California Department of Corrections and Rehabilitation

CDCR Office of Research (OOR)
"Providing quality research, data analysis and evaluation to implement evidence-based programs and practices, strengthen policy, inform management decisions and ensure accountability."

CDCR Division of Rehabilitative Programs (DRP)
“Helping offenders leave prison with better job or career skills, education, life skills, and confidence, so they can succeed in their futures despite past obstacles. DRP provides numerous rehabilitative programs and services to both prison inmates and parolees.”

Produced by

Secretary
Scott Kerman

Administration & Offender Services
Kenneth Pogue, Undersecretary
Division of Internal Oversight and Research
Bryan Beyer, Director
Office of Research
Julie Basco, Deputy Director
Denise M. Allen, Chief
Michelle A. Martinez, Results First Project Manager

Operations
Ralph Diaz, Undersecretary
Division of Rehabilitative Programs
Brantley Choate, Director
Kevin Hoffman, Deputy Director

The authors would like to thank the Pew-MacArthur Results First Policy and Technical Advisory Team, the Office of Fiscal Services, and the Division of Rehabilitative Programs and Office of Research staff for their assistance with this project.
# Table of Contents

Executive Summary .......................................................................................................................... vi

1 Introduction ................................................................................................................................. 1

2 Methods .................................................................................................................................... 2
   2.1 Benefit-Cost Model .................................................................................................................. 3
   2.2 Meta-Analysis Used for Econometric Modeling ................................................................. 4
   2.3 The Effect Size ....................................................................................................................... 4
   2.4 Per-Participant Costs .......................................................................................................... 5
   2.5 Return on Investment .......................................................................................................... 6
   2.6 Monte Carlo Simulation Method ........................................................................................ 6
   2.7 Value of a Conviction .......................................................................................................... 8

3 Project Phases ............................................................................................................................. 8
   3.1 Program Inventory .............................................................................................................. 9
   3.2 Evidence-base Matching and Expected Recidivism Reductions ..................................... 9
   3.3 Recidivism (Including System Usage) .............................................................................. 14
   3.4 Resource Use Cost ............................................................................................................. 15
   3.5 Victimization ....................................................................................................................... 16

4 Key Findings .............................................................................................................................. 16

5 Results by Program Type ......................................................................................................... 20
   5.1 CBT (High to Moderate Risk Offenders) In-Prison General ......................................... 22
   5.2 CBT (High to Moderate Risk Offenders) Community Non-Name Brand .................. 23
   5.3 CBT (High to Moderate Risk Offenders) Community Name Brand ............................ 25
   5.4 Residential Drug Treatment/Sober Living Environment (Community) ....................... 26

6 Long-term Cost of Recidivism ............................................................................................... 28

7 Limitations ................................................................................................................................. 28

8 Next Steps ................................................................................................................................ 30

Appendix A ................................................................................................................................... 31
   Definition of Terms .................................................................................................................... 31

Appendix B ................................................................................................................................... 33
   Ratings for Evidence-based Matching ..................................................................................... 33

Appendix C ................................................................................................................................... 34
   Service Type Descriptions ......................................................................................................... 34

Appendix C ................................................................................................................................... 35
List of Tables and Figures

Tables
Table 1. Program Inventory .......................................................................................................................... 13
Table 2. Conviction Rate ............................................................................................................................. 14
Table 3. Cost of Recidivism ......................................................................................................................... 28
Table 4. Five Percent Recidivism Reduction ............................................................................................... 28

Figures
Figure 1. Recidivism Rate of CBT Programs ............................................................................................... 11
Figure 2. SUDT Expenditures by Direct and Indirect Service Delivery ..................................................... 18
Figure 3. SUDT Direct Service Delivery Expenditures by Evidence-base Matching ................................. 19
Executive Summary

The California Department of Corrections and Rehabilitation’s (CDCR) mission is to enhance public safety through safe and secure incarceration of offenders, effective parole supervision, and rehabilitative strategies to successfully reintegrate offenders into our communities. CDCR was one of more than 25 state correctional agencies to partner with Pew-MacArthur Results First Initiative to develop a state-specific customized model to assess return on investment. This endeavor included: 1) creating a full inventory of currently funded programs for in-prison and community-based substance use disorder treatment (SUDT); 2) establishing a baseline recidivism rate to calculate the potential monetary benefits of these programs; and 3) estimating the cost effectiveness of programs by comparing expected benefits to expected costs. CDCR’s Results First Initiative is not an evaluation of our programs, outcomes or effectiveness. However, the results of our analysis will allow CDCR to compare a baseline population of offenders treated in prison and in the community, and forecast how SUDT modalities may impact recidivism, and how they would perform in terms of benefits versus costs to implement.

Our analysis found a majority of program funding for SUDT is spent on interventions that are either evidenced-based, or incorporate pre-post intervention research designs, and have been shown to reduce recidivism. As part of the Results First model methodology, an estimated return on investment over $1 indicates that programs appear to be cost effective at reducing recidivism. Most CDCR SUDT programs we examined had an estimated return on investment of between $4 - $20 dollars for every dollar invested. More specifically, the programs that we found to be a good return on investment were Cognitive Behavior Therapy (CBT) programs geared toward high to moderate risk offenders, delivered in both in-prison and community settings.

The estimated return on investment for a few program interventions were as low as 19 cents for every dollar invested—such as certain Residential Drug Treatment/Sober Living Environment programs. Nevertheless, despite the low return on investment, the Residential Drug Treatment/Sober Living Environment program interventions have significant benefits such as being evidence-based and are shown to reduce recidivism. These Residential Drug Treatment/Sober Living Environment programs are centered toward high risk and high need offender populations, and the costs associated with providing services to these populations are high. In addition, standardized estimates of treatment cost vary from region to region, even for

---

2 Defined as subsequent reconviction within five years of release from a CDCR adult institution.
3 Data and analyses presented in this report were not drawn directly from CDCR program outcomes or effectiveness. Rather, these data represent estimated benefits CDCR can expect if SUDT program outcomes resemble those found in previous rigorous evaluations conducted throughout the nation. Recidivism baselines, costs, and system usage are all drawn from California data.
4 For SUDT program interventions for Cognitive Behavioral Therapy delivered in the community and in prison.
5 CBT is a short-term, goal oriented treatment that takes a hands-on, practical approach to problem-solving.
different parts of the same city and, have vastly different economic and professional environments, which effect costs in complex ways.\(^6\)

Our analysis revealed that many CDCR providers use evidence-based programs. Additionally, as a result of this endeavor, we: 1) created a program inventory of the 300 currently funded SUDT programs and conducted an evidence-based matching of CDCR programs; 2) developed a return on investment model; 3) developed six key metrics of program performance that provide a state-wide view of program operations; and 4) established a high-level staff position at each institution to target placing offenders in the right program, at the right time.

Our future focus will be on a plan to inventory program operations, implementation, service delivery, and program fidelity. Understanding whether or not a program has been implemented correctly will enable CDCR to improve program quality and delivery, which will result in more fiscally sound, evidence-based decisions, better offender outcomes, and ultimately enhance public safety.

1 Introduction

Over the past six years, a series of legislative changes including Assembly Bill (AB) 109, California’s Public Safety Realignment Act (2011), and a series of Propositions; 36 (2012), 47 (2014), and 57 (2016), coupled with court-ordered population reduction measures, fundamentally changed the landscape of California’s criminal justice system. Together, these reforms enabled the CDCR to comply with and maintain the United States Supreme Court order to reduce our prison population to 137.5 percent of the original design capacity. These reforms drastically shifted the types of offenders eligible to serve their sentences in State prison and the State’s system of post-release supervision. Today in California, most non-serious, nonviolent, non-sex registrant offenders are released to Post-Release Community Supervision (PRCS) and supervised by probation departments, which is administered at the county level, while California’s most serious, violent, and sex registrant offenders serve their sentences in State prison and are supervised by State parole agents. Low-level offenders who historically cycled in and out of prisons, now serve their sentences in county jail, while prison is reserved for more serious and violent offenders.

The reforms noted above, have enabled CDCR to refocus on the our mission of continuing to protect the public by safely and securely supervising offenders, while expanding the provision of rehabilitation and treatment programs, with the goal of integrating offenders successfully into our communities. The CDCR has set forth programmatic goals including 1) The development of comprehensive crime prevention strategies supported by research to determine the impact of offender programs within the institutions and community to reduce criminality and victimization; and 2) The establishment of partnerships and the development of meaningful programs and processes to promote shared responsibility for community safety. The CDCR’s partnership with Pew-MacArthur RF Initiative directly supports our mission to prioritize meaningful offender programs and implement policies that reduce crime and victimization.

In December 2015, CDCR formally joined the RF Initiative. This joint effort is designed to assist states in implementing evidence-based policymaking. California joined Pew Mac-Arthur RF Initiative with considerable internal assets, including an advanced technical research team, knowledgeable rehabilitative program staff, a robust offender-level criminal justice data warehouse, and strong agency leadership committed to using evidence in funding decisions. California became the 20th jurisdiction to partner with the Pew-MacArthur RF Initiative. The CDCR worked with the Pew-MacArthur RF Policy and Technical Advisory Team to develop a CDCR-specific econometric modeling tool and to train CDCR on how to use a program inventory to assess the evidence behind programs then apply benefit-cost methodology to identify the estimated ROI for the type of populations served.

7 http://www.cdcr.ca.gov/about_cdcr/vision-mission-values.html
The CDCR RF Initiative focused on the benefit-cost (marginal cost of service delivery compared to the expected recidivism reduction) of SUDT - both in-prison and community-based programs to compare how their programs match-up with programs that have been rigorously studied nationally, and to explore the cost-effectiveness of their programs. The CDCR selected SUDT programs for the RF Initiative because at the aggregate level, these programs show positive recidivism reduction outcomes.

CDCR produces an Annual Outcome Evaluation Report which examines arrests, convictions, and returns-to-prison at one, two, and three-year intervals. Our data revealed offenders who received in-prison SUDT and completed aftercare have a three-year conviction rate of 29.2 percent (16.9 percentage points lower than overall rate of 46.1 percent). Furthermore, CDCR wanted to compare how our programs match-up with programs that have been rigorously studied nationally, and we wanted to explore the cost-effectiveness of our programs.

The CDCR customized a benefit-cost model that allowed CDCR to estimate the long-term cost and benefits of currently funded SUDT programs (in-prison and community-based). In this report, CDCR will lay out the methodology and each phase conducted to include the comparisons of program interventions based on their predicted ROI. This process included 3 basic steps: 1) A recidivism analysis, which produced a baseline rate for comparing the impact of any programmatic or policy change on recidivism, 2) Costs related to the return of offenders to the criminal justice system and subsequent victims and, 3) Per program participant cost information was collected and used in the customized benefit-cost model to estimate the ROI for each program along with the projected impact of each program on reducing the recidivism baseline rate.

The data and analyses presented in this report were not drawn directly from CDCR program outcomes or effectiveness. Rather, these data represent the estimated benefits CDCR can expect if our SUDT program outcomes resemble those found in previous rigorous evaluations conducted throughout the nation. Confirming that CDCR’s SUDT programs achieved the outcomes assumed in our analyses would involve conducting separate program evaluations (both process and outcome). To achieve the estimated benefits presented in this report, evidence-based programs administered by CDCR must implement the service with fidelity to the research design.

2 Methods

This section includes methods used for the benefit-cost model, defining the evidence used and basic project terminology. Before discussing the various methodological approaches employed to produce the findings presented in this report, it is important to define what was considered a “program” for purposes of these analyses. A program means an intervention, program or practice implemented to affect a discrete outcome. For our population, this would include such

---

outcomes as reducing recidivism (reconviction within five years of release from prison to parole). CDCR’s substance abuse disorder treatment programs may also include criminal thinking/anger management, non-medical detoxification, family relationships, recovery and treatment planning components.

2.1 Benefit-Cost Model

The RF Benefit-cost Model, is based upon a computerized benefit-cost analysis tool developed by the Washington State Institute of Public Policy (WSIPP)\(^9\), and is used to infuse evidence and concepts of cost effectiveness into policy making. A benefit-cost analysis provides a systematic approach to estimate the cost effectiveness of program or policy by comparing expected benefits to expected costs. The model is designed to use the best available research on program effectiveness gathered from meta-analysis to predict the change in recidivism of each program, based on population characteristics and costs to provide the program. The model produces separate estimated benefits that would accrue to program participants, victims, and taxpayers, for each potential investment. These are calculated to derive a final total state cost estimate benefit. The RF Model then calculates the cost of producing these outcomes and the ROI on a participant basis that CDCR would achieve if it chose to continue funding the program.

The RF Benefit-cost Model does this by implementing a standard econometric calculation of the expected worth of an investment by computing the net present value of a stream of estimated benefits and costs that occur over time. The Net Present Value (NPV), of a program is the quantity of the outcomes achieved by the program or policy, in year, multiplied by the price per unit of the outcome, in year, minus the cost of producing the outcome, in year. The lifecycle of each of these values is measured from the average age of the person who is treated, and runs over the number of years into the future over which they are evaluated. The future values are expressed in present value terms after applying a discount rate. For a full description of formulas utilized, refer to the WSIPP’s Benefit-cost Technical Documentation. See formula for NPV below and footnote 7.

\[
NPV_{tage} = \sum_{y=tage}^{N} \frac{Q_y \times P_y - C_y}{(1 + Dis)^y}
\]

The benefit-cost model allows for scenarios exploring the relative value of avoiding a single instance of a chosen outcome (in this case, reconviction within five year following release from State prison). System resource use is determined by using conviction data, costs associated with various aspects of law enforcement (e.g. arrests, jails) and courts (e.g. public defenders and district attorneys), and prison and parole length of stays (prison sentences or parole terms). The model also incorporates the costs associated with victims of crime (e.g. medical expenses, lost time from work, lost property) and combines these costs with the estimation of system

resource use to determine the costs to tax payers and crime victims. Reducing recidivism thereby increases the benefit of fewer victims of crime and avoids costs to the public taxpayer.

2.2 Meta-Analysis Used for Econometric Modeling

The RF Benefit-cost Model draws on two bodies of national research: 1) program evaluation and, 2) longitudinal studies. Program evaluation research, which measures whether a program or policy has a causal effect on outcomes of interests. Second, longitudinal studies that examine causal “linkages” between two different outcomes. The overall goal is to combine the best current information from these two bodies of research. Once the program/practice/intervention of interest is defined, a systematic literature review is performed to gather rigorous evaluations that have been done from around the United States and beyond. This process begins with published and unpublished work through web-searches. A key part of meta-analysis is to pull in all studies and assess the full body of research, but select only the studies that meet specific inclusion criteria; the rigor of the research preferably with a randomized control trial or quasi experimental design that uses statistical controls to create equivalent treatment and comparison groups; intent to treat samples; and enough information to calculate an effect size. Lastly, use meta-analysis to draw an overall conclusion about the average effectiveness of a program to achieve a specific outcome or the relationship between one outcome and another.

2.3 The Effect Size

The effect size is a summary statistic giving the user an idea of the magnitude and direction (positive/negative) of a relative change in an outcome. If the effect size is positive, the outcome increases, if the effect size is negative, the outcome decreases. The effect size is an index score and not the same as a percent change. An effect size tells you the magnitude and the direction, but without the base rate, an effect size is a meaningless number. The effect size of the program, when applied to the specific CDCR recidivism rate is then translated into a percent change. For example, an effect size of -.14 translates into a reduction in recidivism of 9.5% when applied to CDCR.10 For CDCR’s modeling purposes and in order to calculate the monetary benefits of a rehabilitative program based on its expected effect on recidivism, CDCR constructed a five-year recidivism baseline cohort. The effect on recidivism is calculated as the percentage difference between baseline cohort and the estimated recidivism of the cohort when applying the rehabilitative program. This outcome derived a base rate necessary to determine the monetary benefit of rehabilitative programs and CDCR was able to leverage an effect size from the RF National Clearinghouse Database for each of the matched programs in this study, for a subset of CDCR SUDT programs that matched the database of programs reviewed using meta-analysis (See Section on Recidivism)

10 This example is for illustration purposes only; the percentages are not representative of any specific CDCR Results First program outcomes.
2.4 Per-Participant Costs

When used in most treatment programs, cost, cost-effectiveness, and cost-benefit analysis are more complicated than in business because the money spent for treatment rarely is a complete and accurate measure of total treatment costs. For the purposes of applying the benefit cost analysis model, it was best to know the marginal cost for program participants, that is, the cost to provide the program to one or more person or unit of service, rather than an average cost, which includes fixed costs which can overstate the cost. These marginal cost are preferred because justice system costs tend to be incremental.

In choosing and recording cost data, CDCR categorized its expenditures as costs of services provided directly to the patient (direct service) and costs of treatment resources that are typically not used to treat the individual patients but are necessary to run the program (indirect services). Direct costs are personnel (counselors, social workers, nurses, and psychologists), training, education, supplies and expendable equipment. Indirect costs are also known as overhead or shared costs and include managers, clerical staff, maintenance, accountants and others who do not work directly with the patients. These indirect costs also apply to services and goods needed as part of the program.

To capture per participant costs, a top down costing method was used which excluded all costs related to overhead, divided by the number of days in treatment. Typically, the approach to per participant cost is to divide the total cost of a program for a particular period by the total number of patients the program treats during the same period. This calculation assigns the average cost for each patient, regardless of how many or few times program resources are used. In calculating the program expenditures, select contract service types required an allocation based on their SUDT modality. The allocations were developed according to hours per week and the total weeks of programming attended, per participant. This method of calculation was necessary due to the varied service hours conducted by each service provider.

The CDCR SUDT programming cost estimates are derived from the program hours offered, population served, and include contract expenditures specific to the delivery of offender treatment (marginal costs). The line items specific to offender treatment (i.e., treatment personnel, curriculum, food, housing, training, and supplies) were extracted and totaled to obtain the treatment expenditures for each contract. The total number of participants served during FY 2015-16 and their number of days in program were collected for each contract. The average number of days in treatment and/or bed days were calculated for each participant. The number of bed days were calculated by multiplying the average days in program by the number of participants served.

The percentage of the threshold (programs reaching the minimum dosage hours) of CBT Intervention hours offered was calculated from the total number of intervention hours offered for the service types. The percentage was applied to the total treatment expenditures for this
group of contracts and divided by the number of bed days to obtain the cost to deliver for CBT interventions per day. The daily cost was multiplied by the average number of days in the program to obtain the cost for one participant to receive the CBT interventions. The cost to deliver the CBT interventions by the average number of days in the program were totaled for each service type. See Section 6, Results by Program Type for CBT program specific information, and Appendix G – Per-Participant Cost Calculations.

2.5 Return on Investment

An important part of our analyses included leveraging the modeling tool to calculate a program’s estimated ROI. For our purposes, ROI was used to estimate the gain or loss generated on an investment (in our case cost of delivering SUDT services) relative to the amount of money invested (contract dollars used).

ROI is usually expressed as a percentage and is typically used for personal financial decisions, to compare a company's profitability or to compare the efficiency of different investments. The return on investment formula is:

\[
\text{ROI} = \left( \frac{\text{Net Profit}}{\text{Cost of Investment}} \right) \times 100
\]

If a program generates more benefits than costs, it is considered cost beneficial since every dollar invested returns more than $1. The Benefit to Cost Ratio is used to show a direct comparison of cost effectiveness across programs. ROI is one of the most used profitability ratios because of its flexibility. However, one of the downsides of the ROI calculation is that it is only an estimate resulting from projections and simulation modeling. Part of the process of estimating the ROI involves assessing the riskiness of the investment. Any rigorous modeling process involves many individual estimates and assumptions and, almost every modeling step involves at least some level of risk and uncertainty. The objective of this risk analysis is to assess the chance that a ROI estimate will at least break even. For example, if we conclude that, on average, an investment in program XYZ has a ratio of $3 of benefits for each $1 of cost, the risk question is: given the riskiness in this estimate, what is the chance that the program will at least break even by generating one dollar of benefits for each dollar of costs? As part of the RF Benefit-cost Model, the Monte Carlo simulation method is what is used to model this risk.

2.6 Monte Carlo Simulation Method

To assess the risk of an investment, a Monte Carlo simulation was used to estimate the riskiness of our program investments, which varies the values of several key factors in the model calculations. Any tabulation of benefits and costs necessarily involves risk and some degree of speculation about future performance. The purpose of the risk analysis is to determine the chance that a strategy will at least break-even. The RF Model includes many inputs and assumptions, and there is significant risk and uncertainty around many of these factors. If the factors are varied, the model will produce different results. Therefore, it is important to test the model systematically for the riskiness inherent to the single point
estimates. That is, to determine the chance that program will at least break-even and the percentage of time this will happen, is done by employing the Monte Carlo simulation method where the model is run thousands of times, each time varying inputs randomly after sampling from estimated ranges of uncertainty that surround the key inputs. The CDCR benefit-cost modeling used 5,000 simulations per program (See Section 6 - Results by Program Type).

The RF Benefit-cost Model gives policy makers a clear perspective on the costs of recidivism (i.e., of doing nothing to address new crimes committed by parolees) as denoted by the cost of subsequent trips through the system as well as the riskiness of the investment. Probability distributions are a much more realistic way of describing uncertainty in variables of a risk analysis.
2.7 Value of a Conviction

The Value of a Conviction, serves as a demonstration scenarios for exploring the relative value of avoiding a single instance of a chosen outcome. The model takes the baseline for the re-conviction outcome and adjusts the trend equal to 1.0 (100%) by the end of the follow up period, which is currently set to 5 years by CDCR. The model then computes the long-term economic value reducing the outcome to zero. For example, running this analysis on the prison release cohort would yield what amounts to the cost of a recidivist. The NPV result of avoiding a recidivist is $104,000 for California.

3 Project Phases

The CDCR RF Initiative implemented the following project phases:

- **Program Inventory** - A full inventory of currently funded SUDT programs. This included collection of information on design, costs, capacity, utilization, and populations served across over 300 programs and 71 contracts around the state.
- **Evidence-based Matching** - The matching phase allowed CDCR to review and assess the expected effectiveness of programs based on comparing them to those contained in the RF National Clearinghouse database. Then, leveraging effect sizes (expected recidivism reduction outcomes) developed by WSIPP’s meta-analysis for several program groupings. (See Appendix A – Definition of Terms).
- **Recidivism and System Usage** - A CDCR recidivism cohort was created to establish a baseline recidivism rate (defined as subsequent reconviction within five years of release from a CDCR adult institution). The baseline rate was used to calculate the monetary benefits of CDCR programs based on its expected effect on recidivism within the state. This included “Resource Use” data necessary to determine the likelihood (probability) of using each resource or component of the criminal justice system and amount of system usage. This calculation was based on which crimes result in which resources were used at sentencing (probation, jail, or prison) as well as the length of time each resource is used (length of stay).
- **Resource Cost & Victimization** - CDCR produced an estimation of the marginal cost of the criminal justice processes, and monetized the impacts to crime victims and taxpayer costs:
  - Local costs: arrest, jail, courts, probation,
  - State costs: prison and parole, societal costs: to crime victims,
  - Tangible costs: lost property and wages, and
  - Intangible costs: pain and suffering estimates.

---

11 The effect size is always set to -22 in Value of an Outcome model (with standard error of 0.1). When it is applied to the adjusted baseline, the effect size reduces the outcome prevalence/probability to zero.
3.1 Program Inventory

The CDCR began the RF Initiative by developing a comprehensive program inventory of currently funded SUDT programs (in-prison and community-based) from FY 2015-16. This effort was a large undertaking involving the collection and synthesis of information on all 71 CDCR SUDT contracts (30 contracts for in-prison and 41 contracts for community-based services) with a total of 311 varied interventions which included the following information; design, costs, capacity, utilization, curriculum, and populations served. The Program Inventory consisted of 4 different phases (I-IV), Phase I – Gathered basic program information, Phase II – Gathered detailed program information (Capacity and Participants), Phase III – Match to the Evidence base, Phase IV – Gather Budget Information. In Phase I and II, it was discovered that a wide range of services were being utilized and various forms of program curriculums were being offered by CDCR contract providers. A total of 13 varied service types specific to SUDT were being administered by the 71 CDCR contract providers, which included the following; In-Prison Multi-Level Substance Abuse Treatment Program (MLP) and In-Prison Single-Level Substance Abuse Treatment Program (SLP), Men’s In-Prison Cognitive Behavioral Treatment Reentry Program (MRHP); Women’s In-Prison, Trauma Informed, Gender Responsive, Cognitive Behavioral Treatment Reentry Program (WRHP); Men’s and Women’s Long Term Offender Program (MLTOP/WLTOP); and Modified Community Correctional Facility Enhanced Reentry Program (MCCF); Specialized Treatment for Optimized Programming (STOP); Female Offender Treatment and Employment Program (FOTEP); Community Based Coalition (CBC); Day Reporting Center (DRC); Residential Multi-Service Center (RMSC); and Male Community Reentry Program (MCRP). These service types, in combination or stand-alone comprised the programs used in the Evidence-based Matching.

3.2 Evidence-base Matching and Expected Recidivism Reductions

Before we move into a discussion of evidence-based matching, it is important to define what is considered a CBT program or intervention - CBT is a short-term, goal oriented treatment used within both in-prison and community programs that takes a hands-on, practical approach to problem-solving. Its goal is to change patterns of thinking or behavior that are behind people’s difficulties, and so change the way they feel or think. This cognitive restructuring can come in the form of one-on-one treatment, in groups, or in curriculum delivered by a facilitator or counselor. CBT is a broad approach and CDCR employs these techniques in a number of settings and modalities.

Once program interventions were identified in the program inventory phase, Evidence-Based Matching commenced to compare CDCR programs to national clearinghouses to assess the levels of evidence, and where possible to specific meta-analysis to forecast recidivism reductions. Of the 311 program interventions being utilized, 287 program interventions

---

12 See Appendix C, CDCR SUDT Service Type Descriptions.
13 Twenty-four of the 311 program interventions were removed, due to incomplete or irrelevant intervention materials (Counselor guides, book or pamphlets).
were then compared to the RF National Clearinghouse to see if CDCR SUDT programs could be matched to nationally recognized evidence-based programs to better understand their level of effectiveness. This was done by identifying each program’s service delivery and the interventions used. The creation of various worksheets, additional data collection efforts, and collaborative reviews were performed. Due to time constraints and the magnitude and variation of distinct interventions offered by providers, a threshold of 2,000+ hours for community interventions and 900+ hours for in-prison interventions was developed to focus on those programs most frequently utilized and most representative of CDCR programming. This reduced the number of program interventions to 16, which included CBT interventions, Residential Treatment, and Outpatient/Sober living.

The clearinghouse uses the following several levels of evidence to present a unified rating of a program’s effectiveness.\textsuperscript{14} Refer to Appendix B – \textit{Ratings by Evidence-based Matching} for those ratings specific to CDCR’s program outcomes.

- **Highest rated:** The clearinghouse assigned the intervention its highest rating. In general, this requires one to two evaluations that: a) use the strongest research designs, including randomized control trials or high-quality quasi-experimental designs; and b) show that the intervention had a statistically significant positive impact.
- **Second-highest rated:** The clearinghouse assigned the intervention its second-highest rating. This generally requires an evaluation that used a quasi-experimental design and showed that the intervention had a positive impact.
- **No evidence of effects:** The clearinghouse found the intervention to have no statistically significant effects based on at least one evaluation that used a randomized control trial or a quasi-experimental design.
- **Not Rated:** When a program has not been reviewed by a clearinghouse, it cannot be assessed for its level of evidence. In this case, programs in this rating might be prioritized for evaluation.

The next step consisted of gathering budgetary information to estimate the per participant cost for these 16 CDCR SUDT program interventions. Estimates of the (annual) marginal per participant costs, and program duration (in years) for participants for each program were collected for modeling purposes. Once the budgetary information was collected, a secondary matching to the meta-analysis developed by WSIPP was conducted to confirm whether CDCR could borrow the effect size (degree of change) and apply it to its own recidivism baseline. The results revealed the following evidence-base intervention “Programs,” which comprise the primary SUDT programming at CDCR in terms of hours. These program groups are identified as:

- Cognitive Behavioral Therapy (CBT) in-prison, in the community (Brand and Non-Brand); and
- Residential Drug Treatment/Sober Living Environment in the community.

We grouped specific name brand CBT programs into a single effect size called, "Name Brand" this included research and evaluation of three programs in the effect size: Seeking Safety,

\textsuperscript{14} http://www.pewtrusts.org/~/media/assets/2015/06/results_first_clearinghouse_database_user_guide.pdf?la=en
Thinking for a Change, and How to Escape Your Prison: A Moral Reconciliation Therapy. The "Non-name Brand" effect size includes CBT interventions that are a more general application of cognitive behavioral approaches and some that are in the public domain. This was done because CBT is a very common intervention, however some of the research showed that name-brand approaches were slightly more effective than the wider array of CBT interventions.

Conducting evaluations of our SUDT programs rather than barrowing national effect sizes are essential to enable CDCR to develop better understanding of whether a program produces the predicted recidivism reduction that can be achieved through proper implementation and reliable quality assurance practices to ensure fidelity. Figure 3 below depicts the average recidivism change from baseline on the effect of each CBT final Program Intervention group: For CBT in-prison (Brand) the average recidivism change is -11.96 percent; In the community (Brand) is -13.03 percent, (Non-brand) is -8.9 percent, and Residential Drug Treatment/Sober Living Environment in the community is -2.26 percent. See Appendix D - Average Recidivism Change for each program.

Figure 1. Recidivism Rate of CBT Programs

The Residential Drug Treatment/Sober Living Environment programs are provider led and offer wrap around services, they are delivered in group and individual sessions and some are licensed to provide residential services. The programs in this group offer CBT as a primary approach for
their SUDT as well as additional services such as; non-medical detoxification, criminal thinking/anger management, family relationships, recovery and treatment planning, health and life skills education, and employment/job development services. Some of these programs have distinct treatment modalities including a residential program, non-medical detoxification, and intensive outpatient with a sober living environment. Offenders attending services in this grouping range from 120 days to 15 months in duration and frequency varies based upon assessed need. The estimated recidivism reduction and estimated monetary impacts of CDCR SUDT programs are discussed in Section 6 - Results by Program Type of this report. It is important to note that Residential Drug Treatment/Sober Living Environment programs offered by CDCR provide broad re-entry services that include the (FOTEP), (MCRP), (RMSC) and (STOP).

The result of this phase showed that the majority of in-prison program interventions examined qualify as “highest rated / proven effective” $13.1 million (16.7 percent). These programs are shown to have a strong research design, specified procedures that allow for successful outcomes, and statistically significant positive recidivism reduction impacts. A total of $29.9 million (38.1 percent) was spent on the second highest rated program interventions that show evidenced-based or promising practices. These programs have quasi-experimental research designs and positive impacts that are shown to reduce recidivism. The additional $7.6 million (9.7 percent) of funding was spent on programs that are “not rated.” These program interventions did not match the clearinghouse and would need further review or evaluation. The remaining $27.9 million (35.5 percent) was spent on interventions below the 2,000+ hour threshold of delivery. Table 1 below highlights the final 16 Program Interventions by name, program expenditures, percent of total expenditures, and ratings for evidence-based matching.
### Table 1. Program Inventory

<table>
<thead>
<tr>
<th>Program Intervention Name</th>
<th>Program Expenditures</th>
<th>Percent of Total Expenditures</th>
<th>Results First Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living in Balance: Moving from a Life of Addiction to a Life of Recovery</td>
<td>7,179,181</td>
<td>9.1%</td>
<td>Highest rated</td>
</tr>
<tr>
<td>Seeking Safety: A Treatment Manual for PTSD and Substance Abuse</td>
<td>3,207,926</td>
<td>4.1%</td>
<td>Highest rated</td>
</tr>
<tr>
<td>Relapse Prevention Counseling Workbook: Managing High Risk Situations</td>
<td>1,237,883</td>
<td>1.6%</td>
<td>Highest rated</td>
</tr>
<tr>
<td>(Dialectical Behavioral Therapy) DBT Skills Training Handouts and Worksheets</td>
<td>809,630</td>
<td>1.0%</td>
<td>Highest rated</td>
</tr>
<tr>
<td>Helping Women Recover: A Program for Treating Addiction</td>
<td>695,184</td>
<td>0.9%</td>
<td>Highest rated</td>
</tr>
<tr>
<td><strong>Highest Rated Subtotal:</strong></td>
<td><strong>13,129,806</strong></td>
<td><strong>16.7%</strong></td>
<td>Highest rated</td>
</tr>
<tr>
<td>The Matrix Model</td>
<td>6,575,456</td>
<td>8.4%</td>
<td>Second-highest rated</td>
</tr>
<tr>
<td>Thinking for a Change</td>
<td>5,283,090</td>
<td>6.7%</td>
<td>Second-highest rated</td>
</tr>
<tr>
<td>TCU Intervention</td>
<td>4,435,175</td>
<td>5.6%</td>
<td>Second-highest rated</td>
</tr>
<tr>
<td>A New Direction: A Cognitive Behavioral Treatment Curriculum</td>
<td>3,527,623</td>
<td>4.5%</td>
<td>Second-highest rated</td>
</tr>
<tr>
<td>How to Escape Your Prison: A Moral Reconciliation Therapy Workbook</td>
<td>3,105,015</td>
<td>4.0%</td>
<td>Second-highest rated</td>
</tr>
<tr>
<td>Cognitive Behavioral Interventions for Substance Abuse</td>
<td>2,574,587</td>
<td>3.3%</td>
<td>Second-highest rated</td>
</tr>
<tr>
<td>The Courage to Change</td>
<td>1,680,452</td>
<td>2.1%</td>
<td>Second-highest rated</td>
</tr>
<tr>
<td>Getting it Right: Contributing to the Community</td>
<td>1,400,513</td>
<td>1.8%</td>
<td>Second-highest rated</td>
</tr>
<tr>
<td>(Motivational, Educational &amp; Experiential) MEE Journal System</td>
<td>1,304,636</td>
<td>1.7%</td>
<td>Second-highest rated</td>
</tr>
<tr>
<td><strong>Second Highest Rated Subtotal:</strong></td>
<td><strong>29,886,546</strong></td>
<td><strong>38.1%</strong></td>
<td>Second-highest rated</td>
</tr>
<tr>
<td>Anger Management for Substance Abuse and Mental Health Clients</td>
<td>6,838,461</td>
<td>8.7%</td>
<td>Not rated</td>
</tr>
<tr>
<td>Helping Men Recover: A Program for Treating Addiction</td>
<td>767,828</td>
<td>1.0%</td>
<td>Not rated</td>
</tr>
<tr>
<td><strong>Not Rated Subtotal:</strong></td>
<td><strong>7,606,289</strong></td>
<td><strong>9.7%</strong></td>
<td>Not rated</td>
</tr>
<tr>
<td>Interventions Less Than 2,000 Hours</td>
<td>27,892,697</td>
<td>35.5%</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>GRAND TOTAL:</strong></td>
<td><strong>78,515,338</strong></td>
<td><strong>100.0%</strong></td>
<td></td>
</tr>
</tbody>
</table>
3.3 Recidivism (Including System Usage)

For purposes of these analyses and for CDCR benefit-cost modeling, recidivism is defined as a reconviction within five years following release from a CDCR adult institution to parole. Our analyses do not include offenders released to PRCS. To establish a baseline recidivism rate, we developed a cohort comprised of the 34,998 offenders released from a CDCR adult institution to parole in calendar year 2010. This cohort includes felons and civil addicts who would have been prison eligible post-Realignment and excludes parole violation releases (Return to Custody and Pending Revocations)\(^{15}\), releases to PRCS, and direct discharges. Table 2 presents the baseline reconviction rate of 53.7 percent, as well as the one-, two-, three-, four-, and five-year rates. The baseline rate enables us to calculate the monetary benefits of CDCR programs based on its expected effect on reducing recidivism within the state. The effect sizes (expected recidivism reduction outcomes) are drawn from meta-analysis discussed above.

<table>
<thead>
<tr>
<th>Table 2. Conviction Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-Year</strong></td>
</tr>
<tr>
<td>Number Released</td>
</tr>
<tr>
<td>34,998</td>
</tr>
</tbody>
</table>

To develop a baseline recidivism cohort, we took the following steps; a cohort of releases were created from a calendar year which required release date, commitment offense and risk level. The release cohort was then merged with the California Department of Justice’s automated criminal history data to retrieve all convictions after their release from CDCR.\(^{16}\) The necessary data elements included: conviction date, all offenses associated with the conviction, as well as the sentencing information (prison, jail, probation, etc.). Each conviction found in the cohort must then be mapped to correspond with the seven crime categories used in the WSIPP model. Next, the details of the release cohort allowed for a minimum of five years of follow-up. CDCR’s Realignment was implemented less than five years ago, therefore a cohort of releases post-realignment would not allow for the minimum of five years of follow-up. A cohort of release pre-realignment would not be representative of the type of offenders currently receiving rehabilitative programs as CDCR. In order to meet the necessary criteria of having a cohort representative of CDCR’s current population as well as the five years of follow-up, the release cohort was comprised of offenders releases in the 2010 calendar year and limited to offenders who’s offense information and/or prior criminal history would have made them CDCR eligible if the realignment criteria had been in place. In addition to having a representative cohort and five years (60 months) of follow-up, the majority of each offender’s follow-up time (between 40 and 51 months depending on their date of release) will encompass the post-realignment era.

\(^{15}\) See Appendix A, Definition of Terms
\(^{16}\) CDCR only used data available from the Department of Justice Auto Rap Sheet release cohort necessary to create averages.
3.4 Resource Use Cost

The data we used to support these analyses was derived from several steps within the model and are from use and cost estimates for the major points of offender contact across the system (i.e., arrest, conviction, probation, jail, prison, and parole). The data gathered from state prison and parole were leveraged from the CDCR’s Budget Management Branch and, the State Department of Finance. The local data were leveraged from four California counties who are already part of the RF county initiative (Kern, Fresno, Santa Cruz and Santa Barbara) who shared their data with the state. This information was used to predict the likelihood of using a criminal justice resource, the amount of usage, and the cost per unit of usage. The cost and criminal justice system usage data is combined to estimate the overall avoided costs to taxpayers and crime victims of an offender receiving another conviction, and going through the criminal justice system.

In our approach to costing services as part of resource use, resource costs were leveraged from four California counties who agreed to share an average from their model inputs for specific data unavailable at the state level, or that required substantial time and resources to gather from all 58 counties. Additional length of stay data was based on elapsed time on supervision (local sentence or local supervision - probation not including PRCS)\(^\text{17}\). The county cost was developed collaboratively with RF Technical and Policy Advisory Team and county stakeholders who worked through similar approaches to attain the closest estimate possible of an additional service unit or year. In addition to marginal cost that were derived from a top down approach where each agency worked through its 2014 budgets to develop costs that were considered “marginal costs” for the year.

The amounts provided to CDCR for local costs generally comprised the following methodology:

1) Jail annual cost per person: Estimates were developed to reflect actual operational expenditures from budgets/cost centers that reflect front line jail staff, food, laundry, medical services, pharmacy, and other costs that would change with an additional person incarcerated in jail and costs associated with transportation between facilities and officer training;

2) Local Supervision for one year per person (probation not including PRCS): Cost were developed to reflect probation case carrying officers staff costs (wages and benefits), staff training, travel, drug testing, and duplication. Officers included were both supervision as well as those serving the court with written reports and;

3) Court Process per conviction (Judiciary/District Attorney/Public Defender/Court Security/Jail Transportation): Estimates include salary and benefits from a range of players in the court process, such as judges, courtroom clerks, district attorney, public defender, paralegals, and outside conflict council. This also includes costs such as court security, jail transportation for court, duplication/copying, training, district attorney investigations, district attorney crime scene and crime lab, and travel associated with

\(^{17}\) PRCS are combined with parole to get at the weighted cost of post-prison release. For length of stay and marginal costs of those released to “Local Supervision, Post-Prison”, Results First recommended doing a weighted average of Parole and PRCS.
case processing. Each of the agencies involved were gathered separately from individual budgets, with the judiciary looking at documents and budgets from the judicial council. Using all of these inputs, the model calculates the estimated number of victimizations per convicted offender.

### 3.5 Victimization

Victimization cost are an estimation of the marginal cost of criminal justice processes, a monetization of the impacts to crime victims, and taxpayer costs (Local costs: arrest, jail, courts, probation, State costs: prison and parole, Societal costs: to crime victims, Tangible costs: lost property and wages, and Intangible costs: pain and suffering estimates). Some crimes do not create victimization costs. The model excludes crimes against society, such as drug crimes. Refer to the Limitations Section for RF Benefit-cost Model limitations. While many of the costs associated with crime and victimization are intangible, there is a monetary value for avoiding a conviction, including harm reduction for victims of subsequent crimes and to taxpayers for avoided trips through the criminal justice system. Results indicate the cost avoidance for the State of California when an offender is not reconvicted of a crime is roughly $104,000. If the jurisdiction avoids an offender going through the system, these costs become benefits. The benefits come from two sources: 1) Taxpayers, by way of avoided cost of the justice system and in the above example $31,200 or 30 percent of the avoided costs, and; 2) Other beneficiaries, which are avoided costs to crime victims and in the above example make up $72,800 in avoided costs, or 70 percent of the avoided cost of a recidivist.

National study results are used to incorporate the costs to crime victims. This estimate includes tangible costs like medical expenses, lost time from work, and lost property as well as intangible costs such as pain and suffering. The costs and criminal justice system usage data is combined to estimate the overall avoided costs to taxpayers and crime victims of an offender committing a crime and going through the system. This shows the opportunity that reducing recidivism holds in fewer victims and lower costs.

### 4 Key Findings

Our analyses found that 3 of the 4 CDCR SUDT programs examined are cost beneficial with estimated taxpayer ROI over $1. Our SUDT programs yielded estimated cost avoidance per person of $4.65 for every $1 spent for in-prison programs, $20.31 for Community (Name Brand), $5.60 for Community (Non-Name Brand) and 19 cents for every dollar spent in Residential Drug Treatment/Sober Living Environment in the community. Estimated returns on investment over $1 are considered positive and indicate that programs appear to be cost effective at reducing recidivism. However, when looking across programs and recidivism reduction strategies, some programs may be more cost effective than others. The ability to compare programs meeting similar offender needs is an important feature of this analysis. The

---

estimated ROI of program benefits for some CDCR programs are as low as 19 cents, such as Residential Drug Treatment/Sober Living Environment and, yield an estimated ROI as high as $20.31 for CBT in the community. Whereas, the ROI for CBT in-prison programs are estimated at $4.65 for every dollar spent. The ratio of program benefits to costs is one way to determine if the investment is returning more in benefits than it is costing to run. Our analyses indicate that all sixteen CDCR programs included in this study are currently yielding a positive benefit-cost ratio.

In FY 2015-16, $131.8 million was allotted for CDCR contracts offering services with a SUDT focus. As the chart below shows (Figure 4), 60 percent or $78.5 million was spent on SUDT direct service delivery. Direct service delivery costs are those associated with providing direct services to the client such as; Job Developers, CBT Facilitators, Case Managers, Counselors, Program Supervisors and Directors, training, education, supplies and expendable equipment. The programs that met the threshold for inclusion in the inventory were matched to the RF Clearinghouse database to assess the level of evidence. The CDCR SUDT programs that were found to be similar to those evidence-based programs within the RF Clearinghouse fell within this cost category. The remaining $53.2 million was used for indirect services (administrative) and operating costs (i.e., transitional housing, academic and vocational education services, employment readiness services, parenting/family relations classes, criminal thinking classes, anger management programs, facility costs, food, staff salaries, and training for staff).

\[\text{A total of $58 million contract dollars applied to those programs matched with a 2,000+ hour threshold (The remaining programs that fell below 2,000 hours of programming constituted a total of $28 million).}\]
The finding that a majority of contract dollars spent on direct services is positive. Studies show that additional treatment due to complications as a result of substance abuse are what typically make up the direct cost. Substance abuse related costs are incurred in the direct treatment of the problem, treatment of conditions that are attributable and for which substance abuse is a major factor. For a direct service delivery expenditure breakdown. See Figure 5 below – SUDT Direct Service Delivery Expenditures by Evidence-base Matching.

---

20 [http://store.samhsa.gov/shin/content/SMA00-3437/SMA00-3437.pdf](http://store.samhsa.gov/shin/content/SMA00-3437/SMA00-3437.pdf)
For CDCR, community programs comprised nearly 92 percent or $68.1 million of the total direct service cost, while the in-prison program direct cost constitute less than 8 percent or $10.4 million. One important factor to note is within community-based programs, the licensed residential treatment and non-medical detoxification service costs increase overall costs for these programs. In addition, these programs are for higher-risk and need offender populations whom often times have additional treatment and require a more holistic approach to SUDT. It is also important to note that the analyses presented in this report are based upon estimates and CDCR achieves better recidivism reduction outcomes than the effect sizes included in the model (as reported in our annual Outcome Evaluation Report)\textsuperscript{21} for individuals who participate in in-prison SUDT and complete aftercare. This important nuance emphasizes the need for CDCR to conduct evaluations of our programs rather than borrow national data.

It is also important to acknowledge that funding for indirect services are critical and support overall service delivery related to SUDT programming. These services should be included in treatment practices to assure a comprehensive treatment plan. If the value of indirect services are not included in the overall treatment costs, the true cost of treatment will be underestimated.\textsuperscript{22} Most of these indirect cost are associated with additional services that

\textsuperscript{21} See pages 44 – 46.  

enhance SUDT treatment, (i.e., transitional housing, non-medical detoxification, education, criminal thinking / anger management, victim impact, family relationships, recovery and treatment planning, health and life skills education, and employment readiness / job development services) and are typically more costly because they are sub-contracted out due to the nature of the services being provided.

The predicted costs, benefits, and ROI ratios for each program are calculated as accurately as possible but are, like all projections, our estimates are subject to some level of uncertainty and variance. 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 may represent ‘best buys’ for the State while others are predicted to generate small or even negative net benefits and may represent neutral or poor investment opportunities. The results of this effort will be used to assist with estimating the economic value of evidence-based programs and policies that may reduce crime, calculate potential returns on investment, funding alternative programs, rank programs based on their projected benefits, costs, investment risks, and prioritize which programs should be included in process evaluations to assess implementation and fidelity. Again, caution should be used when interpreting these results as they are based on estimates derived from econometric modeling. Confirming that CDCR’s SUDT programs achieved the estimated result presented in this report requires program-level evaluations.

5 Results by Program Type

Once all phases were complete, selected programs were run through the CDCR Benefit-cost Model and the data analyzed to compare each programs’ likely benefit-cost ratio. The results of the benefit-cost analysis identified the following results by program type (CBT in-prison, in the community (Brand and Non-Brand), and Residential Drug Treatment/Sober Living Environment in the community), that could be achieved with proper implementation and reliable quality assurance practices. Program evaluations are essential to ensure a program produces the desired outcome. The following benefit-cost results are calculations that rely on the assumption of faithful implementation of the evidence-based practices. These estimates occur in a five-year follow-up period, but in reality, benefits continue to accrue to these services beyond the five-year window of measurement.

Although CDCR has implemented many evidence-based programs and programs with promising practices, many programs included in our inventory lack a rigorous evaluation of effectiveness. In particular, there was not an assessment of outcomes compared to a control or matched comparison group. Moving forward it is important for CDCR to conduct program evaluations to assess implementation, fidelity and effectiveness. This is particularly true for programs in which little or no research has been completed to assess effectiveness. Therefore, if a program in CDCR does not have a rigorous evaluation, they are reliant on the effectiveness of programs as assessed in the RF Clearinghouse Database literature.
The following Tables 5.1 through 5.4, are a detailed listing of each program type, covering several key areas gathered from the program inventory, benefit-cost model, and interviews with providers on implementation.

1) Level of evidence and Implementation
   - Level of Evidence
   - Estimated Annual Recidivism Reduction
   - Average Duration and Frequency
   - Program/Contracts
2) Benefit-cost ratio five years from the start of treatment
   - Benefit-cost Ratio
   - Type of Benefits by Perspective
   - Net Costs
   - Benefit to Cost Ratio - Victimization
3) Cost Analysis
4) Cost Effectiveness
5) Implementation
5.1 CBT (High to Moderate Risk Offenders) In-Prison General

<table>
<thead>
<tr>
<th>Level of evidence</th>
<th>Estimated annual recidivism reduction:</th>
<th>Average duration</th>
<th>Average frequency</th>
<th>Program/Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Second Highest Rated</strong></td>
<td>11.96%</td>
<td>6 months</td>
<td>90 minute sessions 1 time per week</td>
<td>Prison-Based Programs: MLP, SLP, RHP, LTOP, MCCF</td>
</tr>
</tbody>
</table>

**Benefit-cost ratio five years from the start of treatment:**

<table>
<thead>
<tr>
<th>Benefit-cost Ratio</th>
<th>Type</th>
<th>Total</th>
<th>Taxpayer</th>
<th>Crime Victims</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4.65</td>
<td>Benefits</td>
<td>$4,435</td>
<td>$1,304</td>
<td>$3,131</td>
</tr>
<tr>
<td></td>
<td>Net costs</td>
<td>$954</td>
<td>$954</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>B/C ratio</td>
<td>$4.65</td>
<td>$1.36</td>
<td>$3.28</td>
</tr>
</tbody>
</table>

**Cost Analysis:** For CBT offenders with an assessed need In-Prison utilize costs associated with seven of the 16 interventions which met the threshold of 900+ hours of service delivery. These interventions are: Texas Christian University (TCU) Intervention, Cognitive Behavioral Interventions for Substance Abuse (CBI-SA), Seeking Safety, The Matrix Model, Thinking for a Change, A New Direction A Cognitive Behavioral Treatment Curriculum, and Helping Women Recover: A Program for Treating Addiction.

**Effectiveness Analysis:** These programs are second highest rated and have a recidivism reduction of 11.96 percent per year compared to the baseline. The Benefit Cost Ratio yields total benefits $4.65 cents for every $1 spent. The NPV of the net program benefits is $3,481 per person (Benefits minus costs from the table above), which accrue to avoided victims as well as avoided public sector costs. This program has a 99.7 percent chance that benefits will exceed cost based on 5,000 Monte Carlo simulations.

**Implementation:** The CBT In-Prison Programs include MLP, SLP, RHP, LTOP and MCCF. These are classroom-based provider led programs for offenders who have a criminogenic need in substance use. The classes rely on a cognitive behavioral approach to teach participants strategies for avoiding substance use; placing heavy emphasis on skill-building activities to assist with cognitive, social, emotional, and coping skill development. For these contracts, CBI-SA is required to be the primary intervention offered for the male programs. The female programs have the choice to use Seeking Safety or CBI-SA as their primary intervention. The remaining interventions are secondary as there is not a requirement to offer specific secondary interventions. Service types in this program group are an average of 150 days in length. Offenders are required to attend 3.25 hours of programming an average of 5 days per week.
5.2 CBT (High to Moderate Risk Offenders) Community Non-Name Brand

<table>
<thead>
<tr>
<th>Level of evidence</th>
<th>Estimated annual recidivism reduction:</th>
<th>Average duration</th>
<th>Average frequency</th>
<th>Program/Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Highest Rated</td>
<td>8.97%</td>
<td>6 months</td>
<td>90 minute sessions 1 time per week</td>
<td>Community-Based Programs: CBC, DRC</td>
</tr>
</tbody>
</table>

**Benefit-cost ratio five years from the start of treatment:**

<table>
<thead>
<tr>
<th>Benefit-cost Ratio</th>
<th>Type</th>
<th>Total</th>
<th>Taxpayer</th>
<th>Crime Victims</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5.60</td>
<td>Benefits</td>
<td>$3,294</td>
<td>$977</td>
<td>$2,317</td>
</tr>
<tr>
<td></td>
<td>Net costs</td>
<td>$588</td>
<td>$588</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>B/C ratio</td>
<td>$5.60</td>
<td>$1.66</td>
<td>$3.94</td>
</tr>
</tbody>
</table>


*Effectiveness Analysis:* These programs are second highest rated and have a recidivism reduction of 8.97 percent. The Benefit Cost Ratio yields total benefits of $5.60 for every $1 spent. The NPV of the net benefit is $2,706 per person (Benefits minus costs from the table above), which accrue to avoided victims as well as avoided public sector costs. This program has an 88 percent chance that benefits will exceed cost based on 5,000 Monte Carlo simulations.

*Implementation:* The CBT (High to Moderate Risk Offenders) Community Non-Name Brand programs include the CBC and DRC. These programs provide gender-responsive and culturally competent day treatment services for parolees. The contracts are administered through both public entity agreements and private (non-profit and for profit) agencies. Services are provider led including outpatient substance use disorder treatment, case management, individual/group
counseling, cognitive, pro-social and life skills, money management, anger management, parenting and family reintegration, education, employment training, and transitional work opportunities. Offenders attending service types in this group do not have a prescribed duration of frequency for attendance as it is based upon assessed need.
### 5.3 CBT (High to Moderate Risk Offenders) Community Name Brand

<table>
<thead>
<tr>
<th>Level of evidence</th>
<th>Estimated annual recidivism reduction:</th>
<th>Average duration</th>
<th>Average frequency</th>
<th>Program/Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Highest Rated</td>
<td>13.03%</td>
<td>6 months</td>
<td>90 minute sessions</td>
<td>Community-Based Programs: CBC, DRC</td>
</tr>
</tbody>
</table>

**Benefit-cost ratio five years from the start of treatment:**

<table>
<thead>
<tr>
<th>Benefit-cost Ratio</th>
<th>Type</th>
<th>Total</th>
<th>Taxpayer</th>
<th>Crime Victims</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20.31</td>
<td>Benefits</td>
<td>$4,814</td>
<td>$1,434</td>
<td>$3,380</td>
</tr>
<tr>
<td></td>
<td>Net costs</td>
<td>$237</td>
<td>$237</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>B/C ratio</td>
<td>$20.31</td>
<td>$6.05</td>
<td>$14.26</td>
</tr>
</tbody>
</table>

**Cost Analysis:** For specific CBT offenders with an assessed need Community Name Brand utilized costs associated with 3 of the 16 interventions meeting the threshold of 2,000+ hours of service delivery because WSIPP was able to develop specific effect sizes for several interventions: Seeking Safety, Thinking for a Change, and How to Escape Your Prison: A Moral Reconciliation Therapy Workbook.

**Effectiveness Analysis:** These programs are second highest rated and have a recidivism reduction of 13.03 percent. The Benefit Cost Ratio yields total benefits $20.31 for every $1 spent. The NPV of the net program benefits is $4,577 per person (Benefits minus costs from the table above), which accrue to avoided victims as well as avoided public sector costs. This program has a 100 percent chance that benefits will exceed cost based on 5,000 Monte Carlo simulations.

**Implementation:** The specific CBT Community Name Brand programs include the CBC and DRC. These programs provide gender-responsive and culturally competent day treatment services for parolees. The contracts are administered through both public entity agreements and private (non-profit and for profit) agencies. Services are provider led including outpatient substance use disorder treatment, case management, individual/group counseling, cognitive, pro-social and life skills, money management, anger management, parenting and family reintegration, education, employment training, and transitional work opportunities. Offenders attending service types in the CBC and DRC do not have a prescribed duration of frequency for attendance as it is based upon assessed need.
5.4 Residential Drug Treatment/Sober Living Environment (Community)

<table>
<thead>
<tr>
<th>Level of evidence</th>
<th>Estimated annual recidivism reduction:</th>
<th>Average duration</th>
<th>Average frequency</th>
<th>Program/Contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Rated</td>
<td>2.26%</td>
<td>6 months</td>
<td>90 minute sessions 1 time per week</td>
<td>Community-Based Programs: FOTEP, RMSC, MCRP, STOP</td>
</tr>
</tbody>
</table>

**Benefit-cost ratio five years from the start of treatment:**

<table>
<thead>
<tr>
<th>Benefit-cost Ratio</th>
<th>Type</th>
<th>Total</th>
<th>Taxpayer</th>
<th>Crime Victims</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 cents</td>
<td>Benefits</td>
<td>$790</td>
<td>$233</td>
<td>$558</td>
</tr>
<tr>
<td></td>
<td>Net costs</td>
<td>$4,086</td>
<td>$4,086</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>B/C ratio</td>
<td>$0.19</td>
<td>$0.06</td>
<td>$0.14</td>
</tr>
</tbody>
</table>

**Cost Analysis:** Residential Drug Treatment/Sober Living Environment Programs were examined and CBT was determined to be the core treatment model used. The programs in this group offer non-medical detoxification access, substance use disorder treatment/education, group and individual sessions, criminal thinking/anger management, family relationships, recovery and treatment planning, health and life skills education and employment/job development services.

**Effectiveness Analysis:** These programs have a significant positive impact, yet low cumulative five-year estimated recidivism reduction of 2.26 percent. Despite a lower estimated recidivism reduction, this CDCR program has displayed positive results among its participants.

The Benefit Cost Ratio yields total benefits of 19 cents for every $1 spent. However, the NPV of the net benefits is (-$3,296) per person (Benefits minus costs from the table above), due to the low estimated recidivism reduction and the high cost of offering these service which include residential and intensive outpatient treatment. These programs have a 14.5 percent chance that benefits will exceed cost based on a 5,000 Monte Carlo simulation. These programs are not shown to be cost-effective, however evidence-based, the cost of delivery outweighs the recidivism reduction we expect to achieve by offering these services. Most of these programs are centered toward high risk and high need offender populations. According to the Bureau of Justice Statistics (BJS), more than half, 58 percent of offenders in state prisons and about two-thirds, 63 percent of sentenced jail
inmates met the criteria for drug dependence or abuse during 2007-09. Empirical research shows that those high risk and need offenders – as well as others – who participate in substance abuse treatment are associated with lower rates of future drug use and reoffending. Unfortunately, the costs associated with providing services to these populations, are high. In addition, standardized estimates of treatment cost vary from region to region, even for different parts of the same city and, have vastly different economic and professional environments, which effect costs in complex ways.

Implementation: The Residential Drug Treatment/Sober Living Environment (Community) Programs include FOTEP, RMSC, MCRP, and STOP. These programs broadly fit into this category because they are all provider led and licensed through the California Department of Health Care Services to provide residential services. However, these programs offer a variety of services beyond SUDT that were included in these analyses. Our approach took a narrow focus by only examining the contract costs associated with SUDT and did not attempt to monetize or examine the costs associated with all of the services offered through these contracts. The STOP has 3 distinct treatment modalities including a residential program, non-medical detoxification, and outpatient with a sober living environment. The FOTEP is a legislatively authorized, gender-responsive program for female parolees. Offenders attending service types in this group are 120 days to 15 months duration. Frequency varies as it is residential and is based upon assessed need. The MCRP provides a range of community-based, rehabilitative services that assist with linkages to substance use disorders, mental health care, medical care treatment as well employment, education, housing, family reunification, and social support. Offenders who participate in these programs do not have to have an assessed SUDT need. These programs offer a variety of services including; family relationships, anger management, criminal thinking, victim impact and, employment. Other client costs include; resident food, clothing and travel, staff training and education, client incentives, linen/household services and office supplies.

The RMSC’s provide substance use disorder treatment, housing, sustenance, and life skills. The RMSC’s primary goal is to end substance abuse among the parolee population, and to help parolees transition into productive members of society. The program targets parolees who are living in at-risk environments. Services include housing, substance use disorder treatment, literacy training, job preparation and placement, anger management classes, and individual and group counseling.

---

6 Long-term Cost of Recidivism

Along with CDCR’s benefit-cost outcome for the cost of a conviction, we calculated that over a five-year period. Five years of recidivism cost the State of California an estimated $3.46 billion per cohort of offenders released from prison. The calculation applies the $104,059 per conviction which includes victimization and taxpayer costs, based on the 36,864 reconvictions involved in the release cohort. On average, recidivism costs an estimated $700 million each year based off this same cohort. Refer to Table 3 below for total convictions and cost breakdowns.

Table 3. Cost of Recidivism

<table>
<thead>
<tr>
<th>Year from Release</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convictions</td>
<td>6,269</td>
<td>7,855</td>
<td>8,223</td>
<td>7,688</td>
<td>6,829</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$630,285,866</td>
<td>$763,036,192</td>
<td>$771,771,770</td>
<td>$697,158,655</td>
<td>$598,322,055</td>
</tr>
<tr>
<td>Five Year Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,460,574,538</td>
</tr>
</tbody>
</table>

Estimating the cost of conviction allows CDCR to model changes in recidivism rates over time. Below in Table 4, we modeled a hypothetical recidivism reduction by reducing the total convictions by five percent. In this method, the five percent reduction would amount to 1,843 fewer convictions over the five years with a new total estimate of $3.28 billion dollars in cost avoidance. A difference of approximately $173 million in overall estimated costs avoided for the five-year period, and an average reduction of $34.6 million per year.

Table 4. Five Percent Recidivism Reduction

<table>
<thead>
<tr>
<th>Year from Release</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convictions</td>
<td>5,956</td>
<td>7,462</td>
<td>7,812</td>
<td>7,304</td>
<td>6,488</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$598,771,572</td>
<td>$724,884,382</td>
<td>$733,183,182</td>
<td>$662,300,723</td>
<td>$568,405,952</td>
</tr>
<tr>
<td>Five Year Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,287,545,812</td>
</tr>
<tr>
<td>Cost Difference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$173,028,726</td>
</tr>
<tr>
<td>Annual Cost Avoidance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$34,605,745</td>
</tr>
</tbody>
</table>

7 Limitations

It is important to note the data and analyses presented in this report were not drawn directly from CDCR program outcomes or effectiveness. Rather, these data represent the estimated benefits CDCR can expect if our SUDT program outcomes resemble those found in previous rigorous evaluations conducted throughout the nation. Confirming that CDCR’s SUDT programs

---

25 The 2010 CDCR cohort had a cumulative recidivism rate (53.7 percent) of the 34,998 individuals released from prison in 2010. The 18,793 people who recidivated generated 36,864 subsequent convictions.

26 The future recidivism costs are discounted using a 3.5 percent social discount rate to reflect the reduced value of future dollars.

27 Offenders would have multiple convictions are accounted for within this 5-year follow-up period.
achieved the outcomes assumed in our analyses would involve conducting separate program evaluations (both process and outcome). To achieve the estimated benefits presented in this report, evidence-based programs administered by CDCR must implement the service with fidelity to the research design.

As with any benefit-cost analysis, some costs and benefits may be omitted. Many omissions may be from the inability to estimate the program’s impact or lack of accepted monetary valuations of the programs impact. CDCR has sought to include all appropriate costs and benefits that are best suited for a sound measurable impact of this study. The following are project limitations relevant to the RF Benefit-cost Model and lessons learned by CDCR.

The RF Benefit-cost Model relies on matching programs to rigorous studies within the RF National Clearinghouse (borrowing the effect size), but they are from other jurisdictions so the recidivism reduction may vary based on local implementations which encourages local evaluation. In addition, as there is uncertainty in making any investment, the benefit-cost analysis is returning an expected benefit over several years, and reflects some of this uncertainty by using simulation models – as described in the Methods section of the report – which can help in assessing the level of certainty for attaining a positive net of benefits minus costs relative to outcome certainty. For this reason, monetary findings should not be interpreted as budget savings, but benefits either in avoided public sector costs or victimizations.

The research used by the model does not measure the secondary impact of crime in victims’ employment, housing, and familial needs because approximations of these variables have not been established by research. Second, the effects of crime on the offenders; employment, housing and family stability, and health due to criminal justice involvement are not included, as well as the intergenerational and long-term effects of crime. For example, effects of parental arrest or incarceration on children’s education, employment and health consequences are also not included in the model. Lastly, the social discount rate minimizes the costs of long-term effects of crime. The social discount rate values a benefit that accrues in the future as less than its value today.

The following limitations and lessons learned are specific to project implementation and program fidelity:

- Due to the complexity of the SUDT program inventory the allotted one year timeline was insufficient to study all programs therefore, thresholds were implemented to include only those programs most representative of CDCR programming;
- The variance of programs / interventions (curricula) offered was so diverse that additional data collection occurred that were not part of the original project plan;
- The autonomy of services / and various versions of SUDT curricula delivered by contract providers made data collection efforts cumbersome. During contract development, data collection requirements were not specific to the data / variables necessary for the RF Initiative. Nor, were the data collection requirements consistently implemented by providers;
Overall, cost estimation is not generalizable as costs vary from one region to another - impacting averages obtained from indirect cost services.

8 Next Steps

To accomplish the next steps listed below, CDCR will work over the next several years with stakeholders, program staff, and executive management to assess the implementation and fidelity of our SUDT programs. We plan to focus on a program operations, implementation, service delivery, and program fidelity. Understanding whether or not a program has been implemented correctly will enable CDCR to work with program and contract staff to improve the quality and delivery of our programs, which will result in better offender outcomes.

In partnership with internal research and analytical staff, DRP has already developed and implemented quantitative performance measures (i.e., refined our data collection and counting rules) to assess the status of program implementation. Leveraging Departmental data, we have developed six key metrics (Budget Capacity, Active Capacity, Enrollment (Assignment), Meaningful Participation, Completion and, Attendance Rate) of program performance that, in totality, provide a state-wide view of program operations. These data may also be used to provide feedback on quality improvements to program providers related to record keeping and data entry, and expectations on enrollment and attendance rates. Furthermore, we have instituted a high-level staff person, a Correctional Counselor III (CC III), at every institution to serve as an “air-traffic controller” and work toward placing the right offenders in the right program, at the right time.

Now that we have estimates on which programs may produce the greatest return of investment, we can work to develop a detailed process and outcome evaluation plan which will complement the following next steps that may include:

- Conducting stakeholder and provider awareness regarding evidence-based policy making;
- Conduct further analyses to assess program implementation and fidelity to ensure programs are delivered in accordance with practices most likely to produce evidence-based results; and
- Work with contract providers to minimize variation in programs while maintaining flexibility needed to offer services statewide, and prioritize evidence-based programs.
Appendix A

Definition of Terms

**Benefit-Cost Analysis:** A systematic approach to determining the cost effectiveness of alternative services or policies by comparing expected benefits to expected costs.

**Benefit-Cost Ratio:** The net present value of anticipated benefits to state residents for every dollar in service costs, in a five-year period.

**Benefits:** In the context of services aimed at reducing recidivism, benefits are defined as avoided costs that would have occurred when an individual recidivates.

**Costs:** The incremental cost of providing a service or practice to one additional participant. Service costs do not include fixed costs, such as rent or utilities. Net costs refer to the cost of the service less any counterfactual costs.

**Evidence-based:** A service or practice whose effectiveness has been rigorously evaluated, ideally multiple times, using studies with experimental or quasi-experimental designs.

**Highest Rated:** The clearinghouse assigned the interventions its highest rating. In general, this requires one to two evaluations that: a) use the strongest research designs, including randomized control trials or high-quality quasi-experimental designs; and b) show that the intervention had a statistically significant positive impact.

**Needs Additional Research:** This represents program or intervention data that needs additional research and examination.

**Not Rated:** The clearinghouse found the intervention to have no statistically significant effects based on at least one evaluation that used a randomized control trial or quasi-experimental design.

**Pending Revocation:** Offenders returned to and housed in a CDCR facility while awaiting the outcome of their parole hearing for parole violation (either technical or law).

**Results First Clearinghouse Database:** One-stop online resource that provides policymakers with an easy way to find information on the effectiveness of various interventions as rated by eight national research clearinghouses. These clearinghouses conduct literature reviews and rate interventions in a range of policy areas based on rigorous evaluations.

**Return to Custody (RTC):** There are two types of RTC’s; a parole violation (law) which occurs when a parolee commits a crime while on parole and returns to CDCR custody (RTC) by action of the Board of Parole Hearings rather than by prosecution in the courts. A parole violation
(technical), is a technical violation that occurs when a parolee violates a condition of his/her parole that is not considered a new crime and returns to CDCR custody.

**Recidivism**: The relapse of a person into criminal behavior, measured by criminal acts that result in conviction for a new crime.

**Second Highest Rated**: The clearinghouse assigned the intervention its second-highest rating. This generally requires an evaluation that used a quasi-experimental design and showed that the intervention had a positive impact.

**Service**: An intervention (treatment, program, or practice) implemented to affect a distinct outcome (e.g., reducing recidivism).

**Societal Benefits**: Benefits that accumulate to society are victim costs avoided when a crime is not committed. Depending on the type of crime avoided, these can include medical expenses, cash losses, property theft or damage, pain and suffering, lost earnings from injury or in the case of premature death from homicide, the value of a statistical life.

**Taxpayer Benefits**: Benefits that accumulate to California taxpayers through avoided costs to the criminal justice system. These include resources used for arrests, the cost of prosecutors, public defenders and courts, and the costs of jails, prisons, and supervision (parole and probation) drawn from work conducted by Pew-MacArthur Results First in 4 California counties.

**Total Benefits**: The sum of taxpayer and societal benefits.

**WSIPP Meta-analysis**: is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

**WSIPP Cognitive Behavioral Therapy (CBT)**: CBT emphasizes individual accountability and teaches offenders that cognitive deficits, distortions, and flawed thinking processes cause criminal behavior. This curriculum covers problem solving as well as social skills. For this broad grouping of studies, CBT was delivered to adults in either an institutional or community setting and included a variety of “brand name” programs (Moral Reconation Therapy, Reasoning and Rehabilitation, and Thinking 4 a Change). Studies were excluded from this analysis that evaluated CBT delivered specifically as sex offender treatment.
Appendix B

Ratings for Evidence-based Matching

The Results First inventories are an intermediary step to determine which services to include in the final benefit-cost analysis. Each contains information about the service, the agencies involved and the extent to which there is evidence that the services are attaining desired outcomes.

The CDCR places featured services in one of the three categories listed in the following table, based on evidence of effectiveness found in the Results First National Clearinghouses. The services delivered by CDCR that closely resemble ones featured in a national clearinghouse or have been rigorously evaluated in California are included.

<table>
<thead>
<tr>
<th>Rating Color</th>
<th>Rating Category</th>
<th>Broad Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Rated</td>
<td></td>
<td>The clearinghouse assigned the intervention its highest rating. In general, this requires one to two evaluations that: a) use the strongest research designs, including randomized control trials or high-quality quasi-experimental designs; and b) show that the intervention had a statistically significant positive impact.</td>
</tr>
<tr>
<td>Second Highest Rated</td>
<td></td>
<td>The clearinghouse assigned the intervention its second-highest rating. This generally requires an evaluation that used a quasi-experimental design and showed that the intervention had a positive impact or showed a promising practice.</td>
</tr>
<tr>
<td>Not Rated</td>
<td></td>
<td>This clearinghouse found the intervention to have no match to the clearinghouse intervention therefore no evidence of effects. These services would require further research and evaluation.</td>
</tr>
</tbody>
</table>
## Appendix C

### Service Type Descriptions

<table>
<thead>
<tr>
<th>Name</th>
<th>Program Description</th>
</tr>
</thead>
</table>
| Community Based Coalition (CBC)/Day Reporting Center (DRC)          | **Day Treatment Community-Based Program**

A Day Treatment Program providing gender-responsive, trauma-informed and culturally competent services. Services provided include outpatient substance use disorder treatment, case management, individual/group counseling, cognitive, pro-social and life skills, money management, anger management, parenting and family reintegration, education, employment training and transitional work opportunities. The outpatient substance use disorder treatment uses an evidence-based curriculum using the principles of Cognitive Behavioral Therapy (CBT). The program may provide transitional housing to program participants. |

| Female Offender Treatment and Employment Program (FOTEP)            | **In-Patient Community-Based Program**

A legislatively authorized, intensive evidence-based, gender responsive, strength-based, trauma-informed, family-focused and culturally competent residential rehabilitative program for female parolees and their minor children. The facility is licensed through the Department of Health Care Services (DHCS) to provide residential treatment services such as structured case management and wraparound services including: substance use disorder treatment, cognitive behavioral interventions, trauma therapy, education and literacy support, community/family reunification services, employment readiness and independent living skills. |

| Male Community Reentry Program (MCRP)                              | **In-Patient Community-Based Program**

A DHCS licensed residential treatment facility. This program provides or arranges linkage to a range of evidence and community-based rehabilitative services including substance use disorder treatment/education, group and individual counseling sessions, co-occurring disorder services, life skills education, literacy, employment development and readiness, family reunification, financial literacy, community survival skills, independent housing, transitional skills for independent living, assistance with obtaining identification and healthcare coverage and aftercare services. |

| Residential Multi-Service Center (RMSC)                            | **In-Patient Community-Based Program**

A DHCS licensed residential treatment facility providing non-medical detoxification access, substance use disorder treatment/education, group and individual sessions, criminal thinking/anger management, family relationships, recovery and treatment planning, health education and employment/job development services. The contractor uses an evidence-based curriculum based upon CBT principles to provide the scope of services. Services are provided in four phases of programming: (1) A 30-day Introduction into Program; (2) Intermediate Program Continuation; (3) Advance Program Continuation; (4) Aftercare Programming and Completion (minimum of 60 days, maximum of 150 days). |

| Specialized Treatment for Optimized Programming (STOP)             | **In-Patient Community-Based Program**

Provides access to three treatment modalities based upon the parolee’s assessed need: (1) A DHCS licensed residential treatment facility providing residential treatment services including substance use disorder treatment/education, group and individual sessions, recovery and treatment planning, stress, anger and violence management related to criminality, referrals for: primary health care/education, employment/education, life skills, community services and social/recreational activities. (2) Sober Living Environment with participation in a DHCS certified Outpatient treatment program providing SUDT outpatient treatment and other outpatient services. The other outpatient services may include: CBT interventions, employability and job development, education and literacy, life skills and non-SUDT counseling. (3) A DHCS licensed residential non-medical detoxification service. Provided when a parolee’s assessment has identified the need for detoxification during or prior to STOP programming. Modality components include detoxification intake at admission, food and housing, withdrawal assessment, detoxification observation, monitoring and supervision, referral to medical care and crisis intervention. |
# Appendix C

## Service Type Descriptions (Continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Program Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In-Prison Multi-Level Substance Abuse Treatment Program (MLP)</strong></td>
<td><strong>In-Patient Cognitive Behavior Therapy Program</strong>&lt;br&gt;Classroom-based SUDT, for individuals who have a criminogenic need in the area of substance use. The class relies on a cognitive behavioral approach to teach participants strategies for avoiding substance use. There is heavy emphasis on skill-building activities to assist with cognitive, social, emotional, and coping skill development. Level 1 - Modified Therapeutic Community: addresses Criminal and Addictive Thinking, Self Control Model, Addiction Offender Cycle, Anger (w/Assessed Need), Aggression (w/Assessed Need), Hostility (w/Assessed Need), Violence (w/Assessed Need), Parenting, Family, Core Skills (w/Assessed Need), Domestic Violence (w/Assessed Need), Principles of Recovery, Life Skills, Thinking Errors, Pharmacology Education, Relapse Prevention, Self-Help Support, and Health and Wellness Education. Level 2 - Intensive Outpatient: addresses Criminal and Addictive Thinking, Self-Control Model, Addiction Offender Cycle, Life Skills, Thinking Errors, Anger, Aggression, Hostility, Violence (w/Assessed Need) Parenting, Family, Core Skills (w/Assessed Need), and Domestic Violence (w/Assessed Need). Level 3 - Outpatient: provides Psycho-Educational Treatment consisting of strictly didactic interventions; including Substance Use/Pharmacology Education, Relapse Prevention, Self Help, and Health and Wellness Education.</td>
</tr>
<tr>
<td><strong>In-Prison Single-Level Substance Abuse Treatment Program (SLP)</strong></td>
<td><strong>In-Patient Cognitive Behavior Therapy Program</strong>&lt;br&gt;Classroom-based SUDT, for individuals who have a criminogenic need in the area of substance use. The class places heavy emphasis on skill-building activities to assist with cognitive, social, emotional, and coping skill development.</td>
</tr>
<tr>
<td><strong>Men's In-Prison Cognitive Behavioral Treatment Reentry Program (MRHP)</strong></td>
<td><strong>In-Patient Cognitive Behavior Therapy Program</strong>&lt;br&gt;Classroom-based SUDT, for individuals who have a criminogenic need in the area of substance use. The class relies on a cognitive behavioral approach to teach participants strategies for avoiding substance use. The class places heavy emphasis on skill-building activities to assist with cognitive, social, emotional, and coping skill development.</td>
</tr>
<tr>
<td><strong>Men's Long Term Offender Program (MLTOP)</strong></td>
<td><strong>In-Patient Cognitive Behavior Therapy Program</strong>&lt;br&gt;Classroom-based SUDT, for individuals who have a criminogenic need in the area of substance use. The class relies on a cognitive behavioral approach to teach participants strategies for avoiding substance use. The class places heavy emphasis on skill-building activities to assist with cognitive, social, emotional, and coping skill development.</td>
</tr>
<tr>
<td><strong>Women's Long Term Offender Program (WLTOP)</strong></td>
<td><strong>In-Patient Cognitive Behavior Therapy Program</strong>&lt;br&gt;Classroom-based SUDT, for individuals who have a criminogenic need in the area of substance use. Intensive gender-responsive SUDT includes didactic (educational), experiential and interactive learning opportunities based on females' lives and patterns of addiction. Class topics include but are not limited to, risk, and resiliency factors, relapse prevention based on females' risks, how families and others are affected, and related health and behavioral problems. Life skills essential for recovery are also taught including, but not limited to, stress management, relaxation, spirituality, assertiveness, and refusal skills.</td>
</tr>
<tr>
<td><strong>Modified Community Correctional Facility Enhanced Reentry Program (MCCF)</strong></td>
<td><strong>In-Patient Cognitive Behavior Therapy Program</strong>&lt;br&gt;Classroom-based SUDT, for individuals who have a criminogenic need in the area of substance use. The class relies on a cognitive behavioral approach to teach participants strategies for avoiding substance use. The class places heavy emphasis on skill-building activities to assist with cognitive, social, emotional, and coping skill development.</td>
</tr>
</tbody>
</table>
Appendix C

Service Type Descriptions (Continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Program Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women's In-Prison, Trauma-Informed, Gender Responsive, Cognitive Behavioral Treatment Reentry Program (WRHP)</td>
<td><strong>In-Patient Cognitive Behavior Therapy Program</strong>  Classroom-based SUDT, for individuals who have a criminogenic need in the area of substance use. Intensive gender-responsive SUDT includes didactic (educational), experiential and interactive learning opportunities based on females’ lives and patterns of addiction. Class topics include but are not limited to, risk, and resiliency factors, relapse prevention based on females’ risks, how families and others are affected, and related health and behavioral problems. Life skills essential for recovery are also taught including, but not limited to, stress management, relaxation, spirituality, assertiveness, and refusal skills.</td>
</tr>
</tbody>
</table>
Appendix D

Average Recidivism Change

The following chart depicts the average recidivism change on the effect of CBT In-prison Brand and Non-brand name services.

CBT In-Prison

![Graph showing average recidivism change with age and recidivism rates. The graph indicates a decrease in recidivism by 11.96%.]
Appendix D

Average Recidivism Change (Continued)

The following chart depicts the average recidivism change on the effect of CBT Community Non-name brand services.

CBT Community Non-Name Brand
Appendix D

Average Recidivism Change (Continued)

The following chart depicts the average recidivism change on the effect of CBT Community Name brand name services.

CBT Community Name Brand

Average Recidivism Change: -13.03%
Appendix D

Average Recidivism Change (Continued)

The following chart depicts the average recidivism change on the effect of Residential Drug TX/Sober Living Environment Community program services.

Residential Drug Treatment/Sober Living Environment (Community)
Appendix E

References


Merrick, W., Shuey, K., & Bernardy, P. (2016). *Results First Adult Criminal Justice Benefit-cost Analysis*. Retrieved from: ResultsFirstMN@state.mn.us

California Department of Corrections and Rehabilitation


Appendix F

Per-Participant Cost Calculations

The following presents CDCR Results First program inventory costs calculation methodology used to attain the Per Participant Cost and duration. The formulas contained in this Appendix include expenditures, intervention (curriculum) and marginal costs from all 71 funded contracts which comprise 25 inpatient community contracts, 16 day treatment (community) contracts, and 30 in-prison contracts.

**SUDT Allocation**

To capture the per participant costs, a top down costing methodology was used which excluded all costs related to overhead divided by the number of days in treatment. This type of costing method was used because select contract service type(s) required an allocation based on their SUDT modality. The service type(s) and invoicing styles (per diem versus cost reimbursement) varied in format. In order to obtain marginal cost allocation, it was necessary to use the curriculum hours for SUDT modalities where applicable.

In calculating expenditures, select contract type(s) required an allocation based on their SUDT modality. The allocations were developed according to the hours per week and the total weeks of programming to create a percentage to be applied to the budget and expenditures. The contract type(s) that required an allocation were as follows:

- Male and Female Reentry Hub Programs (MRHP/WRHP)
- Modified Community Correctional Facility (MCCF)
- Men’s and Women’s Long Term Offender Programs (LTOP)
- Specialized Treatment for Optimized Programming (STOP)

The remaining contract type(s) did not have an allocation for a SUDT modality based on the information contained in the CDCR Program Inventory. The staff benefit rates were noted as actual if the rate was billed the same for each month during the year. The staff benefit rate was calculated as an average if the rate was billed at different amounts during the year.

---

28 The program inventory database consist of worksheets for the following: Contract Type, DRP Expenditures and, CRS and IP program marginal costs which contain all associated formulas in Excel.

29 The single and multi-level (SLP/MLP) programs only offer SUDT. The remaining in-prison programs have SUDT modalities and also address other modalities such as criminal thinking, family relationships, anger management, victim impact, and employment. See Appendix C - Service Type Descriptions.
Appendix F

Per-Participant Cost Calculations (Continued)

Contract Expenditure Calculations

All contract expenditures for community and in-prison programs were separated by contract type and number including sub-totals for each group of programs. A contract summary section was created to include a total year budgeted amount and expenditures in the following sections: 1) Those positions identified as treatment related in the program inventory; 2) All of the sub-contractor expenditures related to staff training and client treatment; 3) Expenses related to supplies, intervention (curricula) and other client costs (i.e. food, motivational incentives, trainings, education, etc.), and; 4) The modality costs identified in the STOP contracts. The contract totals were broken down to contain the total marginal costs, percentage expenditures and budgeted amounts against marginal costs along with the annual overhead costs. The following calculations were conducted for each contract type:

- **Staff Benefit Amount** – \([\text{Treatment Position Salary Amount} \times \text{Staff Benefit Rate (Actual)}]\) or \([\text{Treatment Position Salary Amount} \times \text{Staff Benefit Rate (Annual Average)}]\)

- **Treatment Personnel Total** – \([\text{Total (Treatment Position Salary Amount, Staff Benefit Amount)}]\)

- **Total Marginal Costs** – \([\text{Total (Treatment Personnel Total : Other Client Costs)}]\)

- **Percentage of Expenditures against Marginal Costs** – \([\text{Total Marginal Costs} / \text{Total Year Expenditures}]\)

- **Percentage of Budgeted Total against Marginal Costs** – \([\text{Total Marginal Costs} / \text{Total Year Budgeted Amount}]\)

- **Annual Overhead Costs** – \([\text{Total Year Expenditures - Total Marginal Costs}]\)

**Marginal Costs**

The Community and In-prison Program Marginal Costs were rolled up from the actual contract expenditures, intervention (curricula) costs per participant, per day, per average length of program, and per maximum length of program. The costs are broken down by the programs of interest where CDCR could group programs to the evidence.
Appendix F

Per-Participant Cost Calculations (Continued)

**Intervention (Curriculum) Cost Calculations**

The intervention (curriculum) costs are a calculation of days in treatment which were required to calculate marginal costs. This calculation required the following variables; total participants served, the average days in program and average hours in program for participants in SUDT programs.

The number of participants served, identified by the Specialized Treatment of Optimized Programming (STOP) program modality, were received from STOP providers. The total participants served, were verified using the units of service (Number and type of bed - per Diem (i.e., detox, SLE, residential, outpatient). The following formulas below were the calculations used:

- **Average Days in Program** – Calculated the number of days in programming for each participant \[=\text{DAYS360(Entry Date, Exit Date)}\]; Then averaged the total participant days in program \[=\text{AVERAGE(First Entry : Last Entry)}\]

- **Average Daily Population** – \[=\left(\frac{\text{Total Population} \times \text{Average Days in Program}}{366}\right)\]

- **Bed Days** – \[=\text{Total Population} \times \text{Average Days in Program}\]

For each in-prison and community program marginal cost, the total expenditures were linked to the total marginal costs. The total of all intervention (curricula) hours, the brand and non-brand CBT intervention (curricula) hours offered were extracted from the intervention (curriculum) hours. The maximum program duration days were calculated by converting the maximum amount of months on a base term of the contract into days, this number did not account for any extension options listed in the contract (unknown use of extension options cannot be calculated). The following formulas were used to calculate the program marginal costs:

- **Bed Days** – \[=\text{Total Participants Served} \times \text{Average Days in Program}\]

- **Percent Brand Name CBT Intervention (Curricula) Hours Offered** – \[=\frac{\text{Brand Name CBT Intervention (Curricula) Hours Offered} \times \text{Total of All Intervention (Curricula) Hours}}\]

- **Cost to Deliver Brand Name CBT SUDT Only by Bed Days** – \[=\frac{\text{Total FY 15/16 Expenditures} \times \text{Percent Brand Name CBT SUDT Only by Bed Days}}{\text{Bed Days}}\]

---

30 The FY 15/16 fell within a Leap Year.
Appendix F

Per-Participant Cost Calculations (Continued)

- Costs to Deliver Brand Name CBT SUDT by Average Days in Program – \[=\text{Cost to Deliver Brand Name CBT SUDT Only by Bed Days} \times \text{Average Days in Program}\]

- Percent Non-Brand Name CBT Intervention (Curricula) Hours Offered – \[=\text{Non-Brand Name CBT Intervention (Curricula) Hours Offered} / \text{Total of All Intervention (Curricula) Hours}\]

- Cost to Deliver Non-Brand Name CBT SUDT Only by Bed Days – \[=(\text{Total FY 15/16 Expenditures} \times \text{Percent Non-Brand Name CBT Intervention (Curricula) Hours Offered}) / \text{Bed Days}\]

- Costs to Deliver Non-Brand Name CBT SUDT by Average Days in Program – \[=\text{Cost to Deliver Non-Brand Name CBT SUDT Only by Bed Days} \times \text{Average Days in Program}\]

- Total Costs to Deliver All CBT SUDT by Average Days in Program – \[=\text{Total (Costs to Deliver Brand Name CBT SUDT by Average Days in Program, Costs to Deliver Non-Brand Name CBT SUDT by Average Days in Program)}\]

- Costs to Deliver All Program Services by Bed Days (CRS only) – \[=\text{Total FY 15/16 Expenditures} \times \text{Bed Days}\]

- Costs to Deliver All Program Services by Average Days in Program (CRS only) – \[=\text{Costs to Deliver All Program Services by Bed Days} \times \text{Average Days in Program}\]

- Costs to Complete All CBT SUDT by Maximum Program Duration Days (in-prison) & (CRS) – \[=(\text{Cost to Deliver Brand Name CBT SUDT Only by Bed Days} + \text{Cost to Deliver Non-Brand Name CBT SUDT Only by Bed Days}) \times \text{Maximum Program Duration Days}\]

- Costs to Complete All Program Services by Maximum Program Duration Days (CRS only) – \[=\text{Costs to Deliver All Program Services by Bed Days} \times \text{Maximum Program Duration Days}\]