as a federally-qualified health center (FQHC), rural health clinic, or a primary care physician. In CY15, FQHCs billed Medicaid almost $4 million while Indian Health Services billed $1.4 million for child behavioral health services. While primary care can be funded through various means, the main funder is the Medicaid program. However, currently available reporting does not allow for identifying behavioral health services, such as medication management, occurring through individual primary care physicians.

Starting in FY16, the New Mexico Behavioral Health Collaborative has trained over 200 clinical supervisors, therapists, and staff from agencies such as FQHCs, the Navajo Nation, and state agencies via Integrated Quality Service Review. The goal is to provide rapid real-time assessment of clinical screening, assessment, prevention, and mitigation to address a variety of areas including patient safety, behavioral risk, physical and mental/emotional health status, and substance use status.

Behavioral Health Specialists (Psychiatrists, Psychologists, etc.). Medicaid costs for child behavioral health, for all behavioral health specialties in CY15 was $150 million. Again, this total does not include behavioral health services provided by a primary care physician, thus this total is a conservative estimate of the cost of these services throughout the state.

High acuity hospitalization for behavioral health diagnoses can occur in specialized hospital settings as well as traditional acute hospitals. Various entities provide acute and specialized inpatient psychiatric care, including the Children's Psychiatric Hospital at the University of New Mexico and the CARE Program at the New Mexico Behavioral Health Institute for male youth with problem sexual behaviors.

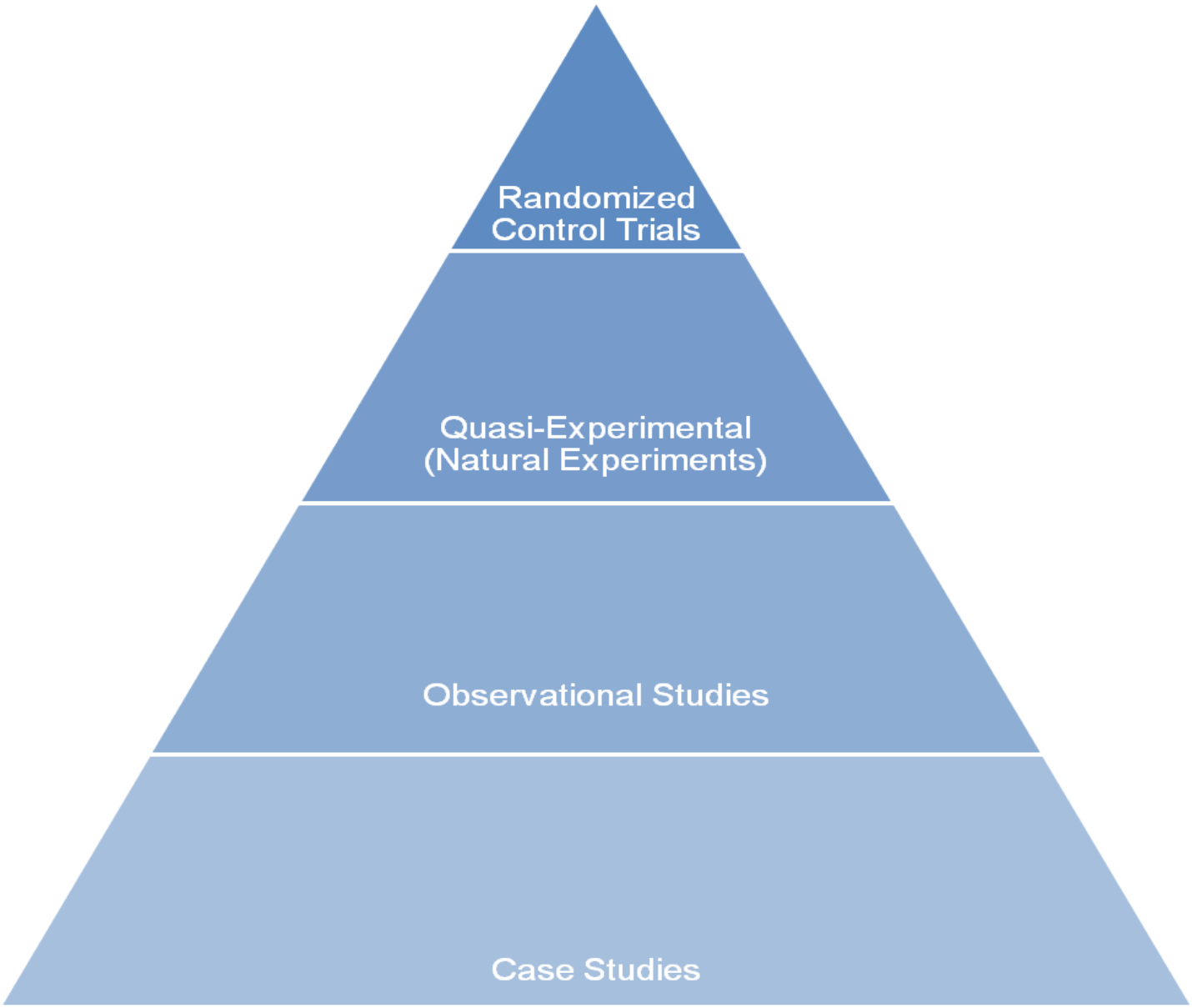
Children, Youth, and Families Department (CYFD). CYFD contracts with providers to offer various behavioral health programs and services through its Early Childhood Services, Behavioral Health Services, Protective Services, and Juvenile Justice Services divisions. Services offered span from prevention to acute treatment for special populations, which will be discussed further in the body of this report. CYFD funds behavioral health services through state general fund appropriations as well as federal grants. In FY16, these programs served almost 13 thousand children (children may be duplicated across services), costing almost $10 million.

Local Governments. Some counties run or fund children's behavioral health programs and initiatives. Bernalillo County intends to use some revenue from its behavioral health gross receipts tax increment to fund a transitional living program for youth and provide ancillary services to those receiving home visiting in the county. Luna and Torrance counties are operating home visiting programs funded through CYFD.

Public Schools. Public schools offer programming and education related to behavioral health and substance use funded through the public school funding formula, comprised of a combination of federal and state general funds. Two school districts are also offering a home visiting program funded through CYFD, which will be discussed in the body of this report. New Mexico has 71 school based health centers (SBHCs) that serve students, and in some places the community (number based upon (NMASBHC website). Some SBHCs are open evenings and weekends, allowing increased access to care. These centers, funded through the Department of Health, allow students who might otherwise not be able to access care to receive physical and mental health services.

Other Programs.
Non-profit organizations such as United Way Of Santa Fe, CHI St. Joseph's, and All Faiths provide children's behavioral health services without relying solely on state funding, utilizing community donations and other types of grants. Both United Way of Santa Fe and CHI St. Joseph's provide home visiting services, United Way also funds parenting classes, and All Faiths offers a Family Wellness program using the Nurturing Parenting model, a home visiting model mentioned in the body of this report. Other nonprofit organizations, such as Youth Shelter and Family Services, braid state, federal and private funds to run their programs.

Appendix E: Hierarchy of Evaluation Methods



Randomized Control Trials: This category includes studies conducted where participants are randomly assigned to a specific treatment group.

Quasi-Experimental (Natural Experiments): Studies conducted examining two groups, but participants are not assigned to the groups, rather these groups occur naturally (e.g. smokers vs. non-smokers or examining ethnic differences)

Observational Studies: Data is collected for a number of individuals, however there is no comparison group included.

Appendix F: New Mexico Youth Risk and Resiliency Survey Demographic Results

Substance Abuse and Depressive Symptomology by Ethnicity YRRS 2015

	All Students	American Indian	Asian/Pacific Islander	Black/African American	Hispanic	White
Youth Drinking before 13	20.1	17.1	17.8	25*	21.5	18.6
Youth trying marijuana before 13	16.5	29.8*	12.8	18.7*	16.8	10.5
Youth currently using marijuana	25.3	33.9*	23.1	30.1*	25.9	20.4
Youth using cocaine	4.5	3.2	12.1*	10*	5.2*	2.7
Youth using Heroin	2.8	1.8	9.4*	8.9*	3	
Youth using ecstasy	4.6	3.7	12.3*	10.8*	5.1	2.9
Youth ever having used an injectable drug	3.2	3	9.6*	8.5*	3.4	1.9
Youth ever having used methamphetamine	4.4	5	9.5*	11.6*	4.5	2.7
Current methamphetamine use	3.2	2.5	9.1*	10.3*	3.4	1.7
Rate of persistent feelings of sadness/hopelessness	32.5	35*	32.3	36.2*	31.7	32.6

*Statistically higher than the state average
Source: DOH, YRRS Survey

Appendix G: Child Psychotropic Drug Use in New Mexico

Psychotropic medications prescribed to children under age 18 cost over $13 million and were prescribed to 28,413 children in FY16. Psychotropic drugs are broken into five categories; antidepressants, stimulants, anticonvulsants, tranquilizers and minor tranquilizers. Ten million dollars was spent on stimulants, frequently used to treat attention deficit with or without hyperactivity. The rest was largely spent on antidepressants, accounting for approximately $2.25 million. The number of prescriptions is potentially concerning as over 136 thousand prescriptions were written for less than 30 thousand children, or an average of 5 prescriptions per child. However, number of prescriptions per child is widely unknown and it is unlikely that this average number reflects the present situation as most children are probably only given 1 or 2 prescriptions while others are given significantly more. Another potential cause for concern are the relatively high proportion of children under five prescribed stimulants and minor tranquilizers (anticonvulsant prescriptions are also high, but this may be explained by epilepsy being frequently identified and treated in babies [63]. Over three percent of stimulants prescribed are for children under 5 while over 7 percent of minor tranquilizers prescribed are for children under 5 years of age. This is concerning as the effects of these drugs on children is unknown because research for most drugs is focused on adults.

Psychotropic Prescription Drug Use in Children under 18

Drug Type	Total cost	Number prescriptions	Clients served	Proportion of children under 5	Prescriptions/ client
Antidepressants	$2,254,843.51	57,408	11,061	1.22%	5.19
Stimulants	$10,727,043.00	69,838	13,378	3.32%	5.22
Anticonvulsants	$171,402.00	7,570	2,139	7.62%	3.54
Tranquilizers	$7,447.50	241	59	1.69%	4.08
Minor tranquilizers	$17,236.81	1,538	1,776	7.43%	0.87

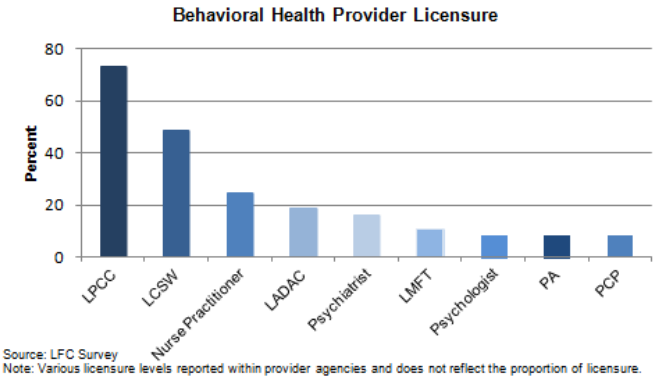
Source: HSD; Note: Includes managed care and fee-for-service clients. Recipients are not unduplicated.

It has been widely reported children in child welfare have been generally over prescribed psychotropic medication. The U.S. Government Accountability Office examined prescribing practices, policies and behaviors in seven states and found that while most states have policies in place which regulate child psychotropic prescriptions; these practices have not been widely evaluated by the states in order to determine if they are successfully decreasing the number of prescriptions given to children (GAO report). New Mexico has similar policies in place but, like the other states examined, has yet to evaluate the effects of implementing stricter policies regarding prescription of psychotropic drugs. Children, Youth and Families Department Protective Services and Behavioral Health staff as well as providers are examining use of psychotropics within the state and will be making recommendations for CYFD involved children shortly. However, more oversight and evaluation, beyond this CYFD workgroup, regarding the number of psychotropics prescribed and the age at which children are prescribed these drugs may be needed to identify whether overprescribing these drugs to children is occurring.

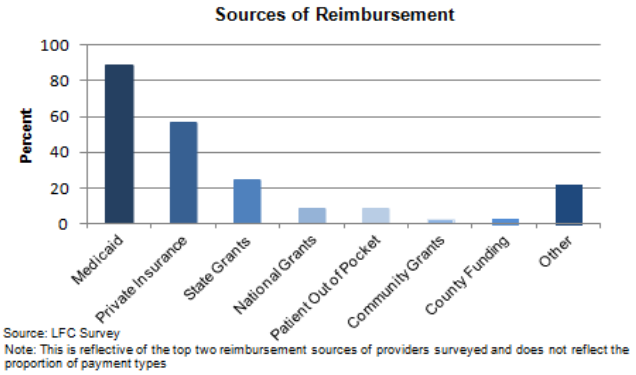
Appendix H: Children's Behavioral Health Provider Survey Methodology

In order to assess the types of behavioral health therapeutic modalities practiced throughout the state, a survey was utilized. This survey was sent to providers in every county in New Mexico, selecting a disproportionate number of providers from rural areas. Providers were selected based upon semi-random selection from a list of behavioral health providers. All providers who only serve adults were excluded from the survey. LFC staff contacted providers to obtain a current email address.

Surveys were sent to 120 providers, of those providers 37 responded. Most respondents were Licensed Professional Clinical Counselors from private practice, and were reimbursed primarily through Medicaid and private insurance. We had respondents with practices is all counties other than Curry, Guadalupe, Harding, Hidalgo, Lincoln, Los Alamos, and Union, with practices serving all counties other than Guadalupe, Harding and Union (one provider said they serve all counties).



Source: LFC Survey
Note: Various licensure levels reported within provider agencies and does not reflect the proportion of licensure.



Source: LFC Survey
Note: This is reflective of the top two reimbursement sources of providers surveyed and does not reflect the proportion of payment types

Calculating Expenditures for Modalities Collected from the Survey (used in Table 7 on pg. 23)

For programs of interest which included all the Cognitive Behavioral Therapy (CBT) programs, Eye Movement Desensitization and Reprocessing (EMDR), Motivational Interviewing, as well as the family therapy methodologies, first the average of that program's utilization was calculated. For CBT, as this was listed separately for all diagnoses, and since there are specified program entries for each of diagnoses, each CBT by diagnosis category was not averaged across each other. For other programs which appeared multiple times and did not have a specific diagnosis attached to it within the Results First model, utilization was averaged across diagnostic category. As the utilization is reported using a range, dummy coding was used to determine which range was the average utilization for a specific program. Once the average utilization was determined, data provided by Medicaid encounter as well as Medicaid Report 41 was used for cost data. Most cost information was collected by diagnostic type, however Parent Child Interaction therapy, Brief Strategic Family Therapy, Multidimensional Family Therapy, and Functional Family Therapy expenditure amounts were calculated based upon the total cost for family therapy reported in Report 41. These numbers calculated for this section are likely conservative as they do not take into account expenditures from private insurance or out of pocket.

Appendix I: Additional Therapeutic Modality and Programs Information

Mental Health First Aid

CYFD invested $123 thousand to train 3,600 people and 76 instructors in Mental Health First Aid in FY16. Mental Health First Aid (MHFA) is a course equipping participants with the ability to assist someone experiencing a mental health crisis. MHFA is an 8-hour course managed through the National Council for Behavioral Health and the Missouri Department of Mental Health, which teaches participants how to address mental health crises such as panic attacks, engaging someone who is suicidal or experiencing an overdose. Trainees are taught a 5-step process that includes assessing risk, listening and supporting the individual in crisis, and identifying appropriate professional help or additional supports. A 2014 meta-analysis published in the International Review of Psychiatry found MHFA course participation effectively decreased negative attitudes towards individuals suffering from mental health problems and MFHA intervention is effective in increasing help-providing behavior[64].

According to the MHFA website, over 13 thousand individuals have been trained in New Mexico as of March 2017, ranking New Mexico 18th nationwide in most people trained in Mental Health First Aid. CYFD further confirmed this total includes law enforcement, foster parents, juvenile probation officers, hospital staff, behavioral health service providers, university and public school staff, and members of various Native American tribes. Trainings have been offered in English and Spanish, and have incorporated cultural teachings and language for Native American populations.

INDIVIDUAL THERAPIES

Dialectical Behavioral Therapy

Dialectical Behavioral Therapy (DBT) is a therapeutic modality used for PTSD, bipolar and depressive disorders. DBT has been shown to decrease both externalizing and internalizing symptoms and effectively reduce PTSD symptomology [65, 66]. DBT is a recognized, evidence based therapy with cognitive behavioral underpinnings, but has yet to be included in the Results First model due to lack of various studies with large populations. Providers also indicated use of DBT for substance use treatment in the LFC staff survey; however it was not frequently mentioned in the literature as an effective modality for substance use disorders. DBT can also be used in a group setting, most frequently in the tertiary intervention level when working with acute cases..

FAMILY AND GROUP BEHAVIORAL THERAPIES

Multi-Dimensional Family Therapy

Multidimensional family therapy is used occasionally in New Mexico to address substance abuse as well as co-occurring disorders. This therapy relies on an integrative family-based systems model and uses four specific domains: engage the youth in treatment, increase parent involvement to improve limit setting, decrease any family conflict, and collaborate with social systems available outside the family unit. Research shows this therapy decreases crime, substance use, internalizing and externalizing behavior, and increases youth academic performance[67-68]. While this could be determined to be an effective evidence-based program, it does not provide the same long term benefits as Seeking Safety (discussed later in this section) with an expected return of on 64 cents for every dollar spent, and there is only a 35 percent chance the benefits will be greater than the costs of the program.

SUBSTANCE USE THERAPIES

Solution Focused Brief Therapy

Solution focused brief therapy is used somewhat infrequently for substance use disorders and more frequently for Oppositional Defiant Disorder (ODD). This type of therapy is also used during psychotherapy, and may be used without a diagnosis, as the main goal of the therapy is to develop specific goals for the client to improve their general functioning and efficacy and be able to successfully function without therapy after three to five sessions[69]. Review studies have identified solution focused brief therapy as a successful modality in addressing internalizing problems such as anxiety and depressive disorders as well as externalizing disorders such as conduct or ODD[70]. While research has focused on both internalizing and externalizing disorders, some research has shown solution focused brief therapy can also decrease substance use, particularly in adolescent girls [71, 72]. Solution focused brief therapy's return on investment has yet to be examined, however it is possible that due to the relatively brief time in which clients are in therapy, this modality should cost much less than other options.

Appendix I: Additional Therapeutic Modality and Programs Information

7 Challenges

Seven Challenges is a promising program focused on treating youth with low motivation for treatment as well as a high incidence of co-occurring substance use disorders and behavioral health problems. While there is not a lot of research examining outcomes of this program, two studies show this treatment led to reductions in both substance use and behavioral health related measures[73, 74]. CYFD's Behavioral Health Division is also a strong proponent of the 7 Challenges program. During FY16 the agency spent $37 thousand to train 40 providers in 7 Challenges. Currently there is no cost benefit analysis of this program; however as research shows this is an effective program in reducing youth substance use and related behavioral problems, utilizing this program for its intended population may lead to positive outcomes. This program could be promoted in a similar way to Seeking Safety by using CYFD web resources to increase the awareness and use of this program.

12-Step Facilitation

12-step facilitation may also be helpful for youth, however these programs may need to have other youth enrolled, as well allow youth to have increased contact with their sponsor and talk more at meetings in order to be effective[75, 76]. When examining New Mexico data, 12-step programs have a 99 percent chance of benefits being greater than costs, however these calculations were completed for adults and may be different for youth. In order to have a return on investment similar to this expected return, it is important for youth to either participate in a 12-step program exclusively with other youth or for the program to ensure that it is meeting the needs of the youth. More information is needed as to how many 12-step youth programs there are throughout the state.

Infant Mental Health Teams

The treatment is supported by attachment theory, and is based off of the Tulane model for infant mental health, which has been shown to decrease the rates of repeat child maltreatment as well as to increase risk reduction, although it does not reduce the time spent in care[77]. Infant mental health teams are home grown and effects have yet to be assessed when comparing outcomes of infants enrolled in a mental health team with those who were not enrolled but had similar levels of acuity. This model also incorporates curricula from the circle of security, which is a promising program used frequently by CYFD protective services.

Child Parent Psychotherapy

This program is attachment based, similar to infant mental health teams; however the teams have other integrated services. Parent Infant Psychotherapy has been shown to improve insensitive parenting and infant attachment as well as reduced trauma stress symptoms for children who are child welfare involved[78, 79].

Functional Family Therapy

Research shows FFT decreases behavior problems, substance use, and also decreases mental health risk[80, 81]. Research on the effects of FFT was first published over 40 years ago, and this program is currently one of the most widely used family therapies, with over 270 programs worldwide, according to Functional Family Therapy LLC, the umbrella entity overseeing this treatment modality's purveyance .

CYFD operated FFT in the state until 2008, after which the program was discontinued and 39 CYFD therapists who were offering FFT were redeployed to other functions. FFT was then transitioned to Optum, where community-based providers continued to bill for FFT until 2013. While no providers in New Mexico are currently billing Medicaid for FFT, and there are currently no authorized FFT sites in New Mexico listed through Family Functional Therapy LLC (FFTINC), providers reported in the LFC staff survey using FFT between 10 percent and 24 percent of the time when treating a child with conduct or oppositional defiant disorder, and less than 10 percent of the time when treating youth with a substance use disorder and 10 percent to 24 percent of the time when using family therapy. In examining the benefit cost analyses for FFT for children with substance abuse disorders outside of the juvenile justice system, for every dollar spent, New Mexico can expect to receive $0.13 in return. While these results may discount FFT as a potentially useful therapy for youth needing traditional treatment, interestingly, when examining the benefits and costs for this program, it has a much higher return on investment when used with special populations, such as those engaged with the juvenile justice system.

It is unclear whether therapist are not billing for FFT because they are combining therapies, are using these therapies with non Medicaid clients, are currently training to be certified in FFT, or if these providers are not certified to practice FFT. In order to be certified in FFT, a provider needs to complete approximately one year of training activities and weekly consultation (Phase 1 clinical training) and then begin to see clients while receiving supervision for one year. Once the provider is certified, they need to continue with yearly maintenance training in order to keep their certification (FFTINC). In order to practice FFT with fidelity, a provider should be certified and maintain this certification. More information regarding practices in New Mexico should be gathered by relevant agencies to determine if providers in New Mexico are using this program correctly and with full fidelity.

Juvenile Drug Courts

Drug courts offer a cost-effective alternative to commitment for juveniles for drug offenses, as these courts cost less than per diem costs of juvenile facilities. In the case of juveniles, drug court cost $41.80 per day in FY16, whereas juvenile commitment cost $499.75 per day including all programming and treatment provided in the facility. Drug courts also reduce long-term costs through reduced recidivism. The Administrative Office of the Courts (AOC) tracks the state's juvenile drug courts, showing recidivism rates for those who completed the program to be 19 percent within three years. For clients who did not graduate from the program, 29 percent recidivated within three years.

INTEGRATED CARE MODELS

Health Homes

The Urban Institute, on behalf of the U.S. Department of Health and Human Services, just completed a five-year evaluation of 13 health homes in 11 states, not including New Mexico. As of the writing of this report, data from the first three years of the evaluation are available and focus on implementation of the health home model. The evaluation's findings include:

- Administrative issues in getting health homes up and running may slow down the pace of implementation;
- Most providers report payments cover the cost of providing services, but not the direct costs and productivity losses associated with practice transformation and health information technology (HIT) infrastructure improvement;
- Fundamental changes in the approach to care account for a substantial part of challenges providers encounter with provision of health home services;
- Establishing essential relationships and communication between the health home providers, hospitals and other clinical and non-clinical providers takes substantial time;
- The HIT systems in the evaluation states are so far inadequate to support the full range of health home functions, including care coordination and integration, cross-site exchange of information, and documentation of nonclinical services; and
- Despite challenging implementation, health home providers believe the model presents a better way of approaching care for their high-cost, high-need patients.

The final two years of the study will address impact on quality, cost, utilization patterns, and health outcomes.

SUPPORT SERVICES

Comprehensive Community Support Services

Once a behavioral health agency creates the client's service plan, CCSS activities can include assistance in the development of socialization skills, daily living skills, school and work readiness activities, and education in co-occurring disorders. Additionally, CCSS aims to encourage the development of natural supports, assisting in the client's learning to monitor symptoms and self-manage illness, and if needed, assist in acquiring and maintaining stable housing. To provide CCSS within a qualifying behavioral health agency, a community support worker must be certified as a peer or family specialist, must attend 20 hours of initial training with 20 hours of training every subsequent year.

Wraparound Services

Wraparound is a specific approach to addressing child needs rather than a specific therapeutic modality. The goal of this approach is to integrate services throughout the community and to have one care coordinator for the child. These care coordinators have a relatively small case load (8-10 children) and are in contact with the child at least weekly and are able to respond to any crisis the child is having as well as to address the cross-system needs of the child (CYFD 115 waiver application). Scientific research shows these programs have positive effects of child living situations, mental health outcomes, and juvenile justice related outcomes[82]. These programs have been implemented throughout the country with positive outcomes for children as well as decreased cost for services, as

this program may keep children from entering into higher levels of care such as residential treatment centers. If the model is implemented with fidelity, programs can fully address children's needs while spending less money, meaning that capacity can increase without any additional funds and outcomes may improve.

POST-RELEASE SERVICES

Post-release services for youth aging out of the child welfare system or exiting juvenile justice facilities can serve an important role in keeping these clients successfully in the community. Group homes, transitional living programs, and shelter services are essential for children leaving protective or juvenile justice services and provide immediate housing as well as assistance in acquiring needed life skills for these at-risk groups to successfully transition to adulthood and away from problem behaviors. Once children age out of protective services or are released from a juvenile justice facility or a residential care setting, it may be helpful for these children to have access to group homes, or transitional living programs and if these are unavailable, access to shelter services.

Shelter services provide short-term housing for youth who may be suffering from a behavioral or substance use disorder or who may not have reliable housing. CYFD spent $4.2 million in shelter services during FY16, serving 840 youth, 28 percent involved with juvenile justice, 51 percent involved with protective services, 8 percent involved with both, and only 14 percent not involved with CYFD. These shelters are most frequently utilized by youth who have been involved with the child welfare system, particularly protective services, with less than 20 percent having no involvement with protective services or juvenile justice. CYFD reports youth in shelter care have an average ACE score of 5.Shelters also provide enhanced services that include a trauma screen, trauma informed, culturally competent care, as well as care coordination that links clients to services they need. Shelters allow youth to stay for a maximum of 90 days, with youth spending an average of 17 days in the shelter during FY16 (CYFD Shelter report). Shelter services lead to improved outcomes such as fewer days on the run, increased self-esteem, improved behavior at school and increased perceived family support; however these outcomes are most often attenuated after 3 or 6 months[83, 84]. Therefore, more long-term services such as transitional living programs should be in place for youth who need longer term services or assistance in obtaining housing and gaining life skills.

Transitional living programs offer youth a place to stay, access to counseling, and assistance in coordinating additional services such as obtaining a job or reenrollment in school. Transitional living programs typically have a duration of about a year and focus on teaching youth life skills as well as addressing any behavioral health or substance use problem so upon leaving the program youth can be self sufficient. The transitional living programs LFC staff visited used Trauma Informed Care and Nurtured Heart. While these approaches have been evaluated in academic journals, these programs are not part of the Results First Clearing House. Transitional living programs funded by CYFD assisted 33 youth at a cost of approximately $176 thousand in FY16. These programs are located throughout the state, with most in Albuquerque and Las Cruces.

Programming for Protective Services Involved Youth

CIRCLE OF SECURITY

Circle of Security is a program utilized for the majority of children within Protective Services, with the goal of addressing children's needs and decreasing behavioral health risk. Circle of Security focuses on attachment between the child and their caregiver and also focuses on child safety. These bonds are particularly important to lower child behavioral and physical health risk. Research has shown this model increases child attachment security to the same level as low risk samples[85]. CYFD Protective Services has utilized this model which as a cost of $50 thousand to train 50 individuals. While this model is shown as promising on the Results First Clearinghouse, since there have yet to be any studies of sufficient rigor, no return on investment information is available for this program. This program has similar roots to Child Parent Psychotherapy, which is also utilized for children in Protective Services. CYFD protective services served 552 clients through parent infant psychotherapy.

Programming for Juvenile Justice Involved Youth

MULTISYSTEMIC THERAPY

MST is almost fully funded through Medicaid. CYFD works with the MST Institute and independent evaluators to publish a report of the New Mexico MST Outcomes Tracking Project, a revolving ten-year look at outcomes of New Mexico youth participating in MST. In the 2016 report, MST graduates had almost 50 percent less mental health problems and measured substance abuse problems

were virtually non-existent one year after being discharged from MST. However, it is worth noting MST is a resource intensive program to start at $36 thousand for one team at one agency (see table below), which could be a factor in why half of New Mexico counties do not currently have access to MST services. However, these costs diminish by leveraging economies of scale for initial training as shown below. In the case of New Mexico there are 17 established MST teams as of February 2017, meaning unless there is therapist attrition, costs are limited to continuing education activities. Moreover, operating a full MST team of 4 therapists could also defray fixed costs. New Mexico's average MST therapy team size was 2.6 therapists in FY16.

Initial MST Team Start-Up and Annual Continuing Education Costs

Team Set-Up	Initial per Team Costs	Annual per Team Costs
Three Agencies with One Team Each	$35,500	$1,000-$1,500
One Agency with Two Teams	$31,000	$1,000-$1,500
Two Agencies with Three or More Teams	$23,000 + $2,500 per team	$1,000-$1,500

Source: Center for Effective Interventions, University of Denver

The negative impact of inability to access MST services in certain counties was also noted in the 2016 LFC evaluation where juvenile probationers in some counties without MST had high rates of probation judgments. CYFD has been looking at alternatives to increase community-based services in counties without access to MST.

One hundred ten clients participated in multisystemic therapy for problem sexual behavior in FY16, an adaptation of the standard MST model at a cost of approximately $900 thousand. MST for problem sexual behavior (MST-PSB) has been offered in New Mexico since 2009,with five MST teams offering this treatment in central and southern New Mexico. Based on New Mexico data, MST-PSB has a return on investment of $1.79 for every dollar spent, and a 72 percent chance of a positive return on investment.

There are adaptations of the MST model for various populations beyond the two versions currently operated in New Mexico. One of particular note is MST for victims of child abuse and neglect (MST-CAN). This application of MST shows positive effects in reducing child abuse and neglect and out-of-home placement.[86]

Functional Family Therapy In Juvenile Justice

Functional Family Therapy (FFT) may be able to supplement Multisystemic Therapy in areas of the state where there is need for intensive community-based behavioral health services. FFT is effective in addressing problem behaviors and diagnoses such as Oppositional Defiant Disorder (ODD), as well as substance use in a family context, which makes FFT a strong match for juvenile probation clients who are living in the community with their families or other natural supports. FFT's return on investment is $8.03 for every dollar spent for youth on probation and $11.10 for every dollar spent for committed youth, and program costs are $3,431. CYFD is not currently using FFT, but is looking at ways to deploy this service to areas of the state unable to establish MST teams in a telehealth format. It is important to note FFT should necessarily not be seen as a more cost-effective replacement for MST, as in areas offering MST, results are very promising. However, in the reality of giving access to services in rural and frontier areas of the state, FFT offers a viable option for strengthening access to behavioral health services for the juvenile justice population.

Residential Treatment Centers

The American Academy of Child and Adolescent Psychiatry (AACAP) describes residential treatment as intensive help for youth with serious emotional and behavioral problems, in a facility where the youth are supervised and monitored by trained staff. AACAP goes on to describe what effective RTC programs should look like, providing:

- A comprehensive evaluation to assess emotional, behavioral, medical, educational, and social needs, and support these needs safely;
- An Individualized Treatment Plan that puts into place interventions that help the child or adolescent attain these goals;
- Individual and group therapy;
- Psychiatric care coordinated by a child and adolescent psychiatrist or psychiatric prescriber;
- Involvement of the child's family or support system. Model residential programs encourage and provide opportunities for family therapy and contact through on-site visits, home passes, telephone calls and other modes of communication; and

- Nonviolent and predictable ways to help youth with emotional and behavioral issues. The use of physical punishment, manipulation or intimidation should not occur in any residential treatment program.

RTCs can show positive outcomes, however these outcomes diminish over time. Factors related to child success after RTC involvement revolve around family and community factors such as family involvement in treatment, residential stability, and access to available support[87]. Unfortunately, as there are limited positive effects, recidivism is very high, with 70 percent of juvenile sex offenders committing another offense [88] and 63 percent of youth with serious emotional disturbance making little to no progress when in an RTC[89]. Therefore, when a child enters an RTC, it is important to keep the child as close to family and other community supports as possible to maximize treatment effects. Furthermore, anticipating community support needs for the child before they leave the RTC and connecting the child with these supports upon discharge is a key component to sustained positive effects of treatment.

Relapse Prevention

Relapse Prevention focuses on teaching clients how to cope with and anticipate the potential for relapse. Research shows Relapse Prevention lowers the risk of relapse as well as the number of days of substance use[90]. Expected return on investment is $5.11 for every dollar spent; with a 55 percent chance benefits will be greater than costs. This program's outcomes have not been extensively studied in youth and therefore the effects may be different.

Restorative Justice

Restorative Justice is another program that helps juveniles deal with substance use disorders and reduces recidivism (Braithwaite 2015; Latimer et al 2016 Prison). This program was monetized for adults, so it is unknown if these analyses would be consistent for juveniles, however the anticipated return on investment is $4.70 for each dollar spent with a 75 percent chance of the benefits outweighing the costs. The other evidence-based programs used in juvenile facilities are discussed in the previous chapter.

The non-evidence based programs used for substance abuse are include Self Management and Recovery Training, Historical Trauma Unresolved Grief, Gorski-Cenaps Model of Relapse Prevention Therapy (CMRPT), Historical Trauma Resolution, Prochaska & DiClemente's Stages of Change Model, Psycho educational Groups, Self-Assessment Workbook, White Bison Recovery Workbook, Staying Quit, Practical Exercises for Managing High Risk Behavior Workbook, Hazelden Programs, Adolescent Relapse Prevention Workbook, Video Therapy/Metaphor and the homegrown program is the Phoenix Curriculum.

OTHER PROGRAMMING

Wilderness Experience Programs

CYFD offers a wilderness experience program for juvenile justice-involved youth, which has a positive return on investment. Wilderness experience programs have been shown to decrease recidivism and improve clinical functioning[91, 92]. Groups of youth experience nature; maximizing the juvenile's tendency to self disclose when outside of a traditional therapeutic setting and enhancing youth's ability to work in a group[92]. As of FY16, 1,516 juvenile justice-involved youth completed this program, where youth are part of a wilderness experience for an average of 51 days. This type of program has an expected return of $3.98 for every dollar spent and a 99 percent chance of a positive return on investment.

Adolescent Substance Use Reduction Effort (ASURE)

ASURE is tasked with implementing an ambitious agenda of training and the development and deployment of substance and co-occurring capable youth and young adult treatments and youth support services in New Mexico. ASURE acts upon the premise that substance use and co-occurring mental health and substance disorders are complex, chronic health conditions that require an array of treatment and support options.

Working with persons and their families that are using/misusing addictive substances requires a workforce that has a high level of proficiency in evidence-based practices. ASURE trains and implements the following services described at length in the CYFD Adolescent Treatment Manual as part of the ASURE continuum of care:

- The Global Appraisal of Individual Needs (GAIN-SS). This is a brief screening tool that can be used by non-clinical persons to rapidly determine need for substance, mental health of behavioral assessment;

Appendix I: Additional Therapeutic Modality and Programs Information

- The American Society of Addiction Medicine (ASAM) is a nationally recognized substance use and co-occurring disorders assessment protocol used to determine severity of need and level of care placement;
- Youth Support Services (YSS) are designed to promote resiliency and enhance wellness for all of New Mexico's youth and young adults, especially for those with substance use issues. It is specifically targeted as a youth oriented recovery support for young people experiencing substance use issues, operationalized through life skills development, and is a gateway service so that there is a touchstone contact for ongoing support and access to more formal services if needed. YSS provides experiential and developmental supports intended to replace or enhance natural support deficits and results in acquisition of skills and capabilities to aid the individual in living a fulfilling life;
- The Seven Challenges (7C) evidence-based practice, focused on affirming youth as they are and developing skills and capabilities to make conscious and informed decisions about pursuing personal development free of drugs or alcohol;
- Seeking Safety for working with trauma and substance use;
- In addition, the ASURE will help develop competency in the use of Motivational Interviewing, the Community Reinforcement and Family Training model, use of the substance treatment specific Multi-Systemic Therapy, help foster access to the NM Wraparound CARES model and to shelter care for youth in need.
- Finally, for those youth and young adults that are experiencing opiate addiction it is urgently important that access to medication assisted treatment and Naloxone to prevent overdose death be available, and ASURE works with the Department of Health and the Human Services Department to ensure such access.

The Adolescent Substance Use Reduction Effort is driven by three overarching goals to be accomplished over the next 2-5 years:

- Goal 1: New Mexico youth (12-21) will have decreased substance use and mental health risks, and will have improved quality of life.
- Goal 2: New Mexico CYFD will create a more integrated and collaborative system of care and a management information system for youth and their families/primary caregivers.
- Goal 3: New Mexico youth (12-21) will have increased access to relevant and effective treatment and support services.

Program	Clients Served	Dollars Spent	Cost per Client	Outcome Measure #1	Outcome Measure #2	Outcome Measure #3	Notes
Multisystemic Therapy	830	$6,727,641	$8,106	Justice system involvement before, during, and after Treatment	Changes in educational and vocational domains	Recidivism at 12 and 24 months after discharge	MST providers report on various measures (more than those listed here) to the MST Institute annually. CYFD particpates in the MST Outcomes Tracking Project, which annually reports outcomes for a rolling 10-years of MST clients.
Juvenile Drug Court	362	$3,022,500	$8,349	3-Year Recidivism Rate Back into JDC	N/A	N/A	AOC reports recidivism rates back into drug court for a 3-year follow-up period, reporting this data annually.
Individual Psychotherapy	36,561	$23,695,046	$648	None	None	None	No current outcome measure tracked for this service.
Family Psychotherapy	15,367	$9,007,380	$586	None	None	None	No current outcome measure tracked for this service.
Infant Mental Health Teams	378	$754,652	$1,996	None	None	None	No current outcome measure tracked for this service.
Parent Infant Psychotherapy	552	$513,500	$930	None	None	None	No current outcome measure tracked for this service.
Behavioral Management Services	4,209	$9,380,268	$919	None	None	None	No current outcome measure tracked for this service.
Comprehensive Community Support Services	4,319	$5,608,796	$1,299	None	None	None	No current outcome measure tracked for this service.
Wraparound Services	68	$231,202	$3,400	None	None	None	No current outcome measure tracked for this service.
Residential Treatment	1,043	$44,125,111	$42,306	None	None	None	No current outcome measure tracked for this service.
Therapeutic Foster Care	928	$23,039,926	$24,828	None	None	None	No current outcome measure tracked for this service.
Group Home	225	$3,603,516	$16,016	None	None	None	No current outcome measure tracked for this service.
Wilderness Experience Programs	1,516	$599,340	$395	None	None	None	No current outcome measure tracked for this service.

Appendix K: Model Outcomes Related to Cost-Benefit and Cash Flows for Home Visiting

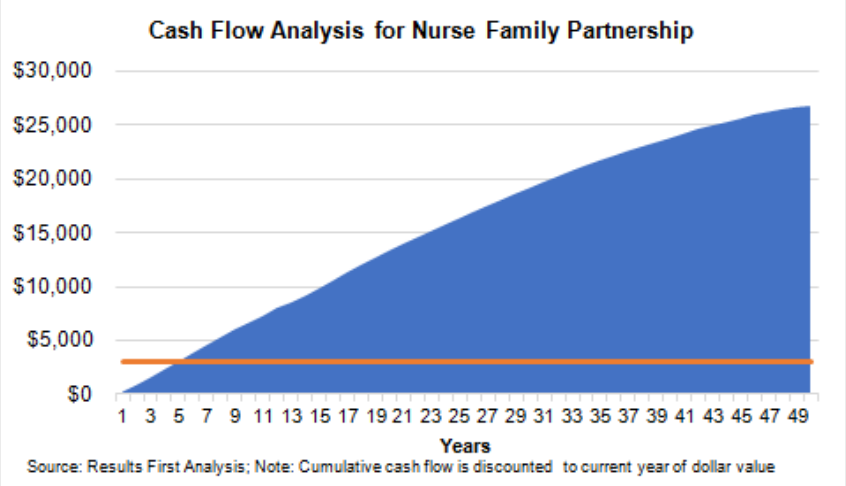
The Results First model integrates information from many studies, regarding direct and indirect program benefits.

For example, when examining home visiting programs in the model, they have far reaching outcomes stretching from crime to education to behavioral health for both the mother and child. Home visiting (including Nurse Family Partnership, Parents as Teachers, and other home visiting programs), when run to fidelity can:

For the child:
1. Reduce child abuse;
2. Reduce crime:
3. Increase earnings;
4. Decrease health care costs due to disruptive behavior, PTSD
5. Decrease grade repetition;
6. Decrease entry into special education;
7. Decrease property loss due to alcohol use;
8. Decrease health care costs via high school graduation; and
9. Decrease out of home placement.

For the mother:
Reduce crime;
Increase earnings via high school graduation and a decrease in depression;
Decrease use of food assistance;
Decrease health care costs via high school graduation;
Decrease use of public assistance;
Decrease health care costs related to depression.

However, it may take years for these benefits to be seen. Below is a graph of when we would see cost benefits from Nurse Family Partnership, one of the programs with a high benefit cost ratio discussed in the body of this report. Therefore, when determining a programs success, it is crucial to wait until these benefits should be present to assess the cost benefit of the program.



Appendix L: Citations

1. Merikangas, K. R., He, J. P., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., . . . Swendsen, J. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: results from the National Comorbidity Survey Replication--Adolescent Supplement (NCS-A). *J Am Acad Child Adolesc Psychiatry, 49*(10), 980-989. doi:10.1016/j.jaac.2010.05.017
2. National Behavioral Health Quality Framework. (2014). Retrieved from https://www.samhsa.gov/data/national-behavioral-health-quality-framework#examples
3. Smith, J. P., & Smith, G. C. (2010). Long-term economic costs of psychological problems during childhood. *Soc Sci Med, 71*(1), 110-115. doi:10.1016/j.socscimed.2010.02.046
4. American Factfinder. Retrieved from https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
5. Bickel, W. K., Moody, L., Quisenberry, A. J., Ramey, C. T., & Sheffer, C. E. (2014). A Competing Neurobehavioral Decision Systems model of SES-related health and behavioral disparities. *Prev Med, 68*, 37-43. doi:10.1016/j.ypmed.2014.06.032
6. Lepiéce, B., Reynaert, C., Jacques, D., & Zdanowicz, N. (2015). Poverty and mental health: What should we know as mental health professionals? *Psychiatr Danub, 27 Suppl 1*, S92-96.
7. Currie, J., & Lin, W. (2007). Chipping away at health: more on the relationship between income and child health. *Health Aff (Millwood), 26*(2), 331-344. doi:10.1377/hlthaff.26.2.331
8. Komro, K. A., Flay, B. R., Biglan, A., & Consortium, P. N. R. (2011). Creating nurturing environments: a science-based framework for promoting child health and development within high-poverty neighborhoods. *Clin Child Fam Psychol Rev, 14*(2), 111-134. doi:10.1007/s10567-011-0095-2
9. Costello, E. J., Compton, S. N., Keeler, G., & Angold, A. (2003). Relationships between poverty and psychopathology: a natural experiment. *JAMA, 290*(15), 2023-2029. doi:10.1001/jama.290.15.2023
10. Anda, R. F., Butchart, A., Felitti, V. J., & Brown, D. W. (2010). Building a framework for global surveillance of the public health implications of adverse childhood experiences. *Am J Prev Med, 39*(1), 93-98. doi:10.1016/j.amepre.2010.03.015
11. Sacks, V., Murphey, D., & Moore, K. (2014). *Adverse Childhood Experiences: National and State Level Prevalence*. Child Trends
12. Cannon, Y., Davis, G., Hsi, A., Bochte, A., & the New Mexico Sentencing Commission, (2016). *Adverse Childhood Experiences in the New Mexico Juvenile Justice Population*.
13. New Mexico Legislative Finance Committee. (2014). *Results First Adult Behavioral Health Programs*.
14. Eiden, R. D., Lessard, J., Colder, C. R., Livingston, J., Casey, M., & Leonard, K. E. (2016). Developmental cascade model for adolescent substance use from infancy to late adolescence. *Dev Psychol, 52*(10), 1619-1633. doi:10.1037/dev0000199
15. Caponera, B. (2016). *Incidence and Nature Of Domestic Violence In New Mexico XV: An Analysis of 2015 Data from The New Mexico Interpersonal Violence Data Central Repository*.
16. Nowakowski, S., Choi, H., Meers, J., & Temple, J. R. (2016). Inadequate Sleep as a Mediating Variable between Exposure to Interparental Violence and Depression Severity in Adolescents. *J Child Adolesc Trauma, 9*(2), 109-114. doi:10.1007/s40653-016-0091-2
17. Wickrama, K. A., Conger, R. D., & Abraham, W. T. (2005). Early Adversity and Later Health: The Intergenerational Transmission of Adversity Through Mental Disorder and Physical Illness. *J Gerontol B Psychol Sci Soc Sci, 60*(Special_Issue_2), S125-S129. doi:10.1093/geronb/60.Special_Issue_2.S125
18. Mayer, L. M., & Thursby, E. (2012). Adolescent parents and their children: a multifaceted approach to prevention of adverse childhood experiences (ACE). *J Prev Interv Community, 40*(4), 304-312. doi:10.1080/10852352.2012.707448
19. Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *J Health Soc Behav, 52*(2), 145-161. doi:10.1177/0022146510395592
20. Reinert, K. G., Campbell, J. C., Bandeen-Roche, K., Lee, J. W., & Szanton, S. (2016). The Role of Religious Involvement in the Relationship Between Early Trauma and Health Outcomes Among Adult Survivors. *J Child Adolesc Trauma, 9*, 231-241.
21. Coley, R. L., Leventhal, T., Lynch, A. D., & Kull, M. (2013). Relations between housing characteristics and the well-being of low-income children and adolescents. *Dev Psychol, 49*(9), 1775-1789. doi:10.1037/a0031033
22. Cornelius, L. R., Brouwer, S., de Boer, M. R., Groothoff, J. W., & van der Klink, J. J. (2014). Development and validation of the Diagnostic Interview Adjustment Disorder (DIAD). *Int J Methods Psychiatr Res, 23*(2), 192-207. doi:10.1002/mpr.1418
23. Galaif, E. R., Sussman, S., Newcomb, M. D., & Locke, T. F. (2007). Suicidality, depression, and alcohol use among adolescents: a review of empirical findings. Int J Adolesc Med Health, 19(1), 27-35.
24. Fox, M., Kanary, P., Shelpler, R., (2014) Prevalence of Youth Drug Use, Mental Health and Co-Occurring Disorders, Retrieved from http://careersofsubstance.org/sites/careersofsubstance.org/files/library_resource_files/Case%20Western%20Brief%201%20(3).pdf

Appendix L: Citations

25. Bose, J., Hedden, S. L., Lipari, R. N., & Park-Lee, E. (2016). *Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health*.
26. Pires, S., Grimes, K., Gilmer, T., Allen, K., Mahadevan, R., & Hendricks, T. (2013). *Identifying opportunities to improve children's behavioral health care: An analysis of Medicaid Utilization and Expenditures*. Center for Health Care Strategies.
27. Avellar, S. A., & Supplee, L. H. (2013). Effectiveness of home visiting in improving child health and reducing child maltreatment. *Pediatrics, 132 Suppl 2*, S90-99. doi:10.1542/peds.2013-1021G
28. *Preventing Mental, Emotional, and Behavioral Disorders Among Young People Progress and Possibilities*. (2009). National Academies Press, Washington D.C.
29. Petras, H., Masyn, K., & Ialongo, N. (2011). The Developmental Impact of Two First Grade Preventive Interventions on Aggressive/Disruptive Behavior in Childhood and Adolescence: An Application of Latent Transition Growth Mixture Modeling. *Prev Sci, 12*(3), 300-313. doi:10.1007/s11121-011-0216-7
30. Scheier, L. M., & Grenard, J. L. (2010). Influence of a nationwide social marketing campaign on adolescent drug use. *J Health Commun, 15*(3), 240-271. doi:10.1080/10810731003686580
31. Scheier, L. M., Grenard, J. L., & Holtz, K. D. (2011). An empirical assessment of the Above the Influence advertising campaign. *J Drug Educ, 41*(4), 431-461. doi:10.2190/DE.41.4.f
32. Thomas, R., & Zimmer-Gembeck, M. J. (2007). Behavioral outcomes of Parent-Child Interaction Therapy and Triple P-Positive Parenting Program: a review and meta-analysis. *J Abnorm Child Psychol, 35*(3), 475-495. doi:10.1007/s10802-007-9104-9
33. Sanders, M. R., Kirby, J. N., Tellegen, C. L., & Day, J. J. (2014). The Triple P-Positive Parenting Program: a systematic review and meta-analysis of a multi-level system of parenting support. *Clin Psychol Rev, 34*(4), 337-357. doi:10.1016/j.cpr.2014.04.00331. Government Accountability Office, (2017). *HHS Has Taken Steps to Support States' Oversight of Psychotropic Medications, but Additional Assistance Could Further Collaboration*.
34. Center for Education Policy Research (2016). Statewide Home Visiting Capacity/ New Mexico: Federal, State, and Privately funding slots as of 11.01.16. Retrieved from https://public.tableau.com/profile centerfor.education.policy.research.university.of.new.mexico#!/vizhome/StatewideHomeVisitingCapacity_0/Dashboard1
35. Olds, D. L. (2006). The Nurse-Family Partnership: An evidence based preventative intervention. *Infant Mental Health Journal, 27*(1), 5-25.
36. Kilburn, M. R., & Cannon, J. S. (2017a). Home Visiting and Use of Infant Health Care: A Randomized Clinical Trial. *Pediatrics, 139*(1). doi:10.1542/peds.2016-1274
37. Vogel. Cheri A., Xue, Y., Moiduddin, E. M., Eliason Kisker, E., & Lepidus Carlson, B. (2010). *Early Head Start Children in Grade 5: Long-Term Follow-Up of the Early Head Start Research and Evaluation Study Sample.* (OPRE Report # 2011-8). Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
38. Irwin, C. W., Madura, J. P., Bamat, D., & McDermott, P. A. (2016). *Patterns of classroom quality in Head Start and center-based early childhood education programs*. (REL 2017–199). Washington, D.C.: U.S. Department of Education, Institute of Education Sciences, Nation- al Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. Retrieved from http://ies.ed.gov/ncee/edlabSolomon, L. J., Bunn, J. Y., Flynn, B. S., Pirie, P. L., Worden, J. K., & Ashikaga, T. (2009). Mass media for smoking cessation in adolescents. *Health Educ Behav, 36*(4), 642-659. doi:10.1177/1090198106298421
39. Levinson, D. R. (2010). *Most Medicaid Children in Nine States are Not Receiving All Required Screening Services*. Retrieved from https://oig.hhs.gov/oei/reports/oei-05-08-00520.pdf. doi:10.3109/09540261.2014.924910
40. de Arellano, M. A., Lyman, D. R., Jobe-Shields, L., George, P., Dougherty, R. H., Daniels, A. S., . . . Delphin-Rittmon, M. E. (2014). Trauma-focused cognitive-behavioral therapy for children and adolescents: assessing the evidence. *Psychiatr Serv, 65*(5), 591-602. doi:10.1176/appi.ps.201300255
41. Diehle, J., Opmeer, B. C., Boer, F., Mannarino, A. P., & Lindauer, R. J. (2015b). Trauma-focused cognitive behavioral therapy or eye movement desensitization and reprocessing: what works in children with posttraumatic stress symptoms? A randomized controlled trial. *Eur Child Adolesc Psychiatry, 24*(2), 227-236. doi:10.1007/s00787-014-0572-5
42. Ray, D. C., Armstrong, S. A., Balkin, R. S., & Jayne, K. M. (2015). Child-Centered Play Therapy in the Schools: Review and Meta-Analysis. *Psychology in Schools, 52*(2).
43. Bratton, S. C., Ray, D., Rhine, T., & Jones, L. (2005). The Efficacy of Play Therapy With Children: A Meta-Analytic Review of Treatment Outcomes. *Professional Psychology: Research and Practice, 36*(4), 376-390.
44. Robbins, M. S., Feaster, D. J., Horigian, V. E., Rohrbaugh, M., Shoham, V., Bachrach, K., . . . Szapocznik, J. (2011). Brief

strategic family therapy versus treatment as usual: results of a multisite randomized trial for substance using adolescents. *J Consult Clin Psychol, 79*(6), 713-727. doi:10.1037/a0025477

45. Szapocznik, J., & Williams, R. A. (2000). Brief Strategic Family Therapy: twenty-five years of interplay among theory, research and practice in adolescent behavior problems and drug abuse. *Clin Child Fam Psychol Rev, 3*(2), 117-134.
46. Ghosh Ippen, C., Harris, W. W., Van Horn, P., & Lieberman, A. F. (2011). Traumatic and stressful events in early childhood: can treatment help those at highest risk? *Child Abuse Negl, 35*(7), 504-513. doi:10.1016/j.chiabu.2011.03.009
47. Ghosh Ippen, C., & Lieberman, A. (2008). Infancy and early childhood. In G. Reyes, J. Elhai, & J. Ford (Eds.), *Encyclopedia of Psychological Trauma* (pp. 345-353). New York: Wiley & Sons.
48. Carpenter, A. L., Puliafico, A. C., Kurtz, S. M., Pincus, D. B., & Comer, J. S. (2014). Extending parent-child interaction therapy for early childhood internalizing problems: new advances for an overlooked population. *Clin Child Fam Psychol Rev, 17*(4), 340-356. doi:10.1007/s10567-014-0172-4
49. Hettema, J., Steele, J., & Miller, W. R. (2005). Motivational interviewing. *Annu Rev Clin Psychol, 1*, 91-111. doi:10.1146/annurev.clinpsy.1.102803.143833
50. Najavits, L. M., Gallop, R. J., & Weiss, R. D. (2006). Seeking safety therapy for adolescent girls with PTSD and substance use disorder: a randomized controlled trial. *J Behav Health Serv Res, 33*(4), 453-463. doi:10.1007/s11414-006-9034-2
51. Deutsch, S. A., Lynch, A., Zlotnik, S., Matone, M., Kreider, A., & Noonan, K. (2015). Mental Health, Behavioral and Developmental Issues for Youth in Foster Care. *Curr Probl Pediatr Adolesc Health Care, 45*(10), 292-297. doi:10.1016/j.cppeds.2015.08.003
52. Chaffin, M., Silovsky, J. F., Funderburk, B., Valle, L. A., Brestan, E. V., Balachova, T., . . . Bonner, B. L. (2004). Parent–Child Interaction Therapy With Physically Abusive Parents: Efficacy for Reducing Future Abuse Reports. *Journal of Consulting and Clinical Psychology, 72*(3), 500-510.
53. New Mexico Legislative Finance Committee. (2016). Effectiveness of Juvenile Justice Facilities and Community-Based Services.
54. Multisystemtic Therapy: An Overview. Retrieved on June 4, 2017 from http://mstservices.com/files/overview_a.pdf
55. Kamradt, B. (2000). Wraparound Milwaukee: Aiding Youth With Mental Health Needs. *Juvenile Justice, 7*(1), 14-23.
56. Lambert, M. J., & Barley, D. E. (2001). Research Summary on the Therapeutic Relationship and Psychotherapy Outcome. *Psychotherapy, 38*(4), 357-361.
57. Brown , S. D., & Lent, R. W. (2008). *Handbook of Counseling Psychology*: John Wiley & Sons.
58. Karver, M. S., Handelsman, J. B., Fields, S., & Brickman, L. (2006). Meta-analysis of therapeutic relationship variables in youth and family therapy: The evidence for different relationship variables in the child and adolescent treatment outcome literature. *Clinical Psychology Review, 26*, 50-65.
59. Smith, D. K., Chamberlain, P., & Eddy, J. M. (2010). Preliminary Support for Multidimensional Treatment Foster Care in Reducing Substance Use in Delinquent Boys. *J Child Adolesc Subst Abuse, 19*(4), 343-358. doi:10.1080/1067828X.2010.511986
60. Chamberlain, P. (2003). The Oregon Multidimensional Treatment Foster Care Model: Features, Outcomes, and Progress in Dissemination. *Cognitive Behavioral Practice, 10*, 300-312.
61. *360 Yearly State Fiscal Year 2016*. (2016). Retrieved from https://cyfd.org/docs/360ANNUAL_FY16_FINAL.pdf.
62. Goodman, A., Joyce, R., & Smith, J. P. (2011). The long shadow cast by childhood physical and mental problems on adult life. *Proc Natl Acad Sci U S A, 108*(15), 6032-6037. doi:10.1073/pnas.1016970108
63. Wyllie's treatment of epilepsy : principles and practice. (2010). In (5th ed.). Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins.
64. Hadlaczky, G., Hökby, S., Mkrtchian, A., Carli, V., & Wasserman, D. (2014). Mental Health First Aid is an effective public health intervention for improving knowledge, attitudes, and behaviour: a meta-analysis. *Int Rev Psychiatry, 26*(4), 467-475.
65. MacPherson, H. A., Cheavens, J. S., & Fristad, M. A. (2013). Dialectical Behavior Therapy for Adolescents: Theory, Treatment Adaptations, and Empirical Outcomes. *Clin Child Fam Psychol Rev, 16*. doi:10.1007/s10567-012-0126-7
66. Klein, D. A., & Miller, A. L. (2011). Dialectical behavior therapy for suicidal adolescents with borderline personality disorder. *Child Adolesc Psychiatr Clin N Am, 20*(2), 205-216. doi:10.1016/j.chc.2011.01.001
67. Waldron, H. B., & Turner, C. W. (2008). Evidence-based psychosocial treatments for adolescent substance abuse. *J Clin Child Adolesc Psychol, 37*(1), 238-261. doi:10.1080/15374410701820133
68. van der Pol, T. M., Hoeve, M., Noom, M. J., Stams, G. J., Doreleijers, T. A., van Domburgh, L., & Vermeiren, R. R. (2017). Research Review: The effectiveness of multidimensional family therapy in treating adolescents with multiple behavior problems -

a meta-analysis. *J Child Psychol Psychiatry*. doi:10.1111/jcpp.12685
69. Iveson, C. (2002). Solution-focused Brief Therapy. *Advances in Psychiatric Treatment, 8*, 149-157.
70. Bond, C., Woods, K., Humphrey, N., Symes, W., & Green, L. (2013). Practitioner Review: The effectiveness of solution focused brief therapy with children and families: a systematic and critical evaluation of the literature from 1990-2010. *J Child Psychol*
71. Froeschle, J. G., Smith, R. L., & Ricard, R. (2007). The Efficacy of a Systematic Substance Abuse Program for Adolescent Females. *Professional School Counseling, 10*(5), 498-505.
72. Kim, J. S., & Franklin, C. (2008). Solution-focused brief therapy in schools: A review of the outcome literature. *Children and Youth Services Review, 31*, 464-470.
73. Smith, D. C., Hall, J. A., Williams, J. K., An, H., & Gotman, N. (2006). Comparative efficacy of family and group treatment for adolescent substance abuse. *Am J Addict, 15 Suppl 1*, 131-136. doi:10.1080/10550490601006253
74. Stevens, S. J., Schwebel, R., & Ruiz, B. (2007). Seven Challenges: An Effective Treatment for Adolescents with Co-Occurring Substance Abuse and Mental Health Problems. *Journal of Social Work Practice in the Addictions, 7*(3), 29-49.
75. Kelly, J. F., Myers, M. G., & Brown, S. A. (2005). The Effects of Age Composition of 12-Step Groups on Adolescent 12-Step Participation and Substance Use Outcome. *J Child Adolesc Subst Abuse, 15*(1), 63-72. doi:10.1300/J029v15n01_05
76. Kelly, J. F., & Urbanoski, K. (2012). Youth recovery contexts: the incremental effects of 12-step attendance and involvement on adolescent outpatient outcomes. *Alcohol Clin Exp Res, 36*(7), 1219-1229. doi:10.1111/j.1530-0277.2011.01727.x
77. Zeanah, C. H., Larrieu, J. A., Heller, S. S., Valliere, J., Hinshaw-Fuselier, S., Aoki, Y., & Drilling, M. (2001). Evaluation of preventive intervention for maltreated infants and toddlers in foster care. *J Am Acad Child Adolesc Psychiatry, 40*(2), 214-221. doi:10.1097/00004583-200102000-00016
78. Macmillan, H. L., Wathen, C. N., Barlow, J., Fergusson, D. M., Leventhal, J. M., & Taussig, H. N. (2009). Interventions to prevent child maltreatment and associated impairment. *Lancet, 373*(9659), 250-266. doi:10.1016/S0140-6736(08)61708-0
79. Weiner, D. A., Schneider, A., & Lyons, J. S. (2009). Evidence-based treatments for trauma among culturally diverse foster care youth: Treatment retention and outcomes. *Children and Youth Services Review 31*(11), 1199-1205.
80. Hartnett, D., Carr, A., Hamilton, E., & O'Reilly, G. (2016). The Effectiveness of Functional Family Therapy for Adolescent Behavioral and Substance Misuse Problems: A Meta-Analysis. *Fam Process*. doi:10.1111/famp.12256
81. Henggeler, S. W., & Sheidow, A. J. (2012). Empirically supported family-based treatments for conduct disorder and delinquency in adolescents. *J Marital Fam Ther, 38*(1), 30-58. doi:10.1111/j.1752-0606.2011.00244.x
82. Suter, J. C., & Bruns, E. J. (2009). Effectiveness of the wraparound process for children with emotional and behavioral disorders: a meta-analysis. *Clin Child Fam Psychol Rev, 12*(4), 336-351. doi:10.1007/s10567-009-0059-y
83. Pollio, D.E., Thompson, S.J., Tobias, L. et al. (2006). Longitudinal Outcomes for Youth Receiving Runaway/Homeless Shelter Services. *J Youth Adolescence 35:* 852. doi:10.1007/s10964-006-9098-6
84. Thompson, S. J., Pollio, D. E., Constantine, J., Reid, D., & Nebbitt, V. (2002). Short Term Outcomes for Youth in Runaway and Homeless Shelter Services. *Research on Social Work Practice, 12*(5).
85. Zeanah, C. H., Berlin, L. J., & Boris, N. W. (2011). Practitioner review: clinical applications of attachment theory and research for infants and young children. *J Child Psychol Psychiatry, 52*(8), 819-833. doi:10.1111/j.1469-7610.2011.02399.x
86. Swenson, C.C., Schaeffer, C., Henggeler, S.W., Faldowski, R., Saldana, L., & Mayhew, A.M. (2010). Multisystemic Therapy for child abuse and neglect: A randomized effectiveness trial. Journal of Family Psychology 24(4): 497-507.
87. Frensch, K. M., & Cameron, G. (2002). Treatment of Choice or a Last Resort? A Review of Residential mental Health Placements for Children and Youth. *Child and Youth Care Forum, 31*(5), 307-339.
88. Hendriks, J., & Bijleveld, C. (2008). Recidivism among juvenile sex offender after residential treatment. *Journal of Sexual Aggression, 14*(1), 19-32.
89. Hoagwood, K., & Cunningham, M. J. (1992). Outcomes of children with emotional disturbance in residential treatment for educational purposes. *Child Fam Stud, 1*. doi:10.1007/BF01321281
90. Bowen, S., Witkiewitz, K., Clifasefi, S. L., Grow, J., Chawla, N., Hsu, S. H., . . . Larimer, M. E. (2014). Relative efficacy of mindfulness-based relapse prevention, standard relapse prevention, and treatment as usual for substance use disorders: a randomized clinical trial. *JAMA Psychiatry, 71*(5), 547-556. doi:10.1001/jamapsychiatry.2013.4546
91. Wilson, S. J., & Lipsey, M. W. (2000). Wilderness challenge programs for delinquent youth: a meta-analysis of outcome evaluations. *Evaluation and Program Planning, 23*, 1-12
92. Hill, N. (2007). Wilderness Therapy as a Treatment Modality for At-Risk Youth: A Primer for Mental Health Counselors. *Journal of Mental Health Counseling, 29*(4), 338-349.