



**COLORADO**  
Office of Behavioral Health  
Department of Human Services

# The Costs and Effectiveness of Substance Use Disorder Programs; Annual Accounting of Forfeited Property Dollars Report (C.R.S. 16-13-701)

Fiscal Year 2016-2017

PREPARED FOR  
The General Assembly  
Colorado House Public Health Care and Human Services Committee  
Colorado Senate Health and Human Services Committee

PREPARED BY  
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## Executive Summary

The following report provides a brief overview on the costs and effectiveness of alcohol and drug abuse programs for the individuals who received substance use services in Fiscal Year (FY) 2016-2017, the actual cost of serving these individuals and the outcomes related to substance use treatment services.

- The total number of unique individuals who received services across all categories and were also discharged in FY 2016-2017 was 65,143.
- Of the total unique treatment clients served, 70.6 percent fully completed substance use disorder treatment.
- On June 30, 2017, the census of persons enrolled in medication-assisted treatment (MAT) for opioid use disorder services was 4,732.
- There was a statistically significant decrease in primary drug use from admission to discharge (the cornerstone outcome measure for substance use disorder treatment).
- In FY 2016-2017, \$262,470.39 in forfeited property revenues was expended on treatment and detoxification services.

## Introduction

The Colorado Department of Human Services, Office of Behavioral Health (OBH), respectfully submits this FY 2016-2017 report titled, “The Costs and Effectiveness of Substance Use Disorder Programs in the State of Colorado; Annual Accounting of Forfeited Property Dollars Report,” to the Colorado House Public Health Care and Human Services Committee and the Senate Health and Human Services Committee in compliance with the following statutes:

### **1) Colorado Revised Statute 16-13-701 (9) (a) (2017)**

*The office of behavioral health shall prepare an annual accounting report of money received by the managed service organization pursuant to section 16-13-311 (3)(a)(VII)(B), including revenues, expenditures, beginning and ending balances, and services provided. The office of behavioral health shall provide this report to the health and human services committee of the senate and the public health care and human services committee of the house of representatives, or any successor committees.*

### **2) Colorado Revised Statute 16-13-311 (3) (a) (VII)**

*(B) The remaining amount to the managed service organization contracting with the office of behavioral health in the department of human services serving the judicial district where the forfeiture proceeding was prosecuted to fund detoxification and substance use disorder treatment. Money appropriated to the managed service organization must be in addition to, and not be used to supplant, other funding appropriated to the office of behavioral health.*

## Background

Accessible and effective community-based substance use disorder treatment helps reduce society's financial burden from problems associated with drug and alcohol use. As the national and state economies face escalating health care costs, substance use disorder treatment and recovery programs help reduce health and societal costs and improve community wellness. Beyond the significant physical and psychological costs faced by individuals with a substance use disorder and his/her family, substance use disorder treatment services diminish the financial consequences imposed on employers and taxpayers.

Substance use disorder treatment has been shown to reduce associated health and social costs by far more than the cost of the treatment itself. Every dollar spent on treatment saves in societal costs, such as incarceration, crime and court costs, medical expenses, employment productivity and other miscellaneous costs<sup>1</sup>. Research in the science of treatment of substance use disorders has led to the development of evidence-based interventions that help people stop substance use and resume productive lives<sup>2</sup>. The Office of Behavioral Health oversees and purchases evidence-based substance abuse prevention, treatment and recovery services within the state of Colorado. This includes 301 substance use treatment providers that operate out of 657 locations. The four Managed Service Organizations (MSOs) provide the administrative oversight for the 36 providers and 146 sites that receive OBH funding.

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<sup>1</sup> 5 Ettner, S. L., Huang, D., Evans, E., Ash, D. R., Hardy, M., Jourabchi, M., & Hser, Y. (2006). Benefit-Cost in the California Treatment Outcome Project: Does Substance Abuse Treatment "Pay for Itself"? *Health Services Research*, 41(1), 192-213.

<sup>2</sup> <https://www.samhsa.gov/ebp-web-guide/substance-abuse-treatment>

## SB16-202: Enhancement of Substance Use Disorder Services

In 2016, the Colorado Senate introduced a bill titled “Concerning increasing access to effective substance use disorder services through designated regional managed service organizations, and, in connection therewith, making an appropriation” (SB 16-202<sup>3</sup>). This measure, passed in June 2016, requires the MSOs and OBH to complete a set of reports highlighting the community need for substance use services and the action plan for addressing unmet needs.

The dollars appropriated through this bill address the substance use disorder (SUD) needs of Coloradans and area cost-saving measures, as every dollar spent on appropriate SUD treatment through this bill saves \$4 in medical costs and \$7 in costs to the criminal justice system.<sup>4</sup> The Substance Use Disorder Community Assessment – SB 16-202 Report, completed in April 2016<sup>5</sup>, meets the requirement of summarizing all four of the MSO community action plans, to be presented to the appropriate committees and posted electronically. The framework for the needs assessment and action plans includes the Substance Use Continuum of Care defined by the U.S. Department of Health and Human Services, Office of the Surgeon General, outlined below.

Substance Use Care Continuum
<b><i>Enhancing Health:</i></b> Promoting optimum physical and mental health and well-being, free from substance misuse, through health communications and access to health care services, income and economic security, and workplace certainty.
<b><i>Primary Prevention:</i></b> Addressing individual and environmental risk factors for substance use through evidence-based programs, policies and strategies.
<b><i>Early Intervention:</i></b> Screening and detecting substance use problems at early stages and providing brief intervention, as needed.
<b><i>Treatment:</i></b> Intervening through medication, counseling and other supportive services to eliminate symptoms and achieve and maintain sobriety, physical, spiritual, and mental health, and maximum functional ability. Levels of care include: Outpatient Services; Intensive Outpatient/ Partial Hospitalization Services; Residential/Inpatient Services; and Medically Managed Intensive Inpatient Services.
<b><i>Recovery Support:</i></b> Removing barriers and providing supports to aid the long-term recovery process. Includes a range of social, educational, legal and other services that facilitate recovery, wellness and improved quality of life.

<sup>3</sup> [https://leg.colorado.gov/sites/default/files/documents/2016a/bills/2016A\\_202\\_01.pdf](https://leg.colorado.gov/sites/default/files/documents/2016a/bills/2016A_202_01.pdf)

<sup>4</sup> Office of National Drug Control Policy Fact Sheet. (2012). *Cost Benefits of Investments in Early Substance Abuse Treatment*. Retrieved from [www.WhiteHouse.gov/ONDCP](http://www.WhiteHouse.gov/ONDCP)

<sup>5</sup> <https://www.cbhc.org/substance-use-disorder-community-assessment-sb-16-202-report/>

## Analysis of FY 2016-2017 Services Provided and Effectiveness Data

### A Brief Overview of Persons Served in Services and Programs for Treatment, Detoxification and Driving Under the Influence

The following demographic data are based on the number of unique individuals in each substance use service category collected from the Drug and Alcohol Coordinated Data System (DACODS). The DACODS is the primary substance use disorder treatment data source for this report. The total number of unique individuals who received services across all categories and were also discharged in FY 2016-2017 was 65,143. Data were collected upon discharge to allow for the completion of services and to measure the change in issue prevalence between a client's admission and discharge.

#### Treatment Clients

In FY 2016-2107, of the 30,116 discharges from substance use disorder treatment, 20,198 were unique clients. The criminal justice system referred 43 percent of treatment clients (excluding referrals related to driving under the influence (DUI) or driving while ability impaired (DWAI)). Approximately 32 percent of the unique clients worked full-time, and 77 percent had achieved a high school education or higher. Thirty-three percent of the unique individuals discharged from substance use disorder treatment had a combined total of 13,186 dependent children.

Further demographic analysis shows that 66 percent of individuals were male with a median age of 32 years. The predominantly reported race categories were these: Caucasian/White (77 percent), African American/Black (7 percent), and American Indian/Alaska Native (4 percent). Twenty-six percent identified as being of Hispanic/Mexican ethnicity.<sup>6</sup> On average, clients had been using their primary drug for approximately 16 years, and 57 percent reported starting their primary drug before the age of 18. Of the substance use disorder treatment discharges, 48 percent had a co-occurring mental health and substance use disorder at admission. Figure 1 (on page 9) provides demographic details for clients served across programs.

#### Opioid Treatment Program Services

Medication-assisted treatment (MAT) includes long-term maintenance therapies for clients who have opioid use disorders. One subset of MAT services specific to opioid use disorder (OUD)

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<sup>6</sup> Ethnicity is used to capture the specific Hispanic ethnicity the client identifies with regardless of race (e.g. Hispanic/ Mexican- of Mexican origin; Hispanic/Puerto Rican- of Puerto Rican origin).

are administered by 23 licensed Opioid Treatment Program (OTP) facilities across the state. This does not include buprenorphine or other MAT services in a primary care setting. The Colorado Code of Regulations 21.320.9.D requires that OTP providers report clients admitted for opioid replacement therapy to the Office of Behavioral Health (OBH) which maintains a database of these clients called the Central Registry. This registry was created to prevent simultaneous enrollment of clients in MAT and prevent diversion of medication. If a client is enrolled at an OTP and changes providers, the OTP must report the discharge from the first OTP to OBH and a second admission from the subsequent OTP must also be reported to OBH. Therefore, a client may have one long treatment episode, or a client may have multiple admissions and discharges during their treatment episode. As clients often maintain use of MAT for multiple years, admissions and discharge data on a yearly basis does not represent the total volume of clients receiving treatment. For State Fiscal Year 2016-2017, there were 3,042 admissions and 1,082 total discharges entered into the Central Registry. On June 30, 2017, the census of persons enrolled in MAT for opioid use disorder services was 4,732.

### Detoxification (Detox) Services

There were 47,505 discharges from detox services (which exclude treatment and DUI services), 25,077 of which were unique clients. The median age for unique detox individuals was 34 years, and the primary age range was 25 to 44 years old. Seventy-six percent of those discharged were Caucasian. Twenty-five percent identified as of Hispanic/Latino ethnicity. The majority of individuals receiving detox services (76 percent) identified alcohol as the primary substance of use (see Figure 1). Fifty-two percent of these individuals started using substances before the age of 18. Detox clients had been using their primary substance for an average of 19 years. Seventy-one percent of unique clients served in detox were men. Eighty percent of unique clients had a 12<sup>th</sup>-grade education or higher, and 34 percent worked full-time. Nineteen percent of clients had a combined total of 9,195 dependent children.

### Driving Under the Influence Services

There were 22,736 discharges from DUI services (which includes DWAI services but excludes other treatment and detox services). Of this number, 19,868 were unique clients. The population of unique individuals who received DUI services primarily identified as Caucasian (76 percent) and male (74 percent). The median age was 32 years. Thirty percent of individuals identified as being of Hispanic/Latino ethnicity. Eighty-eight percent identified alcohol as the primary substance of use (see Figure 1). The majority (58%) started using their primary substance before the age of 18 years and had been using for an average of 18 years. This group receiving DUI/DWAI services was more likely to have a 12<sup>th</sup>-grade education or higher (86 percent) and



work full-time (72 percent) compared to the treatment and detox group. Thirty-three percent of DUI clients were responsible for a combined total of 12,355 dependent children.

**Figure 1. Model Snapshot of Individuals Served by Service Category, FY 2016-2017**

Service Category	Primary Age Range	Race <sup>7</sup>	Ethnicity	Primary Drug of Abuse <sup>8</sup>
Treatment (N=20,198)	25-44	Caucasian/White (77%) Declined to answer (13%) African American/Black (7%) American Indian/Alaska Native (4%)	Not Hispanic or Latino (69%) Mexican (18%) Other Hispanic/Latino (7%)	Alcohol (34%) Marijuana (17%) Methamphetamine (23%) Heroin (15%)
Detox (N=25,077)	25-44	Caucasian/White (76%) Declined to answer (15%) African American/Black (8%) American Indian/Alaska Native (4%)	Not Hispanic or Latino (70%) Mexican (22%) Other Hispanic/Latino (4%)	Alcohol (76%) Methamphetamine (11%) Heroin (7%)
DUI (N=19,868)	25-44	Caucasian/White (76%) Declined to answer (12%) African American/Black (6%) American Indian/Alaska Native (2%)	Not Hispanic or Latino (59%) Mexican (22%) Other Hispanic/Latino (6%)	Alcohol (88%) Marijuana (9%)

<sup>7</sup> Only the races with the largest percentages are reported here. Race categories not represented here are Asian & Hawaiian/Pacific Islander.

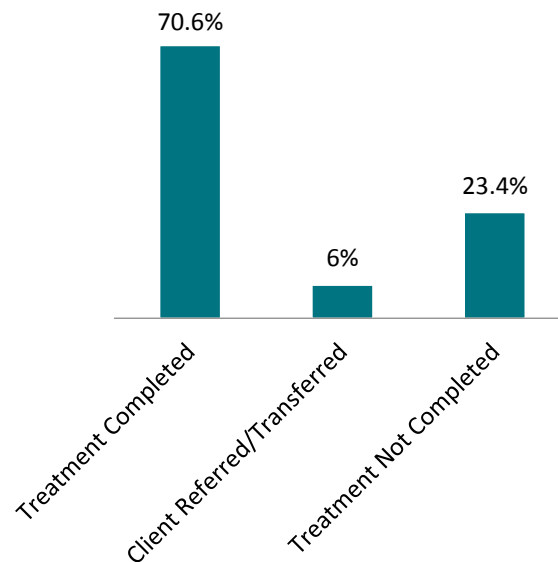
<sup>8</sup> This item represents the most prevalent primary drug of abuse for individuals served. This does not capture polydrug use. These numbers are not representative of the prevalence for general population drug use.

## The Benefits and Outcomes of Substance Use Disorder Treatment Services FY 2016-2017

### Treatment Outcomes for FY 2016-2017

Based on Drug/Alcohol Coordinated Data System (DACODS) data, client discharges from treatment modalities (e.g., residential, intensive outpatient and outpatient treatment modalities) were used to evaluate the change in outcomes from admission to discharge. Detox was excluded as a treatment modality because its primary goal is to provide a safe, short-term environment in which the client may detox from a particular substance (e.g., alcohol, methamphetamine, etc.) and then be referred to treatment. DUI programs were excluded as treatment modalities because DUI programs focus on reducing the practice of driving while intoxicated, rather than treating substance use behavior exclusively.

**Figure 2. Treatment Completion Status (% of Individuals, N=20,198)<sup>9</sup>**



### Reduction in Use Outcomes Summary

The following information provides an overview of the outcomes an individual achieved during substance use disorder treatment. The goal is to decrease the magnitude of each issue or problem for each measure from admission to discharge. For treatment services, the seminal treatment outcome measure is the reduction of use in the primary drug of abuse in the last 30

<sup>9</sup> "Transferred" is defined as *transferred or referred to another substance abuse treatment program for completion of their course of treatment or service* (DACODS Manual, p. 105).

days. In FY 2016-2017, there was a statistically significant decrease in the average substance use from admission to discharge (Figure 3).<sup>10</sup>

**Figure 3. Average Frequency of Primary Drug Use in the Past 30 Days from Admission to Discharge, FY 2016-2017**

Average Substance Use in Past 30 Days	Admission	Discharge
Mean	8.72	2.55
(Standard Deviation)	(11.822)	(7.101)

### Length of Stay

It is important to consider the length of treatment when determining appropriate system costs. The most frequently reported length of treatment was over 120 days (35 percent). Thirty percent were in treatment for 0-30 days. This bimodal (120 days and 30 days) distribution is consistent regardless of living situation (e.g., independent living, correctional facility/jails and homeless). The modal length of stay also differed depending on the type of services (e.g., inpatient versus outpatient). For outpatient services, the modal length of stay was seven days of treatment, whereas the modal length of stay for inpatient services was 21 days. The Centers for Medicare & Medicaid Services limits an average length of stay allowed for Medicaid-eligible members to 15 to 30 days depending on the level of care of the treatment setting.

<sup>10</sup> T(20166)=80.346, p<.000: This number reflects a reduction in use for the primary drug reported on the DACODs. This statistic does not reflect reduction in polydrug use.

## Substance Use Disorder Prevention and Treatment Cost and Resources in FY 2016-2017

### Substance Use Disorder Prevention and Treatment Service Costs

As a part of the legislative directive related to cost and effectiveness of alcohol and drug abuse programs, this report includes FY 2016-2017 figures outlining the personnel, operating and service costs related to substance use disorder prevention, intervention, treatment, and recovery services in Colorado contracted by the Department. These figures include only those administrative and contract dollars administered by the Department and do not include resources administered by other state and local agencies, including the Department of Healthcare Policy and Finance.

Figure 4 illustrates the funding sources received by the Department to provide substance use disorder prevention, intervention, treatment and recovery services in Colorado.

**Figure 4. Substance Use Disorder Prevention and Treatment Revenue by Source, FY 2016-2017**

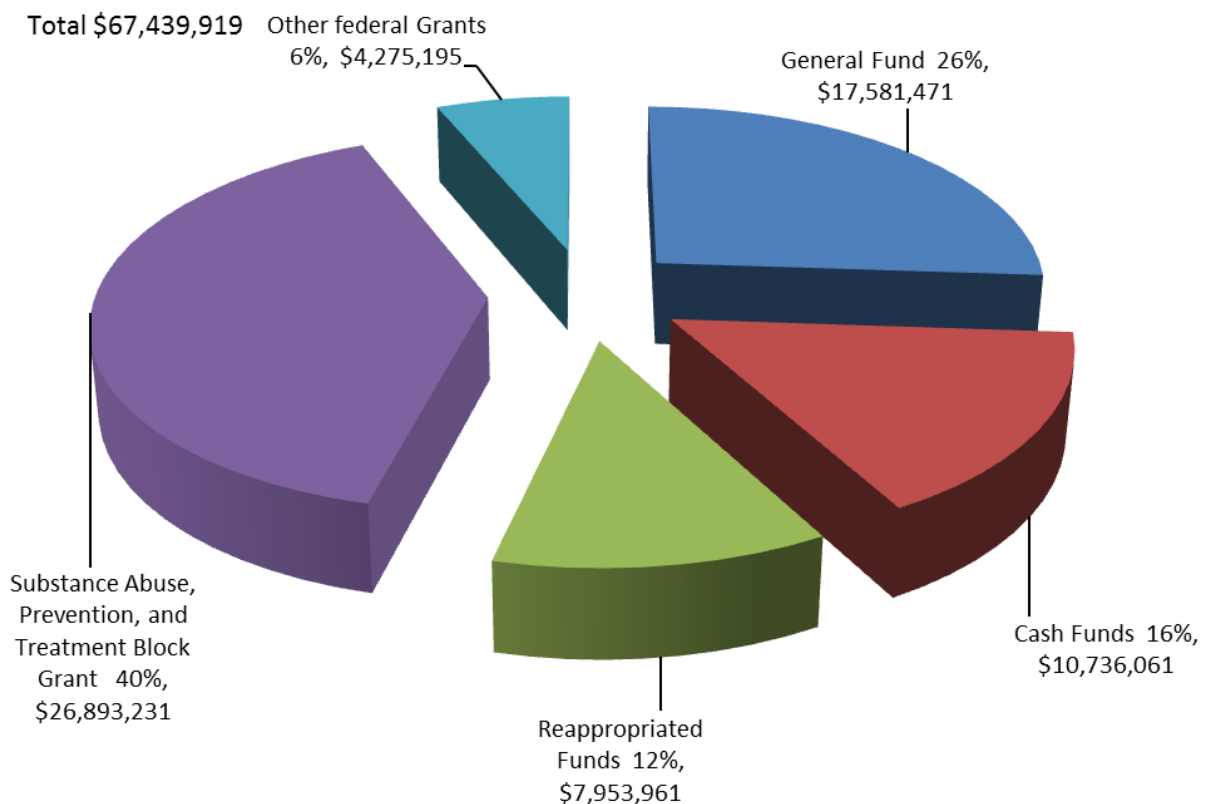


Figure 5 illustrates the FY 2016-2017 expenditures from cash funds excluding administration.

**Figure 5. Department of Human Services Substance Use Disorder Treatment and Detox Expenditures from Cash Funds Only Excluding Administration and Prevention Dollars, FY 2016-2017**

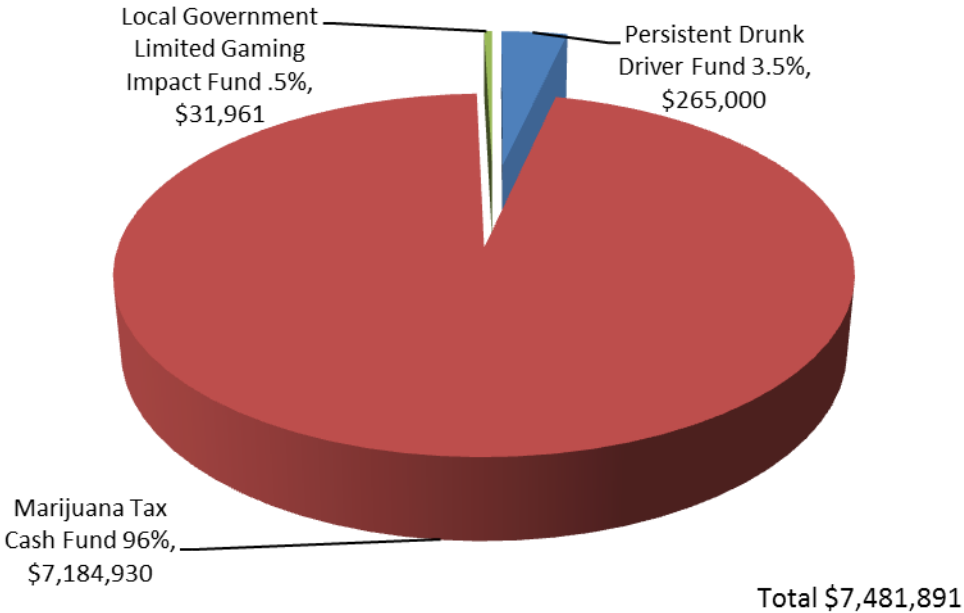


Figure 6 illustrates the FY 2016-2017 expenditures for client care – primary prevention services, treatment and detox services, and administrative activities.

**Figure 6. Expenditure by Program, FY 2016-2017**

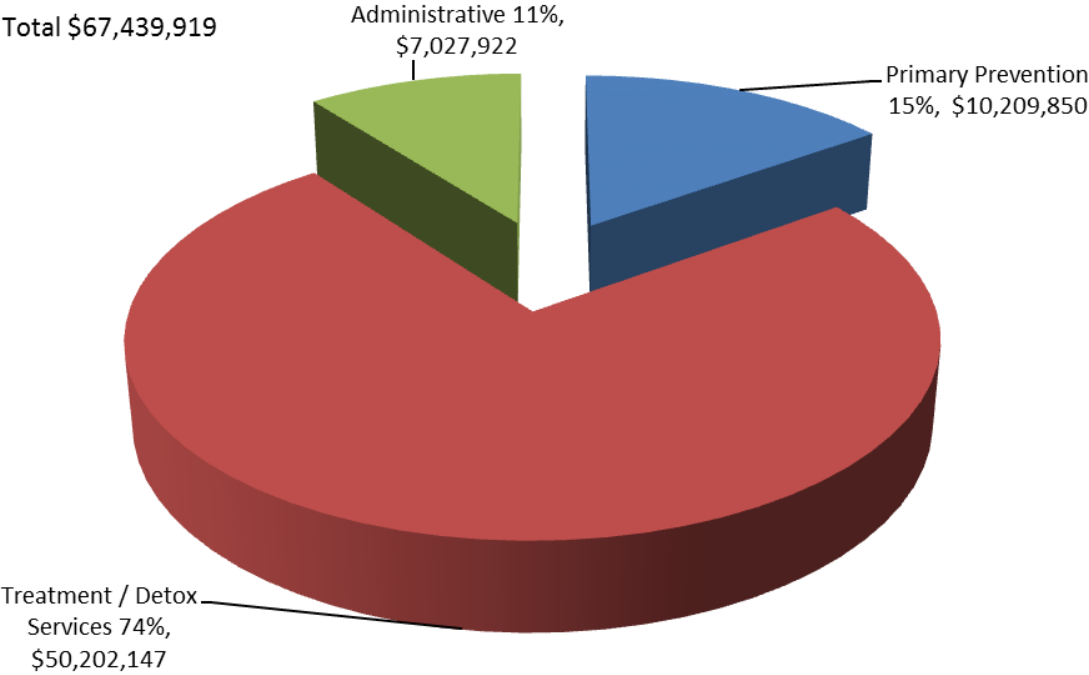
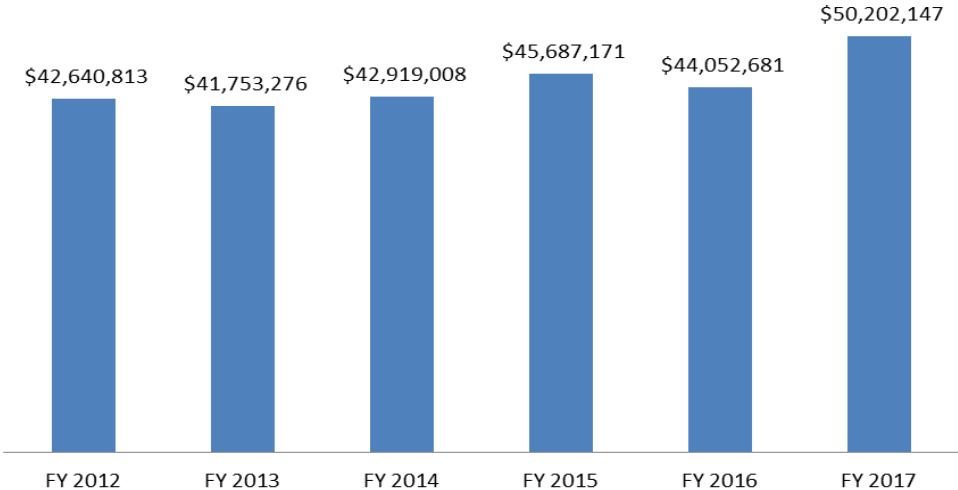


Figure 7 illustrates the history of total expenditures for substance use disorder treatment and detox from 2012 -2017.

**Figure 7. Department of Human Services Substance Use Disorder Treatment and Detox Funding History Total Expenditures Excluding Administration, FY 2012-2017**



## Targeted Opioid Grant Funding

The Office of Behavioral Health (OBH) received a Notice of Award for \$7,869,651 from the Substance Abuse Mental Health Services Administration (SAMHSA) regarding State Targeted Response to the Opioid Crisis Grant on April 24, 2017. The award was given without any special conditions, meaning the Colorado application was accepted as submitted and the state is moving forward with the timeline and goals as of May 1, 2017.

As the administrator of the grant, the Office of Behavioral Health has led the initial roll-out of activities including convening advisory planning meetings, preparing requests for proposal, and creating public materials. Below is a list of activities that are funded through this grant:

- **Buprenorphine trainings for physicians and advanced practice providers** in primary care and community behavioral health practices
- Expanded access to **medication-assisted therapy (MAT)** for uninsured and underinsured clients
- **Purchase and distribution of naloxone kits**, including educational materials
- A hospital **Emergency Department Pilot Study for Buprenorphine Induction**
- **Enhanced crisis line** services to better serve individuals seeking OUD services
- Support for implementation of **Community Reinforcement and Family Training (CRAFT) and Celebrating Families family therapy**
- **Enhanced residential treatment** for high need or homeless clients
- Day-of-release **resources for individuals with OUD leaving incarceration**
- Multiple **targeted communications campaigns** on stigma reduction, naloxone use, crisis services, and trainings for professionals
- **A mobile app for finding treatment resources** and provides crisis support
- Support for strategic planning and identified needs of **Colorado tribes**

Additionally, the Office of Behavioral Health was awarded the Medication-Assisted Treatment-Prescription Drug and Opioid Addiction (MAT-PDOA) grant on September 1, 2016, for \$950,000 per year for three years. The purpose of this grant is to provide funding to enhance/expand treatment service systems to increase capacity and provide accessible, effective, comprehensive, coordinated care, and evidence-based medication-assisted treatment (MAT) to individuals with opioid use disorders seeking or receiving MAT while implementing a hub and spoke model of treatment. As a result of this program, Colorado seeks to: 1) increase the number of individuals receiving MAT services with pharmacotherapies approved by the FDA for the treatment of opioid use disorders; 2) increase the number of individuals receiving integrated care; 3) decrease illicit drug use at six-month follow-ups; and 4) decrease the use of prescription opioids in a non-prescribed manner at six-month follow-ups.

## Tracking Civil Forfeiture for FY 2016-2017

As required by C.R.S. 16-13-311 (3)(a) (VII) (B) and 16-13-701 (4), the designated Managed Service Organizations allocate monies to substance use disorder treatment and detoxification programs in the judicial districts in which forfeiture proceedings were prosecuted. These monies are in addition to the appropriated funds through the Department's Office of Behavioral Health and the Managed Service Organizations. Figure 8 details the reporting of civil forfeiture funds for FY 2016-2017 by four Colorado Managed Service Organizations, as required by statute. One of the four Managed Service Organizations, Mental Health Partners, did not receive any funds from civil forfeiture.

**Figure 8. Civil Forfeiture, FY 2016-2017**

MSO Provider / Description	Signal	West Slope Casa	Aspen Pointe	Mental Health Partners	Total All	Prior SFY
Beginning Balance	\$199,912.52	\$22,244.40	\$4,932.48	\$3,931.82	\$259,232.41	\$175,929.01
Distribution	\$258,538.57	\$0.00	\$0.00	\$3,931.82	\$262,470.39	\$190,502.16
Revenue Received	\$420,048.28	\$0.00	\$28,211.19	\$0.00	\$448,259.47	\$249,427.61
Ending Balance	\$323,066.62	\$22,244.40	\$33,143.67	\$0.00	\$378,454.69	\$284,854.46

Signal expended \$258,538.67 of forfeiture funds during the year. Of that, \$219,757.78 was expended on treatment and detox services and \$38,780.79 was expended on administrative costs (15 percent of total funds distributed). West Slope Casa had no reported disbursements for services during the year from forfeiture funds. AspenPointe had no reported disbursements for services during the year from forfeiture funds. Mental Health Partners expended \$3,931.82 of forfeiture funds during the year. Of that, \$3,931.82 was expended on treatment and detox services. For FY 2016-17, a combined total of \$448,259.47 in forfeiture revenues was collected and a total of \$262,470.39 was expended on treatment and detoxification services (including administrative charges). The revenue received represents a 79.72% increase in revenue from the previous year.