

STATE OF CONNECTICUT

Results First

Benefit-Cost Analyses of Adult
Criminal and Juvenile Justice
Evidence-Based
Programs

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INSTITUTE FOR MUNICIPAL AND
REGIONAL POLICY



Central Connecticut State University

**Connecticut Results First Benefit-Cost Analyses of
Adult Criminal and Juvenile Justice Evidence-Based Programs**

**Pursuant to
Connecticut General Statutes, Sections 4-68r and -68s
(Public Act 15-5, June Special Session)**

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EXECUTIVE SUMMARY AND KEY FINDINGS

- ❖ State law requires (1) four adult criminal and juvenile justice agencies to submit their respective program inventories biennially in even-numbered years and (2) the Institute for Municipal and Regional Policy (IMRP) to publish an annual benefit-cost analyses report of programs identified in the inventories.
- ❖ Though not required by law, the Judicial Branch Court Support Services Division (JB-CSSD) elected to complete its inventory this year. The other agencies, the departments of Correction, Children and Families, and Mental Health and Addiction Services were unable to do so, given budget and staffing limitations. Thus, this benefit-cost analyses report of adult criminal and juvenile justice programs identified in the inventory is limited to a review of the programs and 2017 data submitted by JB-CSSD.
- ❖ The 2017 JB-CSSD program inventory lists a total of 24 programs, 17 of which were identified as being evidence-based.
- ❖ Eight of all programs were included in the Results First model and five of them had marginal cost information that allows IMRP to calculate a Connecticut-specific benefit-cost analysis. All show a positive return on investment.
- ❖ The five model program categories in the benefit-cost analyses show, for the programs analyzed, that benefits outweigh costs, with a probability of between 65% and 100%.
- ❖ Legislation enacted in 2017 expands the current program inventory requirements to include all of the agencies' and division's programs, not just the criminal and juvenile justice programs and adds Department of Social Services' (DSS) programs and makes the inventory requirement annual, rather than biennial. It also requires the Office of Policy and Management (OPM) to create a pilot program applying the Pew-MacArthur Results First model to at least eight state-financed grant programs.
- ❖ The move to structured evidence-based decision-making will result in a more effective and efficient utilization of state resources for intended outcomes. As the Results First Initiative's benefit-cost analyses and the underlying program inventories become more robust and sustainable, the state will be able to:
 - Identify the programs it funds and at what cost.
 - Target state, federal, and private funds to cost-beneficial, evidence-based programs.
 - Promote and support the use of technology for data collection and analysis.
 - Evaluate program implementation and fidelity.
 - Articulate program capacity and utilization to maximize participation in effective, evidence-based programs.
 - Allow adult criminal and juvenile justice agencies to share data to improve service delivery and reduce recidivism.

- Use evidence and outcome data to inform decisions on where to prioritize limited resources.
- ❖ Future benefit-cost analyses can be improved by developing and sustaining the agency and analytic infrastructure to support improved decision-making. Steps include:
 - Maintaining and submitting agency inventories to IMRP annually rather than biennially
 - Supporting DSS and the OPM pilot program with training and technical assistance
 - Supporting technology development for data collection and program inventory reports
 - Instituting routine program evaluations to assure program fidelity and overall effectiveness by dedicating in-agency personnel to assess state-run programs and including performance measures, program evaluation requirements, and costs in private provider contracts
 - Dedicating adequate resources in all agencies to the preparation of complete and consistent program inventories
 - Training staff in evidence-based policy and budget decision-making
 - Developing expertise in maintaining and utilizing the web-based Results First model.
- ❖ Agencies as well as those making policy and budget decisions should be encouraged to use program inventories and the resulting benefit-cost analyses to prioritize program offerings and improve program effectiveness and outcomes.
- ❖ IMRP thanks JB-CSSD staff for their efforts in providing the necessary data for the benefit-cost analyses as well as the Pew-MacArthur Results First Initiative staff for their technical assistance.

Guide to Use of Results First Benefit-Cost Analysis Report

The intent of this guide is to assist users of the “Results First Benefit-Cost Analyses of Adult Criminal and Juvenile Justice Evidence-Based Programs.” This report is produced by the Institute for Municipal and Regional Policy (IMRP) on November 1, 2017, in compliance with the legislative requirement (CGS § 4-68s) to conduct and report on cost-benefit analyses (CBA) of agency program inventories, also required by law. These CBA’s are developed in collaboration with the Results First Initiative, a project of the association between the Pew Charitable Trusts and the John D. and Catherine T. MacArthur Foundation. The Washington State Institute for Public Policy (WSIPP) developed the econometric model used to produce the CBAs under this initiative. It includes modules on criminal and juvenile justice, education (pre-K through higher ed), child welfare, mental health, substance abuse, work force, general prevention and public health. The Results First Initiative provided the cost-benefit model software and technical assistance for its use in compiling the program inventories.

The Results First model applies the best available national rigorous research on program effectiveness to predict the public safety and fiscal outcomes of each program category in Connecticut, based on the state’s unique population characteristics and the costs to provide these programs here. For each potential investment, the model produces separate projections of benefits that would accrue to program participants, nonparticipants, and taxpayers. These are summed to estimate a total state bottom-line benefit. The model then calculates the cost of producing these outcomes and the return on investment that Connecticut would achieve if it chose to appropriately fund each program and implement it with fidelity. Programs may then be compared on common terms as to long-term cost effectiveness.

The Results First program inventory template used by the agencies lists a great deal of information on Connecticut agency programs and is designed to include the information required to populate the model with state-specific data. Each agency’s program inventory must list all programs and identify them as evidence-based, research-based, or promising. In addition to the analyses that the inventories support, this categorization is helpful in promoting the effort to transition to more evidence-based programs. To the extent that the listed programs (1) are evidence-based as substantiated by rigorous research and included in the model, (2) have costs expressed appropriately, and (3) serve an adequate number of participants, IMRP can match programs with those in the model and calculate the benefit-cost ratio.

Also important to this effort is the use of the Results First Clearinghouse Database. This one-stop online resource provides policymakers with an easy way to find information on the effectiveness of various interventions as rated by eight national research clearinghouses employing rigorous research and evidence rankings. Our report includes a chart portraying the effectiveness ratings of evidence-based programs where available.

Since this is a tool intended to enhance policy and budget decision-making, it would be appropriate if the user’s review of the report was informed by a firm understanding of (A) statewide program priorities and how each state-funded agency fits into those priorities and (B) each agency priority and how its programs fit into those priorities. If these are not already understood, budget and policymakers could begin by determining:

1. the state’s program priorities (Vision, Mission, Goals, Objectives, Activities, etc.);
2. which agencies (and programs if they cross agencies) advance these priorities; and
3. which priority agency’s programs fit within the state priorities.

Note: Underlying this is the assumption that there is a validated current and forecast need for the program/service.

With this fundamental understanding, the Results First CBA report can best be used to then determine which of these inventoried, matched, and analyzed programs are most productive (efficient and effective) at achieving the established priorities.

Begin by referring to the tables in the report of Results First program areas and agency programs that fit under those broad areas that (1) do not have CBAs but are listed due to evidence associated with them and (2) have the CBA calculation.

For programs without CBAs (Table 1, pages 13-14): Within each Results First program area that has agency programs substantiated by WSIPP or Results First Clearinghouse evidence (or other rigorous evaluation), but that do not have CBA's, use the list to relate the evidence to the state-operated program to determine:

- (A) whether the actual agency program operates with fidelity to the program model evaluated with evidence.
 - i. If so, then determine whether the program model evidence forecasts favorable results (positive outcomes and Cost-Benefit [C/B] ratio).
 - ii. If not, then study further, treat as low priority and/or consider divestment.

OR

- (B) the comparative cost per unit per similar program area and select those with lower costs and better outcomes and deselect those with higher costs and worse outcomes.

For programs with CBAs (Table 2, pages 25-26): Within each Results First program area, see the comparative C/B ratios listed for each agency program and Special Identifier (SID) and select/prefer (i.e., treat as high priority) those with the highest C/B ratio and lowest cost to achieve such ratio to invest in or continue. Deselect/down-grade (treat as low priority) those with comparatively lower C/B ratio and requiring higher cost to achieve the same or better ratio.

Once you have established that (1) there is a current and forecast need for the program services/area, (2) it is a high priority for the state, and (3) there is good evidence that the program model achieves intended outcomes with a high level of effect, prefer programs whose C/B ratio is comparatively higher and whose costs to operate are lower. Therefore, the programs with the highest C/B ratio and the lowest cost to operate should be preferred.

Conclusion

CBA is “[a] decision tool, not [a] decision rule.” It is helpful in making decisions based on identified criteria and priorities and should not result in *de facto* decisions based on numbers. It helps to understand how activities compare on similar bases of operation and cost so that decisions conform to priorities, outcome expectations and budgets.

I. STATUTORY CHARGE

This report is submitted pursuant to 2015 legislation, CGS §§ 4-68r and -68s (PA 15-5, June Special Session, An Act Implementing Provisions of the State Budget for the Biennium Ending June 30, 2017 Concerning General Government, Education and Health and Human Services and Bonds of the State, Sections 486 – 487) (see Appendix A). This law advanced the work of the Results First project at Central Connecticut State University’s Institute for Municipal and Regional Policy, which administers the Pew-MacArthur Results First Initiative.¹ Results First Connecticut has focused on the agencies associated with adult criminal and juvenile justice policy and their state-funded programs that are evidence-based. The model, developed by the Washington State Institute for Public Policy (WSIPP) relies on meta-analyses of national research and Connecticut-specific costs and participant data to produce an expected return on investment for the state. Initially, agencies’ so-called program inventories are necessary in order to apply the Results First economic model. Then, IMRP must calculate the benefit-cost analyses (BCA) used to make policy and budget decisions.

The 2015 law required the Judicial Branch's Court Support Services Division (JB-CSSD) and the departments of Correction (DOC), Children and Families (DCF), and Mental Health and Addiction Services (DMHAS) to develop program inventories in even-numbered years that would provide the data for implementation of the Result First project. It included the provision requiring IMRP to develop annual benefit-cost analyses of the evidence-based adult criminal and juvenile justice programs listed in those inventories.

On October 26, 2017, the General Assembly completed its work on the state budget legislation that included changes to the 2015 Results First law. Effective October 31, 2017, the law expands application of Results First in Connecticut by extending the program inventory requirement to cover the Department of Social Services and to include all currently required agencies and divisions to incorporate all programs, not just their criminal and juvenile justice programs (PA 17-2, June Special Session, An Act Concerning the State Budget for the Biennium Ending June 30, 2019, Making Appropriations Therefor, Authorizing and Adjusting Bonds of the State and Implementing Provisions of the Budget, [for relevant section, see Appendix B]). It also requires annual, rather than biennial, program inventories. The IMRP benefit-cost analyses report must use the additional and expanded inventories as the basis for its annual report.

In addition, the new law requires the OPM secretary to create, by January 1, 2019, a pilot program that applies the principles of the Pew-MacArthur Results First cost-benefit analysis model to at least eight state-financed grant programs the secretary chooses. Selected programs must include ones that provide family and employment services, with at least one contracted program with an annual budget of over \$200 million. OPM must submit a report on this pilot project to the Appropriations Committee by April 1, 2019.

¹ The Pew-MacArthur Results First Initiative, a project of the Pew Charitable Trusts and the John D. and Catherine T. MacArthur Foundation, works with states to implement an innovative cost-benefit analysis approach that helps them invest in policies and programs that are proven to work. Additional information about Results First is available at <http://www.pewstates.org/projects/pew-macarthur-results-first-initiative-328069>.

Program inventories must include the following information for the previous fiscal year:

1. a detailed program description and the names of providers,
2. the intended treatment population and outcomes,
3. total annual program expenditures and a description of funding sources,
4. the method for assigning participants,
5. the cost per participant,
6. the annual capacity for and the number of actual participants, and
7. an estimate of the number of people eligible for or needing the program.

Because agencies were not required by law to compile program inventories in 2017 and due to budget and staffing restrictions, this year's edition of the benefit-cost analyses report for adult criminal and juvenile justice evidence-based programs includes only those programs identified by the Judicial Branch's Court Support Services Division, which was able to submit an updated inventory.

On October 2, 2017, JB-CSSD submitted its program inventory to IMRP. This BCA report includes the benefit-cost analysis for each program included in the Results First model for which the inventory provided the necessary cost information. The report, due November 1, goes to OPM's Criminal Justice Policy and Planning Division, the Appropriations and Finance, Revenue and Bonding committees, and the Office of Fiscal Analysis (OFA).

In addition, IMRP's benefit-cost analyses may be included as part of OPM's and OFA's annual fiscal accountability report normally due by November 15 to the legislature's fiscal committees each year. Under the statute, "cost beneficial" means that the cost savings and benefits realized over a reasonable period of time are greater than the costs of a program's implementation.

By law, OPM must develop a plan to promote a more effective and cohesive state criminal justice system. To accomplish this, OPM must also review the program inventories and

Program Definitions

An "*evidence-based program*" incorporates methods demonstrated to be effective for the intended population through scientifically based research, including statistically controlled evaluations or randomized trials; can be implemented with a set of procedures to allow successful replication in Connecticut; achieves sustained, desirable outcomes; and, when possible, has been determined to be cost-beneficial.

A "*research-based program*" is a program or practice that has some research demonstrating effectiveness, such as one tested with a single randomized or statistically controlled evaluation, but does not meet the full criteria for evidence-based.

A "*promising program*" is a program or practice that, based on statistical analyses or preliminary research, shows potential for meeting the evidence-based or research-based criteria.

benefit-cost analyses and consider incorporating them in its budget recommendations to the legislature.

In addition, the designated agencies' budget request for the FY 2019 midterm budget adjustments submitted to OPM and the legislature may include costs to implement evidence-based programs and the governor may include these costs in the budget he submits to the legislature.

II. THE RESULTS FIRST INITIATIVE

Background

The Pew-MacArthur Results First Initiative works with 26 states and ten county jurisdictions to implement an innovative evidence-based policymaking approach and benefit-cost analysis model that helps them invest in policies and programs that are proven to work. It gives public officials the information they need to make policy and budget decisions based on probable outcomes and return on investment. It is intended to identify opportunities that effectively invest limited resources to produce better outcomes and potential savings.

Results First employs a sophisticated econometric model to analyze the costs and benefits of evidence-based programs across a variety of social policy areas. By calculating the long-term return on investment for multiple programs through the same lens, it produces results and comparisons that policymakers can use in planning and budgeting decisions.

Connecticut became an early participant in the Results First Initiative in March 2011 when Governor Dannel Malloy and legislative leaders submitted formal letters of support to Results First. To date, Connecticut's work with Results First has focused on conducting a comprehensive benefit-cost analysis of the state's criminal justice programs. In the past year, the Results First project in Connecticut has:

1. published its study of juvenile parole and recidivism,
2. collaborated with (a) the Juvenile Justice Policy Oversight Committee on its juvenile justice reform efforts and (b) the Connecticut Sentencing Commission on its studies of pretrial release and detention and the state's sex offender registry law,
3. expanded its outreach efforts with updated information on the website and a monthly newsletter, and
4. promoted the systematic utilization of evidence-based programs and data collection in state agencies.

Methodology

The Results First model, which was originally developed by the Washington State Institute for Public Policy, applies the best available national rigorous research on program effectiveness to predict the public safety and fiscal outcomes of each program category in Connecticut, based on our unique population characteristics and the costs to provide these programs in this state. For each potential investment, the model produces separate projections of benefits that would accrue to program participants, nonparticipants, and taxpayers. These are summed to estimate a total state bottom-line benefit. The model then calculates the cost of producing these outcomes and the return on investment on a per-participant basis that Connecticut would achieve if it chose to continue an appropriate level of funding and maintain fidelity to each program.

The Results First program inventory spreadsheet template is designed to provide the information required to populate the model with state-specific data. To the extent that the listed programs are (1) evidence-based as substantiated by rigorous research and included in the model and (2) have costs expressed appropriately and a sufficient number of participants, IMRP can match programs with those in the model and calculate the benefit-cost analysis.

Results First Clearinghouse Database

As an additional aid in evaluating evidence-based programs, the Results First Initiative has created a [Results First Clearinghouse Database](#) that policymakers can use as a resource for information on program effectiveness. The database is a single, on-line compilation of research, literature reviews, and evaluations from eight different national clearinghouses on interventions in policy areas, including adult criminal and juvenile justice. Information on over 1,000 interventions in the database rate program effectiveness and describe evaluations to identify interventions that work. While each separate clearinghouse has its own rating system, the Results First Clearinghouse Database assimilates these into one that easily conveys a common perspective on rated effectiveness.

Not all the programs in the clearinghouse are included in the Results First model for determining a benefit-cost analysis. However, the clearinghouse can be a useful tool to identify programs that have been evaluated as evidence-based and effective.

In the process of producing the benefit-cost analyses, IMRP relies on the agencies to review the Results First Clearinghouse Database and identify those of its programs included in the database. The charts below show the effectiveness ratings listed in the Results First Clearinghouse Database for the JB-CSSD adult and juvenile programs that match those in the database.

The ratings shown for the agencies with matched programs indicate that:

- Judicial Branch's Court Support Services Division operated four adult programs with the highest effectiveness rating (one of which is funded and managed in collaboration with DMHAS and DOC), three adult programs with the second highest rating, and eight juvenile programs with the highest rating and one with the second-highest rating.

It should be noted that the agency may be operating effective programs that are not listed as having been matched within the Results First Clearinghouse Database, however the lack of a match does not mean that non-matched programs are ineffective.

Effectiveness Rating*

Highest Rating
Second-Highest
No Evidence of Effects
Mixed Effects
Negative Effects

**Connecticut
Evidence-Based Effectiveness Ratings**

Adult Criminal Justice Programs

Agency	Program Name	Effectiveness Rating*
JB-CSSD	Adult Behavioral Health Services	Highest Rating
JB-CSSD	Alternative in the Community	Highest Rating
JB-CSSD	Domestic Violence - Evolve	Highest Rating
JB-CSSD	Domestic Violence - Explore	Highest Rating
JB-CSSD	Electronic Monitoring	Second-Highest
JB-CSSD	Adult Sex Offender Treatment Services	Second-Highest
JB-CSSD	Residential Drug Tx Collaborative (with DMHAS)	Second-Highest

**Evidence-Based Effectiveness Ratings
*Juvenile Justice Programs***

Agency	Program Name	Effectiveness Rating*
JB-CSSD	Adolescent Community Reinforcement Approach (A-CRA) & Assertive Continuing Care (ACC)	Highest Rating
JB-CSSD	Boys Therapeutic Respite and Assessment Center	Highest Rating
JB-CSSD	Community Residential Program	Highest Rating
JB-CSSD	Child, Youth and Family Support Centers	Highest Rating
JB-CSSD	Intermediate Residential	Highest Rating
JB-CSSD	Youth Mentoring	Highest Rating
JB-CSSD	Multidimensional Family Therapy (MDFT)	Highest Rating
JB-CSSD	Multi-systemic Therapy (MST)	Highest Rating
JB-CSSD	Juvenile Sex Offender Services	Second-Highest

*Source: The [Results First Clearinghouse Database](#) provides more information about the eight national research clearinghouses.

III. PROGRAM INVENTORY

In October 2017, JB-CSSD submitted an inventory spreadsheet to IMRP. There was additional contact to clarify certain components of the information in order for IMRP to begin its work compiling the benefit-cost analysis portion of the project.

In order to apply the Results First model, IMRP needed to have the following information included in the program inventory:

1. the program name and description;
2. whether the program is included in the Results First model;
3. participant data; and
4. FY 2017 cost and budget information, including the marginal cost.

Judicial Branch – Court Support Services Division

JB-CSSD initially identified 13 adult criminal justice programs of which seven are evidence-based. Four of those programs are in the Results First model and three had appropriate information for purposes of applying the model to calculate the benefit-cost analysis. The division's inventory for juvenile justice programs identified 11 programs; 10 are evidence-based, two of which are in the model and have marginal cost calculations and an adequate number of participants.

Evidence-Based Programs for Preventing Crime Recidivism

The JB-CSSD's program inventories identified the adult and juvenile programs that they determined are evidence-based, referring to the WSIPP model and the clearinghouse database. In most cases, however, IMRP was unable to apply the Results First model for purposes of calculating the benefit-cost analysis for one or more of the following reasons.

1. The agency did not provide the necessary marginal cost information.
2. The number of participants was too small for predictive value (e.g., juvenile sex offender services).
3. The Connecticut program description or operation does not match any program in the WSIPP model, even where the appropriate benefit and cost data are included in the inventory.

Table 1, "Evidence-Based Program Inventory Information by Agency," lists the programs that JB-CSSD identified as evidence-based, but not all of them could be included in the "consumer report" chart with a benefit-cost analysis (see Table 2). Nevertheless, the table shows important program details as reported for the evidence-based programs that the agency manages in Connecticut, including the intended outcomes, duration and annual participant capacity, the number of participants served, as well as those who were eligible but not served, the annual program budget, and the cost per participant (whether average or marginal). Some

evidence-based programs may be seen at: [Washington State Institute for Public Policy](#) and [Results First Clearinghouse Database](#).

The fields shown in the table below are defined as follows:

- *Program Name*: The specific, formal program name of the program.
- *Intended Outcomes*: The outcomes or results that the program is intended to address, based on outcomes that are measured in the Results First BCA model (i.e., crime/recidivism, substance abuse or mental health treatment).
- *Average Duration*: The length of time required for program delivery (e.g., “6 – 12 months” or “12 weeks”).
- *Number of Participants Served*: The number of clients treated (regardless of completion) in state FY 2017.
- *Eligible But Not Served*: The estimated number of persons in the program’s service jurisdiction that would qualify for or need this program, but who did not receive it. This may simply be a wait list. The estimate should represent an annual count from a single fiscal year.
- *Annual Capacity*: The annual number of program slots or beds available at any given time as currently funded.
- *Program Budget*: The total amount budgeted by the agency for the program for the year used for the cost estimates.
- *Annual Cost per Participant (Average or Marginal)*: The estimated annual cost of the program per participant. Note the method of estimating the per participant unit cost for the program: marginal if based on variable costs only or average if based on variable and fixed (overhead) costs.

Table 1: Evidence-Based Program Inventory Information

<i>Program Name</i>	<i>Intended Outcomes</i>	<i>Average Duration</i>	<i>Number of Participants Served</i>	<i>Eligible but Not Served</i>	<i>Annual Capacity</i>	<i>Program Budget</i>	<i>Annual Cost per Participant/Average</i>
<i>Judicial Branch – Court Support Services Division (Dollar Year 2017) (SIDs #12043 and 90281) – Adult</i>							
Adult Behavioral Health Services	Reduced recidivism	3-6 months	18,269	0	Not available	\$17,076,770	\$935 \$1,294 (MC)
Alternative in the Community	Reduced recidivism	3-6 months	7,803	0	Not available	16,141,598	2,453 32 (MC)
Advanced Supervision Intervention & Support Team	Increase treatment engagement; reduced recidivism	4-6 months	337	0	290 slots 580 total capacity	1,013,266	3,007 78 (MC)
Adult Sex Offender Treatment Services	Reduced inappropriate sexual behavior; reduced recidivism	2 years	1,807	0	Not available	3,069,993	1,699 12 (MC)
Domestic Violence Perpetrator Treatment - Evolve	Reduced recidivism	26 weeks	732	0	690	956,546	1,307
Domestic Violence Perpetrator Treatment – Explore	Reduced recidivism	26 weeks	1,878	0	2,070	1,557,127	829
Electronic Monitoring	Offender tracking and deterrence	2-4 months	3,083	Not available	Not available	1,284,590	417
Residential Drug Tx Collaborative (with DMHAS)	Decreased dependence on drugs and alcohol	21 days to 9 months	838	0	188 beds 940 total capacity	5,188,284	6,191

<i>Program Name</i>	<i>Intended Outcomes</i>	<i>Average Duration</i>	<i>Number of Participants Served</i>	<i>Eligible but Not Served</i>	<i>Annual Capacity</i>	<i>Program Budget</i>	<i>Annual Cost per Participant/Average</i>
<i>Judicial Branch–Court Support Services Division (Dollar Year 2017) (SIDs #12105, 12375, and 12128) – Juvenile</i>							
Adolescent-Community Reinforcement Approach & Assertive Continuing Care - Outpatient	Reduced substance use, improve social and family functioning; reduced recidivism	6 months	72	Not available	216	\$333,269	\$4,629
Boys Therapeutic Respite and Assessment Center	Increased family function and provide stabilization; reduced recidivism	1-3 months	39	Not available	8 beds 32 total capacity	1,205,235	30,903
Community Residential Program	Provide short-term, safe, staff-secure environment; reduced recidivism	Various, as determined by court	119	Not available	6 beds	2,003,006	16,832
Child, Youth & Family Support Centers	Diversion of status offenders; reduced recidivism	4 months, per contract	1,013	0	820	8,974,781	8,860 106 (MC)
Intermediate Residential	Reduction in substance use and improved family relationship; reduced recidivism.	4 months	55	Not available	14 beds 42 total capacity	2,670,289	48,551
Juvenile Sex Offender Services	Reduced recidivism	Up to 1 year	40	0	36	370,911	9,273 166 (MC)
Multidimensional Family Therapy (Contracted)	Improved family relationships; reduced recidivism	5 months	25	Not available	36	482,847	19,314
Multidimensional Family Therapy (With DCF)	Improved family relationships; reduced recidivism	5 months	DCF: undetermined	DCF: undetermined	DCF: undetermined	622,852	DCF: undetermined
Multisystemic Therapy	Improved family relationships; prevent out-of-home placement; reduced recidivism	5 months	382	Not available	401	4,357,338	11,407 146 (MC)
Youth Mentoring	Pro-social connection	1 year	78	0	120	327,239	4,195

IV. BENEFIT-COST ANALYSES

Results First Model

Results First employs a sophisticated econometric model to analyze the costs and benefits of potential investments in public programs. The model applies the best available national rigorous research on program effectiveness to predict the public safety and fiscal outcomes of each program category in Connecticut, based on our unique population characteristics and the costs to provide these programs in the state. For each potential investment, the model produces separate projections of benefits that would accrue to program participants, nonparticipants, and taxpayers. The model then calculates the cost of producing these outcomes and the return on investment that Connecticut can expect to achieve if each program is appropriately funded and implemented with fidelity.

Cost and Budget Data

Generally, the cost of a program includes fixed costs (those that are incurred regardless of how many people participate in a program) and variable costs (those that are dependent on the number of program participants). Step-fixed costs are those that would increase or decrease with a more significant change in a program's workload or participation level.

For purposes of applying the Results First benefit-cost analysis (BCA) model, it is better to know the marginal cost for program participants, that is, the cost to provide the program to one more person or unit of service, rather than an average cost, which includes fixed costs and can overstate the BCA. Marginal costs are preferred in the calculation of benefit-cost analyses because justice system costs tend to be incremental, for items like clothing, food, and some services. Average costs per participant include fixed costs and overestimate potential savings from reduced recidivism. Although in the case of a program contracted to a private provider that charges costs on a per participant basis, the average and the marginal costs are the same, for purposes of the Results First model.

As illustrated in the Vera Institute of Justice's "A Guide to Calculating Justice-System Marginal Costs" (May 2013):

[T]he average and marginal costs of prison illustrate this important distinction. Nationwide, the average annual per-inmate cost of state prison is about \$30,000. A common misconception is that reducing the prison population by a small amount will translate into \$30,000 per inmate in taxpayer savings. But the average cost includes costs for administration, utilities, and other expenses that will not change when the prison population is slightly reduced. A small change affects expenses such as food, clothing, and medical care: these are the marginal costs associated with a small reduction in the inmate population. The difference between the average and marginal cost of prison is vast. In Massachusetts, for example, the average annual per-inmate cost of incarceration is \$46,000, whereas the marginal cost is only \$9,000.

Appendix C, also based on the Vera Institute guide, describes in more detail the types and components of program costs.

Program Summaries

Benefit-cost analyses are calculated for the following programs. Only these five programs had the requisite data included in the program inventory for application of the Results First model:

1. Adult Behavioral Health Services
2. Alternative in the Community
3. Adult Sex Offender Treatment Services
4. Children, Youth and Family Support Service Centers
5. Multi-systemic Therapy

These Connecticut programs are matched to the model's evidence-based programs described here.

Adult Behavioral Health Services

Program Descriptions: Outpatient/Non-Intensive Drug Treatment (Community): This program category includes less intensive treatment modalities delivered in the community. Treatment includes individual counseling, cognitive behavioral therapy, and other approaches aimed to reduce substance abuse.

Alternative in the Community (AIC)

Program Description: Cognitive behavioral therapy (CBT) for individuals classified as high- or moderate-risk emphasizes individual accountability and teaches offenders that cognitive deficits, distortions, and flawed thinking processes cause criminal behavior. Programs delivered specifically as sex offender treatment are excluded. Treatment is commonly delivered in either an institutional or community setting. Components include cognitive restructuring, behavioral activation, emotion regulation, communication skills, and problem-solving.

Adult Sex Offender Treatment Services

Program Description: Sex offender treatments in the community include broad therapeutic components such as cognitive behavioral treatment, individual, family, or group counseling, psychotherapy, behavioral therapy, and aversion therapy.

Children, Youth and Family Support Centers (CYFSC)

Program Description: Aggression Replacement Training[®] (ART[®]) is a cognitive behavioral intervention program that specifically targets chronically aggressive children and adolescents. ART aims to help adolescents improve social skill competence and moral reasoning, better manage anger, and reduce aggressive behavior.

CYFSC costs cover services in addition to ART.

Multi-systemic Therapy

Program Description: Multi-Systemic Therapy (MST) is an intensive family- and community-based therapy for youth with antisocial behaviors. For juveniles, MST is designed for violent and chronic offenders.

V. BENEFIT-COST COMPARISONS

Table 2 shows the five programs from the program inventories that are included in five program areas from the Results First/WSIPP model for which the agency was able to calculate a marginal cost for the program and the number of participants was sufficient. With this data and for these programs, IMRP is able to present the benefit-cost ratio.

The fields shown in the chart are defined and can be interpreted as follows:

- *Total benefits*: The sum of long-term benefits to taxpayers and society that result from one person's participation in a program.
- *Benefits to Participants*: The monetary gains (or losses) to the program participant, (e.g., increased labor market earnings from improved likelihood of high school graduation as modeled with the juvenile crime programs).
- *Taxpayer Benefits*: The benefit from a governmental or budgeting perspective. For example, state and local criminal justice expenses avoided as a result of programming that reduces future crime resulting in convictions. Taxpayer costs avoided include police arrests, court adjudication, prison detention and incarceration, and probation or parole supervision.
- *Non-Taxpayer Benefits*: Benefits other than state and local resources to individual persons who would be affected by crime. For adult criminal justice and juvenile justice programs, non-taxpayer benefits are calculated using costs associated with avoided victimization, including tangible (e.g., medical expenses, cash or property theft, or lost earnings due to injury) and intangible costs (e.g., pain and suffering resulting from being a crime victim).
- *Other Indirect Benefits*: Avoided expenses or additional costs related to the increased tax burden to fund the program. A positive value represents a net reduced tax burden to fund the criminal justice system. A negative value represents the net increased tax burden to pay for the program.
- *Costs*: The incremental cost of providing a program, service, or policy to an additional client, participant, or specific population. Program costs do not include fixed costs, such as rent or utilities, unless these costs are essential to the program's operation. Connecticut Results First estimated program costs using FY 2017 budgetary data.
- *Benefits minus Costs (Net Present Value)*: The difference between the present value of discounted cash inflows (benefits) from a given program and the present value of cash outflows (costs). A program with a net present value of \$1,000 produces \$1,000 in benefits per participant after subtracting the costs of participation.

- *Benefit-to-cost Ratio*: The ratio of program benefits to program costs. A ratio greater than 1 is favorable. For example, if a program's benefit-to-cost ratio is \$6.60, its net benefit to society is \$6.60 for every \$1 invested.
- *Odds of a positive net present value*: The percentage of time we can expect benefits to exceed costs after running the benefit/cost analysis 1,000 times, in this case.

Graphs showing the changes in benefits and costs for each year after a participant enters the program appear in Appendix D. The costs and benefits for each of the five programs in Table 2 are broken out by perspective – participants, taxpayers, others (e.g., avoided victimization) and other indirect (avoided expenses or costs).

Table 2: Connecticut Results First: Benefit-Cost Comparisons
Benefit-Cost Analyses for Selected JB-CSSD Programs for Preventing Crime Recidivism (2017 Dollars)

<i>Program Name Appropriated Program Name (SID)</i>	<i>Total Benefits</i>	<i>Benefits to Participants</i>	<i>Taxpayer Benefits</i>	<i>Non- Taxpayer Benefits</i>	<i>Other Indirect Benefits</i>	<i>Costs</i>	<i>Benefits minus Costs (Net Present Value)</i>	<i>Benefit to Cost Ratio</i>	<i>Odds of a Positive Net Present Value</i>
Adult Crime									
<i>Outpatient/Non-intensive Drug Treatment (Community)</i>									
Adult Behavioral Health Services-(High Risk) (12043)*	\$7,131	0	\$3,388	\$2,695	\$1,048	\$(1,294)	\$5,837	\$5.51	100%
Adult Behavioral Health Services-(Moderate Risk) (12043)*	\$7,295	0	\$3,083	\$3,315	\$898	\$(1,294)	\$6,001	\$5.64	100%
<i>Cognitive Behavioral Therapy</i>									
Alternative in the Community-(High Risk) (12043)	\$4,594	\$(710)	\$2,669	\$2,387	\$248	\$(2,453)	\$2,141	\$1.87	74%
Alternative in the Community-(Moderate Risk) (12043)	\$4,795	\$(706)	\$2,422	\$2,953	\$126	\$(2,453)	\$2,342	\$1.95	76%
<i>Sex Offender Treatment in the Community</i>									
Adult Sex Offender Treatment Services (12043 & 90281)	\$4,034	0	\$1,056	\$2,460	\$518	\$(24)	\$4,010	\$168.08	79%

*JB-CSSD's Adult Behavioral Health Program costs were re-estimated by sub-program to achieve a more appropriate marginal cost.

**DMHAS' Start Now and JB-CSSD's ASIST programs are funded collaboratively and the marginal cost shown is a weighted average of their different program component costs.

<i>Program Name Appropriated Program Name (SID)</i>	<i>Total Benefits</i>	<i>Benefits to Participants</i>	<i>Taxpayer Benefits</i>	<i>Non- Taxpayer Benefits</i>	<i>Other Indirect Benefits</i>	<i>Costs</i>	<i>Benefits minus Costs (net present value)</i>	<i>Benefits to Cost Ratio</i>	<i>Odds of a positive net present value</i>
Juvenile Justice									
<i>Juvenile Crime (Aggression Replacement Training)</i>									
Children, Youth and Family Support Service Centers (12105, 12128, & 12375)	\$12,477	\$1,046	\$6,150	\$6,834	\$(1,553)	\$(8,860)	\$3,617	\$1.41	65%
<i>Multi-systemic Therapy (MST) for Juvenile Offenders</i>									
Multi-systemic Therapy-(High Risk) (12105 & 12375)	\$14,122	\$890	\$5,777	\$4,898	\$2,556	\$(146)	\$13,976	\$96.73	99%
Multi-systemic Therapy-(Moderate Risk) (12105 & 12375)	\$15,798	\$1,010	\$5,417	\$6,999	\$2,371	\$(146)	\$15,652	\$108.21	97%
Value of an Outcome: Convicted of a Crime (Adult Supervision – General)	\$341,760	0	\$112,818	\$173,021	\$55,922	-	\$341,760	n/a	100%

Note: Includes Deadweight Cost of Taxation and 1,000 Monte Carlo Simulations

VI. FINDINGS AND RECOMMENDATIONS

The Process

The JB-CSSD inventory was completed by October 1, 2017 and this report dated November 2017 is intended to provide program information for consideration for 2019 midterm budget adjustments. The anticipated continued slow growth in revenues as well as increased fixed costs are expected to require reductions in discretionary spending in the next budget cycle. Once again, the benefit-cost analyses can inform decisions in the development and execution of the budget and policy, including during the 2018 legislative session.

IMRP and Pew updated the Results First model with new general and Connecticut data from JB-CSSD supporting recidivism calculations. In addition, JB-CSSD submitted its program inventory.

Assessment of Compliance

Results First Connecticut encouraged the agencies to prepare and submit their program inventories this year even though they were not required by law to do so. JB-CSSD made the commitment to submit an updated inventory, but the other three agencies did not. It is arguably easier to maintain and update inventory data on an annual basis, rather than every two years and IMRP offered technical assistance and support. However, as the October 1 deadline approached and with no FY 2018-19 budget in place, agencies' uncertainty regarding the resources required to develop the inventories resulted in their plan to decline.

The web-based version of the Results First model greatly enhances its utility not only for IMRP staff but for other users as well. Still, Connecticut lags in its use of the model because so few program inventories include the marginal cost data on each program needed to produce a true benefit-cost analysis and calculate a program's return on investment. Agencies should continue to anticipate collecting the necessary information and refine their calculations for purposes of the program inventory. This will be particularly useful in the coming years as program budget and policy decisions are expected to require additional scrutiny.

Data limitations also prevented IMRP from verifying that all programs were delivered competently, particularly for those programs based on a formal, published model. Ideally, agency staff would routinely monitor and document program delivery to certify program fidelity. Anticipated effect sizes are based on programs that are evaluated and delivered with competency and fidelity.

Moreover, many of the identified programs in Connecticut lacked a rigorous internal evaluation of effectiveness; in particular, they did not include an assessment of outcomes compared to a control or matched comparison group.

Also of note, other programs were related to evidence-based or research-based evaluations not included in the Results First model. While a benefit-cost analysis using the

Results First model could not be performed on these programs, other evidence may prove their comparable productivity.

Recommendations and Next Steps

- The 2017 legislative requirement expanding implementation of the Results First project is an important step in integrating the principles of data collection and evidence-based program evaluation in Connecticut state government. The Institute will replicate its training and technical assistance support to the affected agencies for the development of routine, robust program inventories.
- The effort to collect and report program inventory data is significant and requires ongoing commitment by agency leadership as well as dedicated and knowledgeable staff. The management practices supported by the Results First Initiative, when integrated into an agency's administrative procedures and practices, help to assure not only better inventory data for this particular purpose, but also generally more successful program performance and outcomes.
 - The state should determine and allocate the resources needed to comply with the data collection requirement, including mechanisms for calculating their program marginal costs, which is necessary to apply the Results First model and produce a program's benefit-cost ratio and return on investment.
 - Because the law requires biennial inventories, agencies should adopt an ongoing process to monitor programs and collect the necessary data. Detailed tracking of program participation data and program expenditures is necessary to provide a more complete inventory in the future.
 - The state should encourage and incentivize agencies to incorporate in their management processes the program evaluation and fidelity aspects of this project.
 - The program inventory template identifies the core information necessary for benefit-cost analyses. Agencies should feel free to add data components that will assist their own fiscal and program management efforts, for their internal use.
- In order to maximize the utility of the program inventories and benefit-cost analyses, IMRP should provide information and any necessary training to the statutory recipients on how best to understand and apply them, whether in the Office of Policy and Management or the legislature, particularly the Appropriations Committee and its subcommittee members and the Office of Fiscal Analysis. Policy and budget decision makers should take advantage of the investment in analysis supported by the Results First Initiative.
- IMRP should maximize features in the upgraded cloud-based Results First model by expanding user access to include other stakeholders, easily updating data, producing

additional benefit-cost analyses, and generating reports.

- Agencies should be required to substantiate their budget option proposals by showing that any new program is evidence-based and likely to solve an identified problem. Procedures for the award, implementation, and payment of state grants and contracts should include requirements for program evaluation, data collection, and evidence-based practices.
- IMRP, in consultation with the Pew-MacArthur Results First Initiative, should consider expanding the program inventory and benefit-cost analysis project to other public policy areas, such as education. While continuing to improve its work with the adult criminal and juvenile justice agencies, IMRP can use its experience to help develop program inventories in other policy areas and enhance departments' utilization of evidence-based practices.
- Finally, programs are generally designed to address criminal justice and public safety outcomes as well as quality of life improvements for the clients/program participants. Though these quality of life benefits may not necessarily be represented in quantitative terms like the costs of a program's operation, they should not be overlooked.

Appendix A

Program Inventories of Agency Adult Criminal and Juvenile Justice Programs and Cost-Benefit Analysis Report Statutory Requirements

CGS §§ 4-68r and -68s, 4-68m, and 4-77c

(June Special Session, Public Act No. 15-5, §§ 486 – 489)

CGS Sec. 4-68r. Definitions. For purposes of this section and sections 4-68s and 4-77c:

- (1) "Cost-beneficial" means the cost savings and benefits realized over a reasonable period of time are greater than the costs of implementation;
- (2) "Program inventory" means the (A) compilation of the complete list of all agency programs and activities; (B) identification of those that are evidence-based, research-based and promising; and (C) inclusion of program costs and utilization data;
- (3) "Evidence-based" describes a program that (A) incorporates methods demonstrated to be effective for the intended population through scientifically based research, including statistically controlled evaluations or randomized trials; (B) can be implemented with a set of procedures to allow successful replication in the state; (C) achieves sustained, desirable outcomes; and (D) when possible, has been determined to be cost-beneficial;
- (4) "Research-based" describes a program or practice that has some research demonstrating effectiveness, such as one tested with a single randomized or statistically controlled evaluation, but does not meet all of the criteria of an evidence-based program; and
- (5) "Promising" describes a program or practice that, based on statistical analyses or preliminary research, shows potential for meeting the evidence-based or research-based criteria.

CGS Sec. 4-68s. Program inventory of agency criminal and juvenile justice programs. Reports. (a) Not later than January 1, 2016, and not later than October first in every even-numbered year thereafter, the Departments of Correction, Children and Families and Mental Health and Addiction Services, and the Court Support Services Division of the Judicial Branch shall compile a program inventory of each of said agency's criminal and juvenile justice programs and shall categorize them as evidence-based, research-based, promising or lacking any evidence. Each program inventory shall include a complete list of all agency programs, including the following information for each such program for the prior fiscal year: (1) A detailed description of the program, (2) the names of providers, (3) the intended treatment population, (4) the intended outcomes, (5) the method of assigning participants, (6) the total annual program expenditures, (7) a description of funding sources, (8) the cost per participant, (9) the annual number of participants, (10) the annual capacity for participants, and (11) the estimated number of persons eligible for, or needing, the program.

(b) Each program inventory required by subsection (a) of this section shall be submitted in accordance with the provisions of section 11-4a of the general statutes to the Criminal Justice Policy and Planning Division within the Office of Policy and Management, the joint standing committees of the General Assembly having cognizance of matters relating to appropriations and the budgets of state

agencies and finance, revenue and bonding, the Office of Fiscal Analysis, and the Institute for Municipal and Regional Policy at Central Connecticut State University.

(c) Not later than March 1, 2016, and annually thereafter by November first, the Institute for Municipal and Regional Policy at Central Connecticut State University shall submit a report containing a cost-benefit analysis of the programs inventoried in subsection (a) of this section to the Criminal Justice Policy and Planning Division of the Office of Policy and Management, the joint standing committees of the General Assembly having cognizance of matters relating to appropriations and the budgets of state agencies and finance, revenue and bonding, and the Office of Fiscal Analysis, in accordance with the provisions of section 11-4a.

(d) The Office of Policy and Management and the Office of Fiscal Analysis may include the cost-benefit analysis provided by the Institute for Municipal and Regional Policy under subsection (c) of this section in their reports submitted to the joint standing committees of the General Assembly having cognizance of matters relating to appropriations and the budget of state agencies, and finance, revenue and bonding on or before November fifteenth annually, pursuant to subsection (b) of section 2-36b.

CGS 4-68m. Criminal Justice Policy and Planning Division. Duties. Collaboration with other agencies. Access to information and data. Reports.

(b) The division shall develop a plan to promote a more effective and cohesive state criminal justice system and, to accomplish such plan, shall:

- (1) Conduct an in-depth analysis of the criminal justice system;
- (2) Determine the long-range needs of the criminal justice system and recommend policy priorities for the system;
- (3) Identify critical problems in the criminal justice system and recommend strategies to solve those problems;
- (4) Assess the cost-effectiveness of the use of state and local funds in the criminal justice system;
- (5) Recommend means to improve the deterrent and rehabilitative capabilities of the criminal justice system;
- (6) Advise and assist the General Assembly in developing plans, programs and proposed legislation for improving the effectiveness of the criminal justice system;
- (7) Make computations of daily costs and compare interagency costs on services provided by agencies that are a part of the criminal justice system;
- (8) Review the program inventories and cost-benefit analyses submitted pursuant to section 4-68s and consider incorporating such inventories and analyses in its budget recommendations to the General Assembly;
- (9) Make population computations for use in planning for the long-range needs of the criminal justice system;

- (10) Determine long-range information needs of the criminal justice system and acquire that information;
- (11) Cooperate with the Office of the Victim Advocate by providing information and assistance to the office relating to the improvement of crime victims' services;
- (12) Serve as the liaison for the state to the United States Department of Justice on criminal justice issues of interest to the state and federal government relating to data, information systems and research;
- (13) Measure the success of community-based services and programs in reducing recidivism;
- (14) Develop and implement a comprehensive reentry strategy as provided in section 18-81w; and
- (15) Engage in other activities consistent with the responsibilities of the division.

CGS Sec. 4-77c. Estimates of expenditure requirements for implementation of evidence-based programs. The Departments of Correction, Children and Families and Mental Health and Addiction Services, and the Court Support Services Division of the Judicial Branch may include in the estimates of expenditure requirements transmitted pursuant to section 4-77, and the Governor may include in the Governor's recommended appropriations in the budget document transmitted to the General Assembly pursuant to section 4-71, an estimate of the amount required by said agencies for expenditures related to the implementation of evidence-based programs.

Appendix B

Relevant Section of PA 17-2, June Special Session An Act Concerning The State Budget For The Biennium Ending June 30, 2019, Making Appropriations Therefor, Authorizing And Adjusting Bonds Of The State And Implementing Provisions Of The Budget

Be it enacted by the Senate and House of Representatives in General Assembly convened:

...

Sec. 247. Section 4-68s of the general statutes is repealed and the following is substituted in lieu thereof (*Effective from passage*):

(a) Not later than [January 1, 2016, and not later than October first in every even-numbered year] October 1, 2018, and annually thereafter, the Departments of Correction, Children and Families, [and] Mental Health and Addiction Services [,] and Social Services and the Court Support Services Division of the Judicial Branch shall compile a program inventory of each of said agency's [criminal and juvenile justice] programs and shall categorize them as evidence-based, research-based, promising or lacking any evidence. Each program inventory shall include a complete list of all agency programs, including the following information for each such program for the prior fiscal year, as applicable: (1) A detailed description of the program, (2) the names of providers, (3) the intended treatment population, (4) the intended outcomes, (5) the method of assigning participants, (6) the total annual program expenditures, (7) a description of funding sources, (8) the cost per participant, (9) the annual number of participants, (10) the annual capacity for participants, and (11) the estimated number of persons eligible for, or needing, the program.

(b) Each program inventory required by subsection (a) of this section shall be submitted in accordance with the provisions of section 11-4a to the [Criminal Justice Policy and Planning Division within] Secretary of the Office of Policy and Management, the joint standing committees of the General Assembly having cognizance of matters relating to children, human services, appropriations and the budgets of state agencies and finance, revenue and bonding, the Office of Fiscal Analysis, and the Institute for Municipal and Regional Policy at Central Connecticut State University.

(c) Not later than [March 1, 2016] November 1, 2018, and annually thereafter by November first, the Institute for Municipal and Regional Policy at Central Connecticut State University shall submit a report containing a cost-benefit analysis of the programs inventoried in subsection (a) of this section to the [Criminal Justice Policy and Planning Division] Secretary of the Office of Policy and Management, the joint standing committees of the General Assembly having cognizance of matters relating to children, appropriations and the budgets of state agencies and finance, revenue and bonding, and the Office of Fiscal Analysis, in accordance with the provisions of section 11-4a.

(d) The Office of Policy and Management and the Office of Fiscal Analysis may include the cost-benefit analysis provided by the Institute for Municipal and Regional Policy under subsection (c) of this section in their reports submitted to the joint standing committees of the

General Assembly having cognizance of matters relating to children, appropriations and the budgets of state agencies and finance, revenue and bonding on or before November fifteenth annually, pursuant to subsection (b) of section 2-36b.

(e) Not later than January 1, 2019, the Secretary of the Office of Policy and Management shall create a pilot program that applies the principles of the Pew-MacArthur Results First cost-benefit analysis model, with the overall goal of promoting cost-effective policies and programming by the state, to at least eight grant programs financed by the state selected by the secretary. Such grant programs shall include, but need not be limited to, programs that provide services for families in the state, employment programs and at least one contracting program that is provided by a state agency with an annual budget of over two hundred million dollars.

(f) Not later than April 1, 2019, the Secretary of the Office of Policy and Management shall submit a report, in accordance with the provisions of section 11-4a of the general statutes, to the joint standing committee of the General Assembly having cognizance of matters relating to appropriations and the budgets of state agencies. Such report shall include, but need not be limited to, a description of the grant programs the secretary has included in the pilot program described in subsection (e) of this section, the status of the pilot program and any recommendations.

Appendix C

“A Guide to Calculating Justice-System Marginal Costs” Vera Center of Justice, May 2013

TYPES OF GOVERNMENT COSTS

The costs of a government agency—or a private firm, for that matter—are said to be variable, fixed, or step-fixed. (See the table below for examples of each type of cost.) Identifying these costs is the first step in calculating marginal costs.

Variable costs are those directly related to workload and change immediately as workload increases or decreases.

Fixed costs, in contrast, are those that remain fixed over a given period and are not usually affected even if the workload changes.

Step-fixed costs remain constant for a certain range of workload, but can change if the workload exceeds or falls below that range. The most common examples of step-fixed costs are staff salaries and benefits. These step-fixed costs are sometimes said to be lumpy or tiered, because positions are typically added or subtracted only if the workload reaches a certain threshold. For example, a probation department might not hire a new officer in response to a small increase in its caseload, but is likely to wait until the caseload reaches a point at which the work would fully occupy the time of an additional officer. Similarly, a county corrections department cannot reduce jail staffing if the inmate population decreases slightly, but if the decline is sufficient to close an entire housing area, the corrections department could eliminate the positions related to that unit.

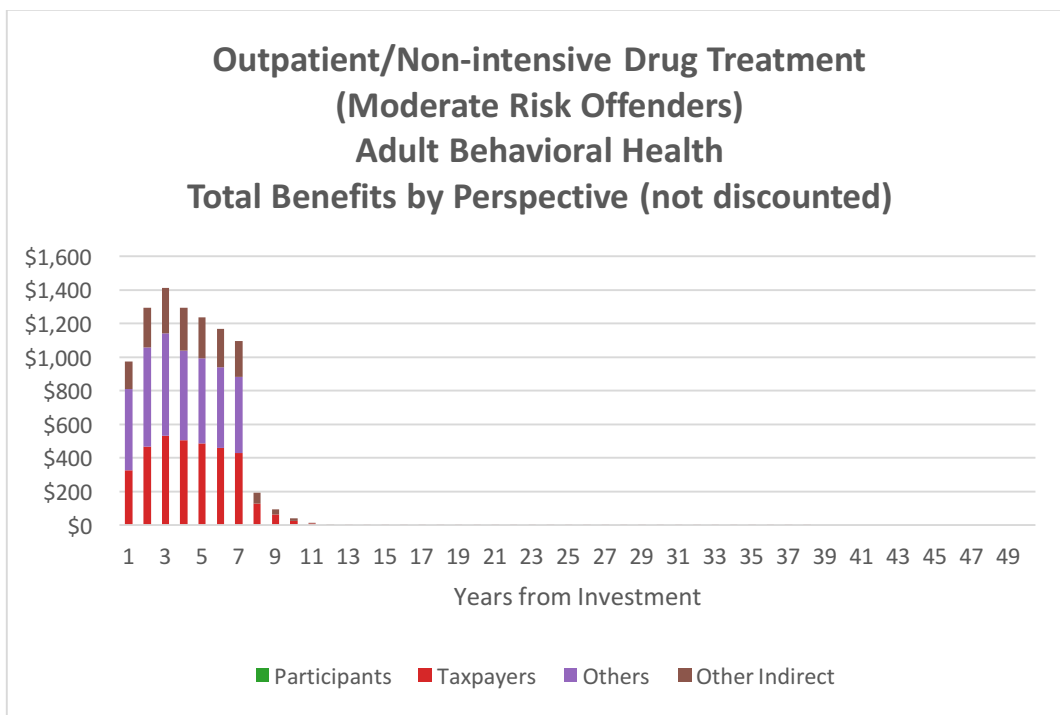
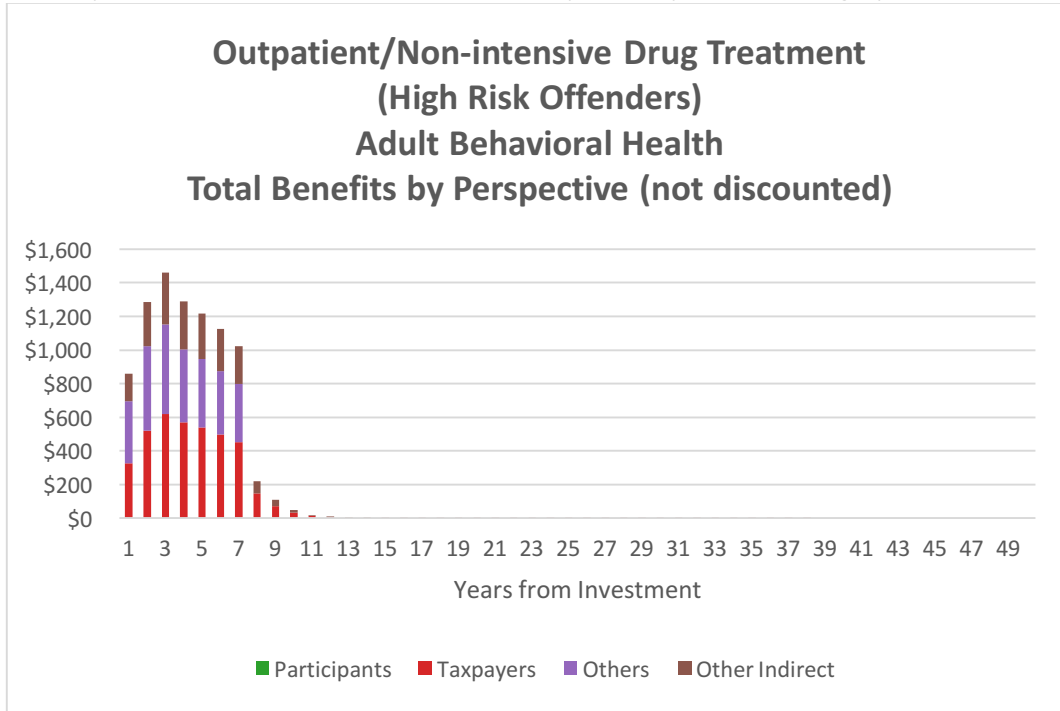
Examples of each type of cost are below.

<i>Variable Costs</i>	<i>Fixed Costs</i>	<i>Step-Fixed Costs¹</i>
Overtime	Rent	Staff salaries
Supplies	Utilities	Fringe benefits, such as health care and pensions and possibly some fixed costs when staffing levels change by a large amount
Contracted services	Central administration	
Client subsidies	Debt service	
Travel	Equipment	
Fuel		
Food		

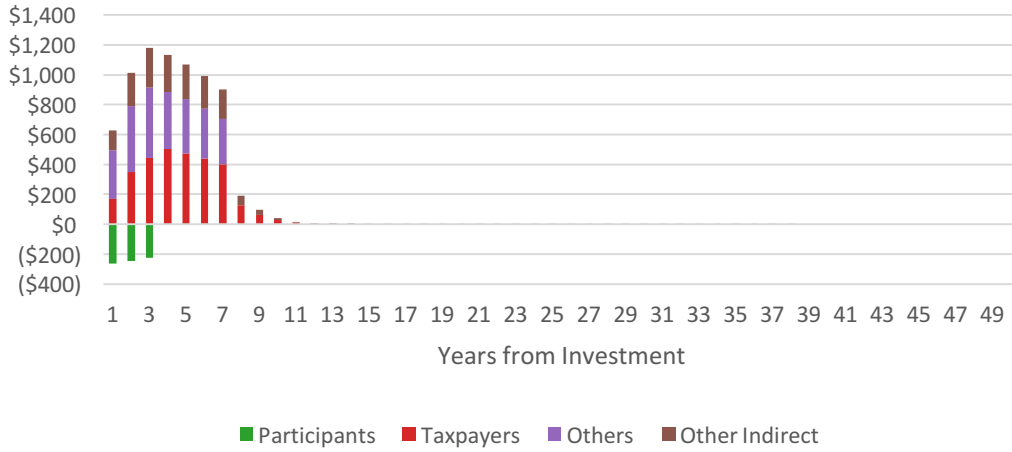
Appendix D

Total Program Benefits Over Time

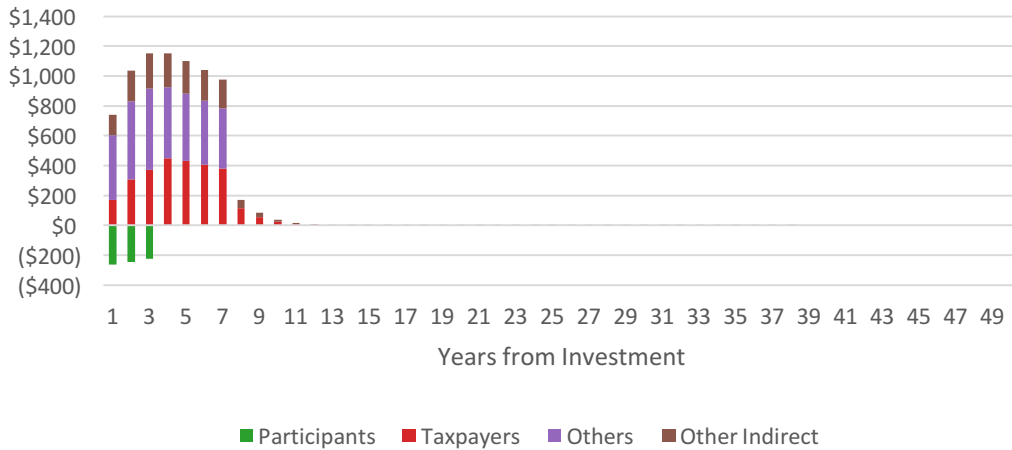
The graphs below show, for each Connecticut program listed in Table 2, the change in benefits and costs for each year after a participant enters a particular program. These costs and benefits are broken out by perspective – participants, taxpayers, others (e.g., avoided victimization) and other indirect (avoided expenses or costs). Not discounting the benefits means that the time-value (present value) of money was not taken into account in the analysis that produced the graph.



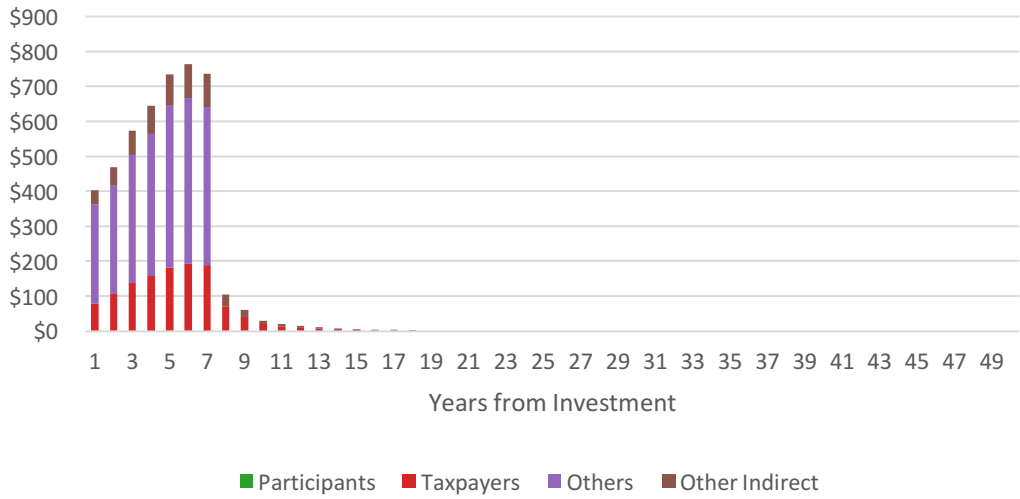
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(High Risk Offenders)
Alternative in the Community
Total Benefits by Perspective (not discounted)**



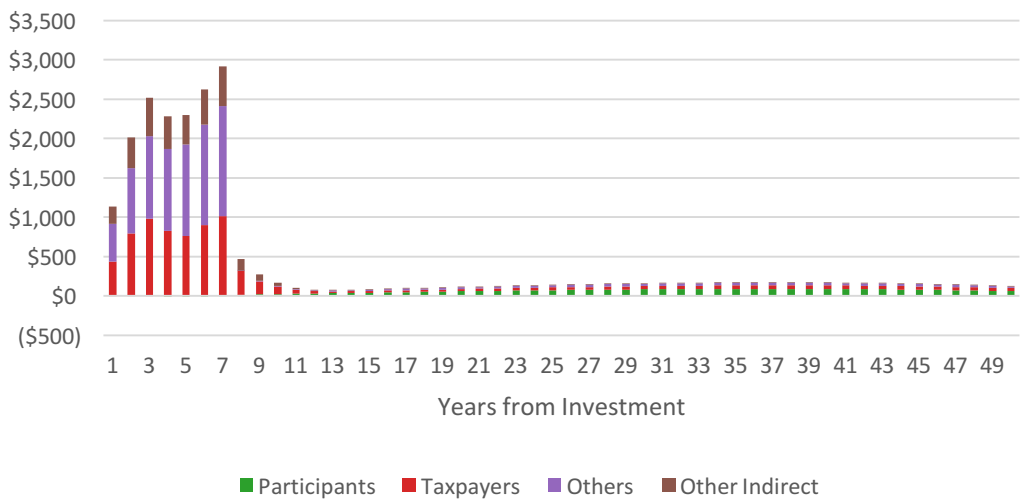
**Cognitive Behavioral Therapy
(Moderate Risk Offenders)
Alternative in the Community
Total Benefits by Perspective (not discounted)**



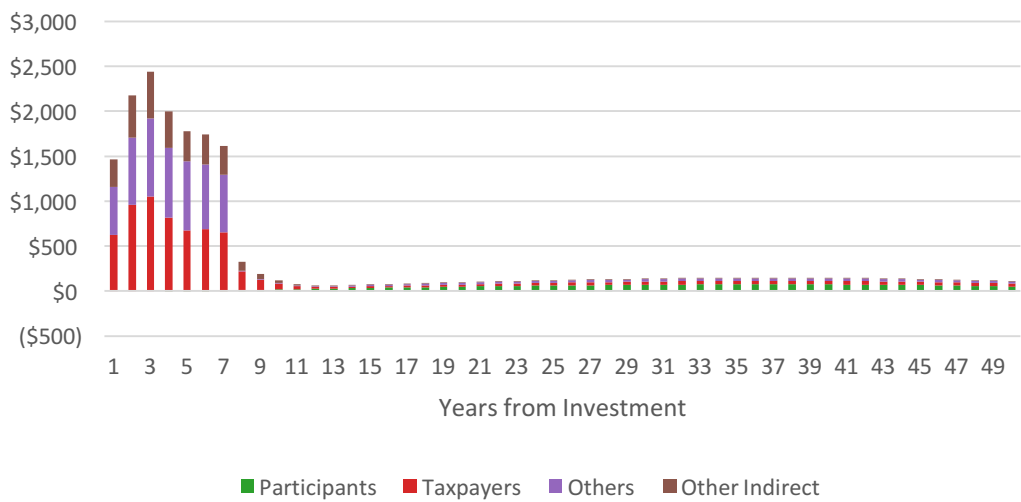
**Sex Offender Treatment in the Community
Adult Sex Offender Treatment Services
Total Benefits by Perspective (not discounted)**



**Juvenile Crime - Agression Replacement Training
Children, Youth & Family Support Service Centers
Total Benefits by Perspective (not discounted)**



Multi-Systemic Therapy (MST)- for Juvenile Offenders (High Risk) Total Benefits by Perspective (not discounted)



Multi-Systemic Therapy (MST) - for Juvenile Offenders (Moderate Risk) Total Benefits by Perspective (not discounted)

