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Updated Evidence Classifications for Select State-Funded Juvenile Justice Programs in Washington State: *A Resource Guide*

In 2017, WSIPP's Board of Directors authorized work that included updating WSIPP's portfolio of juvenile justice meta-analyses and benefit-cost analyses. The work aligned with our update of the Children's Services Inventory ("the inventory"),[1] published for a ninth time in December 2019: *Updated Inventory of Evidence-Based, Research-Based, and Promising Practices: For Prevention and Intervention Services for Children and Juveniles in the Child Welfare, Juvenile Justice, and Mental Health Systems.*[2]

This resource guide is a companion to the inventory and explains both WSIPP's methods and the resulting classifications of specific juvenile justice programs eligible for Washington State funding for youth involved in the juvenile courts or committed to a Juvenile Rehabilitation facility. While WSIPP classifies a broad array of programs, this guide focuses specifically on juvenile justice programs eligible for state dollars.

Section I of this guide echoes the information in the inventory report and provides greater detail about the dynamic nature of WSIPP's meta-analyses and evidence classifications in general. Section II describes the specific adjustments made to the analyses of juvenile justice programs. Section III discusses the specific updates made to juvenile justice programs on the inventory that are eligible for Washington State funding and how the changes impacted their meta-analyses, benefit-cost analyses, and overall evidence classifications for the 2019 inventory. Finally, Section IV lists the citations discussed in the previous sections.

Section

Suggested citation: Wanner, P., Westley, E., Knoth, L., & Drake, E. (2020). *Updated evidence classifications for select state-funded juvenile justice programs in Washington State—A resource guide* (Document Number 20-01-1902). Olympia: Washington State Institute for Public Policy.

[1] The inventory reports evidence classifications for a more exhaustive menu of juvenile justice programs, while this guide focuses on specific programs that are funded by the state for justice-involved youth.

[2] WSIPP & EBPI. (2019). *Updated inventory of evidence-based, research-based, and promising practices: For prevention and intervention services for children and juveniles in the child welfare, juvenile justice, and mental health systems* (Doc. No. E2SHB2536-10). Olympia: Washington State Institute for Public Policy.

I. WSIPP's Dynamic Meta-Analyses and Evidence Classifications Over Time

The Washington State Legislature often directs WSIPP to study the effectiveness and assess the potential benefits and costs of programs and policies ("programs") that are or could be implemented in Washington State. Since the 1990s, WSIPP has used a standard meta-analytic and benefit-cost (meta/BC) approach to assess the potential benefits and costs of programs across different policy areas. These analyses provide policymakers with objective information about which programs work to achieve desired outcomes (e.g., reduced crime or improved health) and the likely long-term economic consequences of these programs.

In recent years, the Legislature has directed WSIPP to use the results of these analyses to classify some programs as "evidence-based," "research-based," and "promising." For juvenile justice programs in Washington, these classifications inform eligibility for state funding.[3]

WSIPP's meta/BC analyses and related evidence classifications are dynamic. That is, evidence classifications may change whenever components of our analyses change. This section describes WSIPP's standard analytic and evidence classification approach, discusses the reasons that findings and evidence classifications may change over time, and details the specific changes to the meta/BC analyses that can affect inventory evidence classifications.

WSIPP's Standard Meta-Analytic and Benefit-Cost Approach

WSIPP built its first benefit-cost model in 1997 to determine whether juvenile justice programs shown to reduce crime are also cost-beneficial. WSIPP continues to develop and improve this model, and we now apply this approach to more than 400 programs and policies across different policy areas.[4]

WSIPP implements a rigorous three-step research approach to undertake meta/BC analyses. Through these three steps, WSIPP does the following:

1) Identifies what works (and what does not) using meta-analysis,
2) Assesses the return on investment using BC analysis, and
3) Determines the risk of investment.

WSIPP follows a set of standardized procedures for each of these steps (Exhibit 1). These procedures support the rigor of the analyses and allow programs to be compared on an apples-to-apples basis. For full detail on WSIPP's methods, see our Technical Documentation.[5]

[3] RCW 13.40.530 required WSIPP to develop standards for measuring the effectiveness of juvenile accountability programs. Programs that meet these effectiveness standards are eligible for state-funding through a block-grant. Washington State Department of Social and Health Services, (2018). *Report to the legislature: Juvenile court block grant report.*

[4] WSIPP uses this standard approach to assess programs in the areas of criminal and juvenile justice, K-12 and early education, child welfare, substance abuse, mental health, public health, public assistance, workforce development, health care, general prevention, and higher education.

[5] Washington State Institute for Public Policy. (December 2019). *Benefit-cost technical documentation.* Olympia, WA: Author.

Exhibit 1

WSIPP's Three-Step Approach

Step 1: Identify what works (and what does not) using meta-analysis

WSIPP conducts a meta-analysis—a quantitative review of the research literature—to determine if the weight of the research evidence indicates whether desired outcomes are achieved, on average.

WSIPP follows several key protocols to ensure a rigorous analysis for each program examined.

- Search for all studies on a topic—WSIPP systematically review the national and international research literature and consider all available studies on a program, regardless of their findings. That is, we do not "cherry-pick" studies to include in our analysis.
- Screen studies for quality—We only include rigorous studies in our analysis. We require that a study reasonably attempt to demonstrate a cause-and-effect relationship between the program and relevant outcomes using appropriate statistical techniques. For example, studies must include both treatment and comparison groups with an intent-to-treat analysis. Studies that do not meet our minimum standards are excluded from the analysis.
- Determine the average effect size—We use a formal set of statistical procedures to calculate an average effect size for each outcome, which indicates the expected magnitude of change caused by the program (e.g., mentoring) for each outcome of interest (e.g., crime).

Step 2: Assess the return on investment using a standard benefit-cost model

WSIPP has developed, and continues to refine, an economic model to provide internally consistent monetary valuations of the benefits and costs of each program on a per-participant basis.

Benefits to individuals and society may stem from multiple sources. For example, a program that reduces the need for child welfare services decreases taxpayer costs. If that program also improves participants' educational outcomes, it will increase their expected labor market earnings. Finally, if a program reduces crime, it will reduce expected costs to crime victims.

We also estimate the cost required to implement an intervention. If the program is operating in Washington State, our preferred method is to obtain the service delivery and administrative costs from state or local agencies. When this approach is not possible, we estimate costs using the research literature, using estimates provided by program developers, or using a variety of sources to construct our own cost estimate.

Step 3: Determine the risk of investment

Any tabulation of benefits and costs involves a degree of uncertainty about the inputs used in the analysis, as well as the bottom-line estimates. An assessment of risk is expected in any investment analysis, whether in the private or public sector.

To assess the riskiness of our conclusions, we look at thousands of different scenarios through a Monte Carlo simulation. In each scenario, we vary a number of key factors in our calculations (e.g., expected effect sizes, program costs) using estimates of error around each factor. The purpose of this analysis is to determine the probability that a particular program or policy will produce benefits that are equal to or greater than costs if the real-world conditions are different than our baseline assumptions.

Evidence Classification Using WSIPP's Meta/BC Findings

WSIPP classifies programs as evidence-based, research-based, or promising using the results from the meta/BC analyses. WSIPP produces these classifications in response to specific legislation in Washington.

The Community Juvenile Accountability Act (CJAA) of 1997[6] required the establishment of effectiveness standards to ensure the cost-effective use of public funds to support juvenile justice programming. In particular, RCW 13.40.530 required WSIPP to develop standards for measuring the effectiveness of juvenile accountability programs. Programs that meet these effectiveness standards are eligible for state funding through a block-grant.[7]

In 2012, the legislature directed the Department of Social and Health Services to "provide prevention and intervention services to children that are primarily 'evidence-based' and 'research-based' in the areas of mental health, child welfare, and juvenile justice." [8] The legislature also directed WSIPP and the University of Washington's Evidence-Based Practice Institute (EBPI) to "create an 'inventory' of evidence-based, research-based, and promising practices and services." WSIPP worked with EBPI to develop definitions of evidence-based, research-based, and promising practices and together produced the first Children's Services Inventory in September 2012.[9]

The definitions used in the Children's Services Inventory are in Exhibit 2.[10] These definitions align with the evidence ratings required by the CJAA Advisory Committee. Programs classified as "evidence-based" or "research-based" in WSIPP's Children's Services Inventory meet the effectiveness standard in RCW 13.40.500-540 and, therefore, meet criteria for state funding through CJAA grants.[11]

[6] RCW 13.40.500 – 540.

[7] Drake, E. (2010). *Washington State juvenile court funding: Applying research in a public policy setting* (Doc. No. 10-12-1201). Olympia: Washington State Institute for Public Policy. The budgetary allocation for the allocation of CJAA funds to juvenile courts requires that funds be used for programs identified by WSIPP as research-based or evidence-based. See *Engrossed Substitute House Bill 1109, Section 225(2)(d)(ii), Chapter 415, Laws of 2019.*

[8] Engrossed Second Substitute House Bill 2536, Chapter 232, Laws of 2012.

[9] WSIPP & EBPI. (2012). *Inventory of evidence-based, research-based, and promising practices for prevention and intervention services for children and juveniles in the child welfare, juvenile justice, and mental health systems*. Olympia: Washington State Institute for Public Policy.

[10] The suggested definitions, originally published in 2012, were subsequently enacted by the 2013 Legislature for adult behavioral health services with slight modifications to relevant outcomes; however, they have not been enacted for the children's services inventory. Thus, WSIPP classifies programs according to the statutory and proposed definitions (See: Second Substitute Senate Bill 5732, Chapter 338, Laws of 2013).

[11] WSIPP's inventory classifications report separate definitions for research-based practices and evidence-based practices, as outlined in Exhibit 2. CJAA commonly refers to programs with research-based or evidence-based classifications as "evidence-based programs" (EBPs).

Exhibit 2

Suggested Definitions for the Children's Services Inventory

	Suggested definitions developed by WSIPP & EBPI
Evidence-based	A program or practice that has been tested in heterogeneous or intended populations with multiple randomized or statistically controlled evaluations or one large multiple-site randomized or statistically controlled evaluation where the weight of the evidence from a systematic review demonstrates sustained improvements in at least one of the following outcomes: child abuse, neglect, or the need for out of home placement; crime; children's mental health; education; or employment. Further, "evidence-based" means a program or practice that can be implemented with a set of procedures to allow successful replication in Washington and, when possible, has been determined to be cost-beneficial.
Research-based	A program or practice that has been tested with a single randomized or statistically controlled evaluation demonstrating sustained desirable outcomes or where the weight of the evidence from a systematic review supports sustained outcomes as identified in the term "evidence-based" in RCW (the above definition) but does not meet the full criteria for evidence-based. Further, "research-based" means a program or practice that can be implemented with a set of procedures to allow successful replication in Washington.
Promising practices	A program or practice that, based on statistical analyses or a well-established theory of change, shows potential for meeting the "evidence-based" or "research-based" criteria, which could include the use of a program that is evidence-based for outcomes other than the alternative use.
Null	A program or practice for which the results from a random-effects meta-analysis of multiple evaluations or one large multiple-site evaluation are not statistically significant (p-value > 0.20) for relevant outcomes.
Poor outcomes	A program or practice for which the results from a random-effects meta-analysis of multiple evaluations or one large multiple-site evaluation indicate that the practice produces undesirable effects (p-value < 0.20).

Note:
WSIPP's inventory classifications report separate definitions for research-based practices and evidence-based practices. CJAA commonly refers to programs with research-based or evidence-based classifications as "evidence-based programs" (EBPs).

Changes in Evidence Classifications Over Time

As described in the inventory report,[12] WSIPP's inventories are snapshots that may change as we are able to incorporate new evidence and information.[13] While the evidence classification definitions have not changed since the Children's Services Inventory was originally published in September 2012, programs may be classified differently with each update to an inventory. This difference could be due to changes in the meta-analyses, changes in the standard benefit-cost (BC) model, or both.

Changes to Program Analyses

When WSIPP updates a review of a program or policy ("program"), we conduct a complete literature search, update our meta-analyses, and construct new program costs. We may also make improvements to our meta-analytic methods to reflect current best practices.

We update our meta-analyses for specific programs when we receive legislative assignments or Board-approved projects that direct us to do so. Program updates are always contingent upon capacity and funding to execute these requests.

Changes in WSIPP's Standard Benefit-Cost Model

WSIPP makes continuous improvements to our benefit-cost model. WSIPP uses a standard benefit-cost model across topic areas, including child welfare, juvenile justice, K-12 education, adult behavioral health, substance use, and more. When we make changes in our benefit-cost model, those changes are applied to all programs currently reported on our website and reflect our most up-to-date estimates of the valuation of programmatic benefits.

We make updates to our benefit-cost model when we have legislative assignments or Board-approved projects that provide resources to do so.

When implementing these changes, our goal is to report rigorous, up-to-date, and relevant information that addresses the needs of stakeholders.

Exhibit 3 provides a representative list of the types of changes that WSIPP might make in a given update cycle. The exhibit includes the type of change, the rationale for implementing this type of change, and the evidence classifications potentially impacted by the change.

[12] WSIPP & EBPI (2019).

[13] WSIPP's Children's Services Inventory has been updated nine times, with the most current iteration published in December 2019. WSIPP's Inventory of Programs for the Prevention and Treatment of Youth Cannabis Use has been updated three times, with the most current iteration published in December 2019. WSIPP's Inventory of Evidence- and Research-Based Practices: Washington's K-12 Learning Assistance Program has been updated five times, with the most recent iteration published in June 2018. WSIPP's Inventory of Evidence-Based, Research-Based, and Promising Practices for Adult Corrections has been published twice, and was last updated in February 2018. WSIPP's Inventory of Evidence-Based, Research-Based, and Promising Practices: Prevention and Intervention Services for Adult Behavioral Health has been updated three times, with the most current iteration published in September 2016.

The definitions for evidence classifications of poor, null, promising, and research-based programs all rely on unadjusted effect sizes from WSIPP's meta-analyses. Therefore any changes we make that could affect unadjusted effect sizes may have implications for these evidence classifications. Changes to our benefit-cost findings, however, only affect whether a program is classified as evidence-based.

Exhibit 3

Potential Changes to WSIPP's Meta-Analyses and Benefit-Cost Model
And Implications for Inventory Evidence Classifications

Change	Rationale for change	Meta/BC analysis elements potentially affected[^]	Evidence classifications[*] potentially impacted
Changes to program analyses			
Split programs into more specific analyses	Stakeholder requests; changes in policy contexts (e.g., call for more specific findings of key populations) or new research literature makes separate analyses desirable; improved ability to conduct BC analyses for specific populations	Unadjusted effect sizes[#] Adjusted effect sizes Placement of effects in time Program costs	All levels of evidence classification
Add new research literature	New research is found in literature search; studies we could not include previously become usable due to improvements in statistical methods or ability to include new outcomes	Unadjusted effect sizes Adjusted effect sizes Placement of effects in time Program costs	All levels of evidence classification
Remove research literature that was previously included	Re-review indicates that a study does not meet criteria for rigor; studies pertain to populations or program implementations that are no longer included in the scope of the analysis; changes in our statistical methods mean we can no longer include certain measures of effect sizes	Unadjusted effect sizes Adjusted effect sizes Placement of effects in time Program costs	All levels of evidence classification
Update meta-analytic methods	Improvements to our statistical calculations; changes in best practices in the field of meta-analysis	Unadjusted effect sizes Adjusted effect sizes	All levels of evidence classification
Change adjustment factors[**] (adjustments to effect sizes)	Meta-regression analysis based on our most current meta-analyses indicate a need for a change in adjustment factors	Adjusted effect sizes	Evidence-based classification only
Revise the persistence of effects over time[^^]	New research or investigations based on our most current meta-analyses indicate the need for a change in the way we estimate the persistence of effects over time	Adjusted effect sizes Placement of effects in time	Evidence-based classification only

Update program cost estimate	More up-to-date costs are available from agencies in Washington; the revised meta-analysis included a different mix of studies that represent a different length or intensity of the program	Program costs	Evidence-based classification only
Changes to WSIPP's standard benefit-cost model			
Update economic parameters (inflation, discount rates, etc.)	Updated data sources or new research becomes available that allows for more current parameters to be used in the model; changes in best practices in the field of benefit-cost analysis	Benefits associated with measured outcomes	Evidence-based classification only
Revise benefit-cost model populations (e.g., changes to base rates of certain conditions)	Updated data sources or new research becomes available that allows for more current parameters to be used in the model	Benefits associated with measured outcomes	Evidence-based classification only
Revise analysis on the relationship between outcomes	Updated data sources or new research becomes available that allows for more current parameters to be used in the model	Benefits associated with measured outcomes	Evidence-based classification only

Notes:
WSIPP may make other modifications, at researcher discretion, to ensure that our analyses represent the best evidence synthesis given the information we have available. For more detail on our approach, see WSIPP's Technical Documentation.
^ This column lists the components of our meta/BC analyses that may be affected by the relevant type of change. All of these elements have the potential to impact our benefit-cost findings.
* Classifications use definitions described in Exhibit 2.
# Splitting programs into more specific analyses may result in changes to unadjusted effect sizes and their standard errors. In particular, standard errors may become larger (and statistical significance may decrease) when fewer individual studies are contributing to a weighted average effect size.
** WSIPP makes adjustments to the effect sizes estimated through meta-analyses to account for potential bias due to characteristics of the included studies. These adjusted effect sizes reflect our best estimate of the true effect of an intervention. We then use these adjusted effects to estimate the monetary benefits of the program. For detail on WSIPP's effect sizes adjustments, see Section 2.4 of our Technical Documentation.
^^ WSIPP's benefit-cost model calculates the net present value of a program by estimating the long-term changes to annual cash and resource flow. To do so, we estimate the effects of a program over time. Rather than assume that a near-term effect size (and standard error) persist in perpetuity, we estimate how and whether program effects persist over time using research evidence and our analyses. For detail on WSIPP's approach to modeling the persistence of effects over time, see Section 2.7 of our Technical Documentation.

II. 2019 Juvenile Justice Update

In alignment with the legislature's directive to "calculate the return on investment to taxpayers from evidence-based prevention and intervention programs and policies,"[14] WSIPP's Board of Directors has repeatedly authorized WSIPP to work on a project with the Pew-MacArthur Results First Initiative, under contract with the Pew Charitable Trusts (Pew), beginning in 2012. This project provides funding for WSIPP to continue to refine our benefit-cost model and make periodic updates to meta-analyses and benefit-cost (meta/BC) analyses.

As part of this project with Pew, we updated all of the juvenile justice meta/BC analyses in 2019. We selected this research area because many of these programs had not undergone review since 2014. We also wanted to use our updated analysis of recidivism trends in Washington[15] to improve the estimation of the benefits related to changes in recidivism in our standard benefit-cost model. Ultimately, we conducted a comprehensive review of our juvenile justice meta/BC analyses, refined our methodology, updated key parameters, and revisited model assumptions for all juvenile justice programs.

This work also aligned with our periodic update of the Children's Services Inventory ("the inventory"). WSIPP updates the inventory periodically, as required in the original legislative direction, subject to the availability of funding. In 2019, WSIPP was contracted by the Division of Behavioral Health and Recovery (DBHR) to update the inventory for a ninth time. This contract funded the review of seven new programs nominated to the inventory through the Evidence-Based Practice Institute's (EBPI) promising practice application process.[16] It also allowed WSIPP to review seven new programs nominated by Washington State juvenile justice stakeholders.[17]

[14] Engrossed Substitute House Bill 1244, Chapter 564, Laws of 2009.

[15] Knoth, L., Wanner, P., & He, L. (2019). *Washington State recidivism trends: FY 1995–FY 2014.* (Doc. No.19-03-1901). Olympia: Washington State Institute for Public Policy.

[16] Programs may be considered for inclusion in the Children's Services Inventory if they are nominated through EBPI's Promising Practice Application, which allows treatment providers to submit children's mental health, child welfare, juvenile justice, substance use, and general prevention programs for review. This process is separate from CJAA's promising practice application. Programs can be submitted for review through EBPI's website. EBPI's ability to review applications depends on the volume of applications received. New programs (or program updates) are only added to the inventory in years that EBPI and WSIPP have funding and capacity to conduct reviews.

[17] Juvenile Rehabilitation nominated: Indiana Canine Assistant and Adolescent Network, Project Broader Urban Involvement and Leadership Development (Project BUILD) for youth in state institutions, Trauma Affect Regulation: Guide for Education and Therapy (TARGET) for youth involved in the juvenile justice system, The Missouri Approach (Missouri Model), Wayne County (Michigan) Second Chance Reentry Program, and Youth Villages LifeSet for court-involved/post-release youth. Two other programs, Equipping Youth to Help Each Other (EQUIP) for youth in state institutions and Sexual Abuse Family Education and Treatment Program (SAFE-T) for court-involved youth, were previously grouped with other intervention models. In the current update, those two programs are now independently analyzed and classified on the inventory.

In Section II, we will discuss which changes (from Exhibit 3) WSIPP incorporated into the juvenile justice meta-analyses, and benefit-cost analyses update in 2019. Specifically for changes to program analyses, we discuss dividing analyses into more specific analyses, adding or removing new research literature, updating meta-analytic methods, adjustment factors, and cost estimates. For changes to WSIPP's standard benefit-cost model, we discuss revisions to benefit-cost model populations. Section III details the way these changes affected our meta/BC findings on evidence-based programs (EBP)s and promising programs that may be eligible for state funding.

Changes to the Juvenile Justice Program Analyses

When WSIPP updates a review of a program or policy ("program"), we conduct a complete literature search, update the meta-analyses, and estimate new/updated program costs (see Exhibit 3). We may also make improvements to meta-analytic methods to reflect current best practices. This section describes the changes WSIPP made to the meta-analyses as a part of the 2019 update.

Dividing Program Analyses into More Specific Analyses

When WSIPP was directed by the Washington State Legislature to identify "what works" for juvenile justice youth in the 1990s, our mandate was to broadly evaluate the types of programs that might work to improve outcomes. We included rigorous evaluations on youth in the juvenile justice system and youth-at-risk for juvenile justice system involvement. Continued investment into evidence-based approaches in juvenile justice by the legislature since the 1990s has led stakeholders to ask more specific questions, such as "what works for whom?" Also, the research literature for evidence-based programs has grown across the United States, increasing the number of studies testing the effectiveness of programs on different justice-involved populations.

In the 2019 update, WSIPP divided programs into more specific analyses for two reasons: 1) to analyze population-specific results (i.e., "what works for whom?") and 2) to account for different comparison group conditions (i.e., "compared to what?").

Population-Specific Meta-Analyses. Previous meta-analyses of programs (pre-2019) could have included multiple populations (e.g., court-involved youth and confined youth) in the same analysis. This was, in part, due to limitations in the availability of outcome evaluations of juvenile justice programs. It was also a reflection of WSIPP's objective to report on all available information to stakeholders about programs that could potentially impact recidivism.

As an example, WSIPP previously conducted a single meta-analysis on all available literature for Aggression Replacement Training (ART).[18] The meta-analysis for ART included evaluations conducted on samples of court-involved youth supervised in the community, youth confined in a juvenile justice facility, and youth supervised following release from confinement in a facility.

[18] Lee, S., Aos, S., Drake, E., Pennucci, A., Miller, M., & Anderson, L. (2012). *Return on investment: Evidence-based options to improve statewide outcomes, April 2012* (Doc. No. 12-04-1201). Olympia: Washington State Institute for Public Policy.

We used the resulting non-population-specific effect size to estimate separate benefit-cost findings for youth on probation (i.e., court-involved youth) and youth confined in state institutions. Therefore, the evidence classifications for ART used the information from the non-population-specific analyses but then used population-specific benefit-cost analyses.

In 2019, to best reflect the question of "what works for whom," WSIPP conducted population-specific meta-analyses, where applicable, for all juvenile justice programs. The populations of interest that could result in a population-specific analysis include the following:

- court-involved youth,
- confined youth,
- post-release youth,
- youth convicted of specific offenses (e.g., sex or domestic violence offenses),
- disordered youth (e.g., substance use disorder), and
- diverted youth.

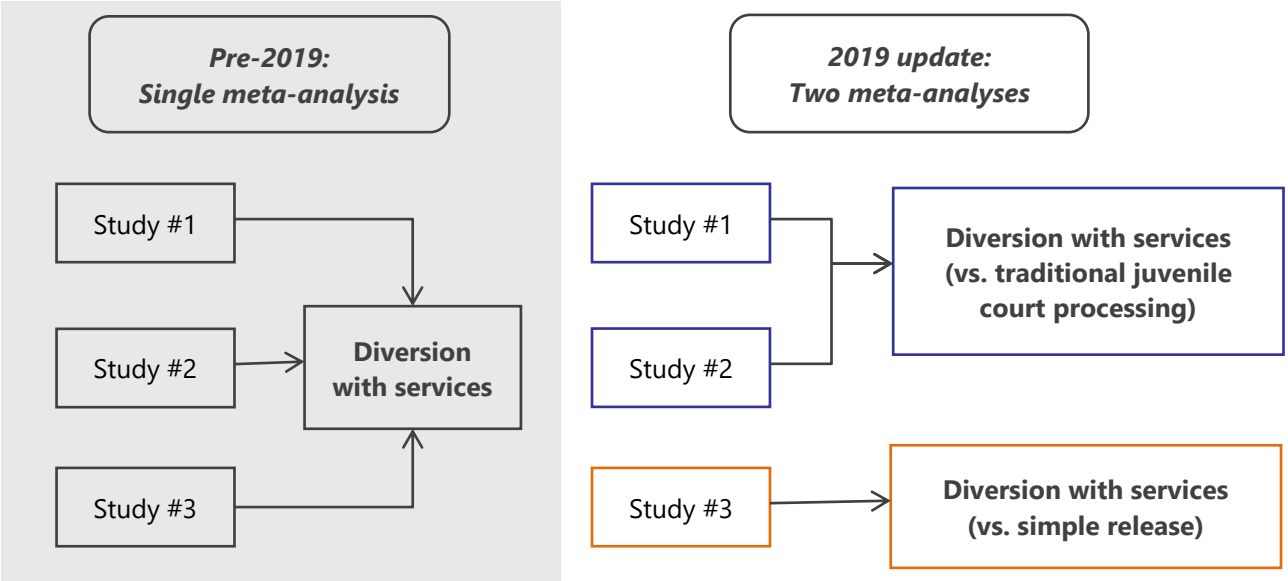
WSIPP conducts population-specific analyses for programs if 1) at least one evaluation of the program is on a confined population of youth or 2) two or more evaluations of the program were on a specific population of youth. Using the same example as above, WSIPP now conducts separate meta-analyses for each population when possible for ART. Now, population-specific effect sizes and population-specific benefit-cost analyses of these programs are used to classify the programs for each population independently. This resulted in splitting ART into two analyses (ART for court-involved/post-release youth and ART for youth in state institutions).

Comparison Group Considerations. When applicable, WSIPP divided programs into more specific meta-analyses based on the comparison between the treatment ("program") and the untreated ("comparison") youth. Ideally, evaluations would compare youth receiving a program to similar youth who do not receive any program. However, some evaluations compare youth in a program to youth receiving a different type of programming. In other instances, evaluations compare youth receiving a particular program to youth receiving a variety of alternative services. When the comparison condition varies across the evaluations of a specific program (for example, see Exhibit 4), we may conduct separate meta-analyses. By separating different comparison conditions, we can isolate and model the expected benefit-costs and effects of the program should the comparison condition differ. In 2019, WSIPP continued to pay particular attention to the comparison conditions in the literature when doing the update. This is important because the magnitude of a program's effects may vary when compared to different types of comparison conditions (i.e., usual services, no treatment, or other treatment).

Exhibit 4

Example of Comparison Group Considerations and Resulting WSIPP Meta-Analyses

Research literature	Treatment condition	Comparison condition
Study #1	Diversion with services	Traditional juvenile court processing
Study #2	Diversion with services	Traditional juvenile court processing
Study #3	Diversion with services	Simple release



Adding and Removing Research Literature

When completing updates to a specific meta-analysis or conducting analyses for the first time, WSIPP begins with a systematic review of the research literature.[19] In 2019, WSIPP located additional research literature for several juvenile justice programs that are now included in the meta-analyses. In addition to searching for new evaluations, WSIPP reviews the literature previously included in our analyses to ensure these studies meet current standards and are within the scope of the current analysis.

In the 2019 update, WSIPP removed studies on populations that are not applicable to the current Washington State juvenile justice system. This is discussed below.

Population Relevance. Historic WSIPP juvenile justice meta-analyses included evaluations of youth at risk for criminal justice involvement, youth with any prior involvement in the juvenile justice system, and youth involved in the justice system due to a status offense.[20] These inclusions were in addition to evaluations of current system-involved youth due to any misdemeanor or felony offense.

[19] For more information, see Exhibit 1 in WSIPP & EBPI (2019).

[20] In this instance, non-delinquent behaviors, also called status offenses, are laws applicable to youth only, not adults. Behaviors such as school absenteeism, running away, curfew violations, or alcohol use are examples of status offenses.

WSIPP now excludes evaluations of juvenile justice-involved youth due to status offenses,[21] evaluations of previously involved youth,[22] and evaluations of youth at-risk for juvenile justice involvement[23] from juvenile justice meta-analyses as these populations do not reflect the expected samples of youth served by the juvenile justice system in Washington State.

Meta-Analytic Method Updates

WSIPP uses standard meta-analytic methods to calculate unadjusted effect sizes that summarize the degree to which a program affects an outcome. WSIPP uses several methods to calculate effect sizes, as described in WSIPP's Technical Documentation.[24] The field of meta-analysis is constantly evolving, and WSIPP strives to use the most rigorous methods currently available in the analyses. To do so, we occasionally revise our approach to reflect improvements in meta-analytic methods. When WSIPP makes these types of changes, they pertain to all topic areas (i.e., they are not unique to juvenile justice programs). WSIPP applies these methodological updates to all meta/BC analyses as programs are re-reviewed.

Our 2019 update to juvenile justice programs reflects the following methodological changes: 1) WSIPP no longer approximates hazard rate ratios as odds ratios to calculate effect sizes, and 2) WSIPP uses particular statistics to calculate effect sizes when post-test reported percentages are less than 10% or greater than 90%.

Hazard Rate Ratios. Hazard rate ratios (also called hazard ratios) indicate the ratio of the instantaneous rate of an event occurring, given that the event has not yet occurred. Historically, WSIPP researchers assumed that hazard rate ratios approximated odds ratios well enough in most cases for us to include them in our estimates of effect sizes. WSIPP no longer takes this approach.

In 2019, WSIPP revised the methods regarding the estimation of effect sizes from hazard ratios. After reviewing the literature on hazard rate ratios and effect size estimation, WSIPP concluded that hazard rate ratios could not be transformed to approximate Cohen's d effect sizes that represent a change in the likelihood of an event occurring.[25] WSIPP no longer includes effect sizes estimated from hazard rate ratios in our analyses.

[21] Currently, WSIPP excludes evaluations of youth with status offenses from all juvenile justice meta-analyses. Meta-analyses that address the effectiveness of interventions for a population of youth with status offenses could be conducted in the future.
[22] Previously involved youth refers to youth with any criminal history (e.g., ever arrested) rather than a reflection of current involvement in the juvenile justice system. For example, evaluation of national work force programs conduct subanalyses on males who have ever been arrested. Those participants could have been arrested 10 days or 10 years before their inclusion in the study pool.
[23] Youth at-risk for juvenile justice involvement could include samples of youth with externalizing behavior, disruptive behavior disorder, parents who are currently incarcerated, current gang affiliation, etc. At-risk youth are not currently involved in the juvenile justice system.
[24] WSIPP (2019).
[25] WSIPP used information from Azuero, A. (2016). A note on the magnitude of hazard ratios. *Cancer, 122*(8), 1298-1299 and Symons, M.J., & Moore, D.T. (2002). Hazard rate ratio and prospective epidemiological studies. *Journal of clinical epidemiology, 55*(9), 893-899 to determine if there was an appropriate way to transform hazard ratios into Cohen's d effect sizes. Upon further communication with Dr. Azuero, we determined that there is not currently a rigorous method we can use to transform hazards ratios into Cohen's d effect sizes for use in our meta-analyses (A. Azuero, personal communication, April 23, 2019).

Extreme Reported Percentages. WSIPP can use the reported percentages from a dichotomous outcome to calculate an effect size. However, when the reported percentages are extreme (i.e., less than 10% or greater than 90%), the effect sizes are often larger than expected in a more diverse sample with a more typical rate of occurrence—i.e., a sample with less extreme percentages.

To reduce the influence of the extreme percentages on estimated effect sizes and make effects more generalizable to broader samples, WSIPP calculates either a chi-square or Fisher's exact probability statistic from the reported percentages and uses that statistic to estimate the effect size. This results in an effect size estimate that is more stable and, often, less extreme.

When reported percentages are extreme and the count *(n)* in each cell is greater than five, the Pearson chi-square is our preferred statistic. If the reported percentages are extreme and the count in any cell is less than or equal to five, then the p-value from a Fisher's exact probability is our preferred statistic. WSIPP uses the p-value from a Fisher's exact probability whenever the count in any cell is less than or equal to five, regardless of extreme percentages.

Adjustment Factors

The overall goal of WSIPP's benefit-cost model is to supply the Washington State Legislature with information about what works to improve outcomes in Washington. Therefore, when evaluations of program effectiveness occur under conditions that may not reflect expectations in real-world implementation in Washington State, we may make adjustments to their corresponding effect sizes.

Displayed n reports and on WSIPP's website, are the results of meta-analyses calculated with the standard meta-analytic formulas described in WSIPP's Technical Documentation. WSIPP calls these effects "unadjusted effect sizes." WSIPP also lists an "adjusted effect size" for each program—these adjusted effect sizes are used in our benefit-cost model.

The adjusted effect sizes are modifications of the unadjusted results. They may be smaller, larger, or equal to the unadjusted effect sizes. WSIPP bases the magnitude of the adjustments on evidence whenever possible. When there are a sufficient number of studies to analyze, WSIPP conducts meta-regression (multivariate linear regression analysis, weighted by inverse variances) in a research area to estimate how much of an adjustment (if any) to make for each of the following five factors:

1) Research design—the methodological quality of each study included in a meta-analysis;
2) Researcher = developer—whether the researcher(s) who conducted a study is (are) invested in the program's design and results;
3) Weak outcome—the relevance or quality of the outcome measured and used in a study;
4) Non-real world setting—whether the research was conducted in a laboratory or other unusual "non-real world" setting; and

5) Wait-list—certain situations in which an evaluation of a program was conducted against a wait-list or no-treatment comparison group, as opposed to a usual services comparison group.

In 2019, WSIPP updated the adjustment factors for juvenile justice programs.

Revised Adjustment Factors for Juvenile Justice Programs. Previously, WSIPP used two adjustment factors for juvenile justice programs. WSIPP adjusted effect sizes when the researcher on an evaluation was also the developer of the program evaluated (an adjustment factor of 0.37). WSIPP also adjusted effect sizes when the study used quasi-experimental methods but did not use many statistical controls to address possible differences between the treated and the untreated group (an adjustment factor of 0.51). For studies with these characteristics, the adjusted effect sizes were smaller in magnitude than unadjusted effect sizes.

For the 2019 update of juvenile justice programs, WSIPP conducted a meta-regression using the new data coded in our update of all juvenile justice programs. These updated analyses found that none of WSIPP's typical adjustment characteristics (e.g., the researcher is the developer, research design of the study) produced inflated effect sizes. Therefore WSIPP makes no adjustments to the "unadjusted" effect sizes for juvenile justice programs.

This change can result in effect sizes that are larger in magnitude because they are not adjusted. This could produce higher net benefits (if the effect size was in the desirable direction) or lower net benefits (if the effect size was in an undesirable direction) than previously included adjusted effect sizes, all else being equal.

Cost Estimates

Benefit-cost analysis requires an estimate of program costs. WSIPP's standard benefit-cost model uses an annual per-participant cost estimate that represents costs associated with participation in the program beyond the usual participant costs without the program. WSIPP typically reports a program cost and a comparison cost, and the benefit-cost model uses the difference between these costs to represent the cost of the program.

Historically, youth in the juvenile justice system did not typically receive treatment services as a requirement of their supervision or confinement. However, youth increasingly receive some services when they are involved with the juvenile justice system. More recent research literature often reflects that youth in both the treatment group and comparison group received usual services (which may include some treatment services), but the treated group received an additional program not available to the comparison group.

In 2019, WSIPP systematically updated comparison group costs to ensure that they reflected either no treatment or usual services, depending on what participants received in the studies included in the meta-analysis.

Revised Comparison Group Cost Estimates. In prior years, when youth in both the treatment and the comparison groups receive some of the same services (e.g., traditional court processing or usual services), WSIPP reported a cost of $0 for the comparison condition to represent either a no-treatment comparison or a usual services comparison.

In the 2019 update, the services and programming that constitute usual services have changed in many of the more recent research studies. WSIPP continues to use a $0 comparison cost when program and comparison youth both received usual services. In the 2019 update, this resulted in some revisions to comparison group costs. Importantly, when a comparison group received separate and different services that were not applicable or available to the youth in the treatment group, WSIPP calculated and reported those costs for the comparison group.

Changes to comparison group costs could affect the benefit-cost findings in either direction. Changing the comparison group cost to $0 if WSIPP previously reported a non-zero cost results in lower net benefits, all else being equal. Increasing the comparison group cost from a previously reported $0 cost results in higher net benefits, all else being equal.

Changes to WSIPP's Standard Benefit-Cost Model

Upon completion of the juvenile justice program analyses, WSIPP took the opportunity to make improvements to our standard benefit-cost model, detailed in the Technical Documentation.[26] This section describes the change WSIPP made to the benefit-cost model (Exhibit 3) that impacted the juvenile justice benefit-cost analyses as a part of the 2019 update.

Updated Populations in the Benefit-Cost Model

To estimate the long-run impacts of programs on crime, WSIPP combines program effect sizes with crime information for various populations in Washington State. To establish the likelihood and timing of crime under usual circumstances, we calculate how likely it is for an average person in a specific population (e.g., youth reentering the community after confinement) to commit a crime. For the average person in each population who commits at least one crime, WSIPP estimates how many crimes they commit on average during the follow-up period and when those crimes occur.

WSIPP's crime population parameters come from our analysis of our criminal history database (CHD), which links court records from the Administrative Office of the Court (AOC), incarceration and community supervision records from the Department of Corrections (DOC), and residential facility information from Juvenile Rehabilitation (JR).

Previously, WSIPP used 15-year recidivism trends for populations of youth in the juvenile justice system. We sampled the first case from every individual youth in calendar years 1993-1999 and then sorted the cases into populations based on case type. We determined populations by the level of system involvement (diversion, juvenile court,[27] juvenile rehabilitation), risk-level per the criminal

[26] WSIPP (2019).

[27] Juvenile court youth included convicted, detention, and non-residential Juvenile Rehabilitation youth.

history score calculated using CHD data (low, moderate, high), and type of offense (sex offenses). The populations were mutually exclusive.

For the 2019 update, WSIPP took advantage of more recent cohorts of youth involved in the juvenile justice system and, where possible, used the risk-level classification per the risk assessment used by the juvenile courts (Positive Achievement Change Tool (PACT)). To achieve the two goals, WSIPP sampled all eligible cases in each population[28] (i.e., level of system involvement, risk-level, and type of offense) in calendar years 2004-2007. This sampling method resulted in non-mutually exclusive populations where individuals can be included multiple times in the same population, and the same youth could be in multiple populations. When available, WSIPP used the risk-level from the PACT instrument to select populations of youth. In cases where the PACT score was not available, the risk-level as calculated from the criminal history score using data in the CHD. Finally, because we used more recent data from the CHD, rather than using a fifteen-year follow-up period, we used a ten-year follow-up period with a one-year adjudication period.

In our 2019 update, WSIPP used the more up-to-date recidivism data to revise our estimate of crime costs over time.

Revised Estimate of Crime Benefits Based on New Population Data. WSIPP's BC approach models the lifetime per-participant benefits and costs of programs and accounts for annual streams of benefits and costs that occur over many years. For programs that result in changes to crime outcomes, we use the length of the follow-up period for each population to estimate how much recidivism might occur in the future and the long-term monetary value of that recidivism.

This revision to the follow-up period for the newly defined juvenile populations typically results in lower net benefits for any program targeting youth and measuring crime, including the juvenile justice programs. Now, we account for the long term costs of ten years' worth of recidivism rather than fifteen years' worth, all else being equal.

See Section 4.11 of WSIPP's Technical Documentation for a more detailed description of how we use the populations to determine the valuation of crime outcomes.[29]

[28] Previously, WSIPP had seven populations for juveniles. Now, WSIPP has 16 populations for juveniles. Some notable differences include the inclusion of a juvenile court—domestic violence population and combined populations of juvenile court and juvenile rehabilitation youth by risk level and type of offense. In the 2019 update, juvenile court youth include deferred, diverted, convicted, detention, and non-residential Juvenile Rehabilitation youth.
[29] WSIPP (2019).

III. Changes in Evidence Classifications for Programs Eligible for State Funding

This section describes the specific changes made to WSIPP's meta-analyses and benefit-cost (meta/BC) analyses for juvenile justice programs eligible for state funding in Washington. Exhibit 5 reports the evidence classifications from the 2018 inventory for the funding-eligible programs and the classifications made in the 2019 inventory. In the 2019 inventory, eight of the eleven eligible programs changed classifications from the 2018 inventory.

This section describes, on a program-by-program basis, the specific changes made to the meta/BC analyses of these programs and includes a brief description of how those changes impacted their evidence classifications. For each program, we describe the following:

1) Changes to the meta-analyses, including information on studies that were added, removed, or revised and
2) Changes to the benefit-cost analyses, including information on adjustment factors, the persistence of effects, populations, and program costs.

Exhibit 5

2018 and 2019 Evidence Classifications for Juvenile Justice Programs Eligible for State Funding

Program	2018 Classification^	2019 Classification^	Page #
Aggression Replacement Training (ART)			
For court-involved/post-release youth	Research-based	Null	20
For youth in state institutions	Research-based	Promising	31
Coordination of Services (COS) for court-involved youth	Research-based	Evidence-based	22
Dialectical Behavioral Therapy (DBT) for youth in state institutions	Research-based	Research-based	33
Education and Employment Training (EET, King Co.) for court-involved youth	Research-based	Research-based	24
Functional Family Therapy (FFT)			
For court-involved youth	Evidence-based	Null	25
For youth post-release	Evidence-based	Evidence-based	34
Functional Family Probation and Parole (FFP) for post-release youth	Null	Null	36
Multisystemic Therapy-Family Integrated Transitions (MST-FIT) for youth in state institutions	Research-based	Promising	37
Multisystemic Therapy (MST) for court-involved/post-release youth	Evidence-based	Evidence-based	28
Step Up for court-involved youth	Promising	Null	30

Note:
^Classifications use definitions shown in Exhibit 2.

There are changes made to these analyses that apply to all juvenile justice programs during the 2019 update. We model the persistence of crime following the program for ten years in our benefit-cost analyses rather than fifteen years. This revision affected all juvenile justice programs, so we do not describe it explicitly in this section.

Some changes were applied to all juvenile justice program analyses, but due to the make-up of the evaluations included in the meta-analyses, these changes may have different effects on the findings. For instance, we no longer make adjustments to effect sizes across all juvenile justice programs. For juvenile justice programs that previously included evaluations with adjusted effect sizes, this may affect the findings, but for programs that did not have any adjustments previously, this change is less relevant. Also, benefit-cost populations now reflect more recent and slightly adjusted samples of youth. All program analyses, therefore, use more recent cohorts (youth from the 2000s instead of the 1990s) to model program benefits, but we also may have selected different populations for modeling (e.g., selecting a population of court-involved moderate/high-risk youth instead of court-involved youth at all risk levels). We note these changes in this section and discuss the rationale for changes to the analyses in greater detail in Section II.

Juvenile Court Programs

Aggression Replacement Training (ART) for court-involved/post-release youth

With the changes made in the 2019 update, the classification for ART for court-involved/post-release youth changed from research-based to null.

Previously, the meta-analysis for ART reported a statistically significant ($p<0.20$ level) effect on crime in the desired direction. Now, the meta-analysis reports an effect on crime that is not statistically significant (no difference from zero, $p>0.20$). The primary reason for this change was the removal of an effect from one treatment arm in the Goldstein & Glick (1995) study. Additionally, we replaced the Peterson (2017) study with the Knoth et al. (2019) analysis, both of which found that ART was not achieving desirable effects.

Further details on changes to this analysis follow.

Changes to the Meta-Analysis. For the 2019 update, WSIPP conducted population-specific meta-analyses for ART. We excluded studies evaluating youth while confined in state institutions or youth not involved in the juvenile justice system from the meta-analysis. Exhibit 6 lists evaluations that were either added, removed, or revised, by citation.[30]

Exhibit 6

Evaluations Added, Removed or Revised in the 2019 Update

Citation	2019 Analysis change	Reason for change
Gibbs (1995)	Moved this evaluation to a separate analysis	This study is on Equipping Youth to Help Each Other (EQUIP), which is a combination of ART and another program. JR nominated EQUIP as a separate program, and it is now reported independently.
Goldstein & Glick (1995)	Removed an effect size from this citation	We removed the findings from one of the treatment arms from this study because the sample of youth were not involved in the juvenile justice system.
Knoth et al. (2019)	Added this evaluation	See Peterson (2017).
Peterson (2017)	Removed this evaluation	This evaluation is replaced by Knoth et al. (2019) because the analyzed samples overlap, and the Knoth et al. study includes a larger sample from a longer period of time.

Changes to the BC Analysis. In the 2019 update, we revised numerous components of the benefit-cost analysis for this program. Costs were updated to incorporate the most current cost information for the program as implemented in Washington State by the juvenile courts. We also updated our approach to effect size adjustments and used more current estimates to model recidivism for the juvenile population. Exhibit 7 details these changes between December 2018 and December 2019.

[30] Full citation list available in Section IV.

Exhibit 7

Updates to the Benefit-Cost Analysis in the 2019 Update

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	Juvenile justice adjustment factors were applied to some of the effect sizes in this meta-analysis.	None of the effect sizes in this meta-analysis are adjusted.
Program and comparison costs	The per-participant cost estimate was based on an average program length of ten weeks from Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Doc. No. 09-12-1201). Olympia: Washington State Institute for Public Policy.	We use the FY 2016 cost information received from Juvenile Rehabilitation to calculate the monthly cost of ART. We apply the monthly cost to the weighted average length of time in ART per the studies in the meta-analysis.
Benefit-cost populations	Juvenile court - moderate/high risk [1993-1999 cohort]	Juvenile court - moderate/high risk [2004-2007 cohort]

Notes:

[#] Details on our rationale for making these revisions in juvenile justice programs are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

Coordination of Services (COS) for court-involved youth

With the changes made in the 2019 update, the classification for COS changed from research-based to evidence-based.

In the 2018 inventory, COS did not meet the heterogeneity criterion to be classified as evidence-based because less than 32% of the analyzed samples were on youth of color. In 2019, WSIPP was able to use the results from an unpublished sub-analysis on a sample of youth of color who were treated with COS to determine if the program has evidence showing effectiveness for youth of color (Fumia et al., 2015).[31] Because of this additional information, the analysis now meets the heterogeneity criterion and is classified as evidence-based.

Further details on changes to this analysis follow.

Changes to the Meta-Analysis. For the 2019 update, no new research literature was available to include in the analysis for COS for court-involved youth. However, of the studies we already include, we now use a sub-analysis of COS delivered to youth of color to meet the heterogeneity criteria for classification purposes. The sub-analysis is not the reported effect presented in the meta-analysis. We did not add, remove, or revise any studies in the meta-analysis for this program.

Changes to the BC Analysis. In the 2019 update, we revised some components of the benefit-cost analysis for this program. Costs for COS were updated to incorporate the most current cost information for the program as implemented in Washington State by the juvenile courts. Exhibit 8 details these changes between December 2018 and December 2019.

[31] Full citation list available in Section IV.

Exhibit 8

Updates to the Benefit-Cost Analysis in 2019

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	Juvenile justice adjustment factors did not apply to effect sizes in this meta-analysis, so all effect sizes were unadjusted.	Effects in meta-analysis remain unadjusted.
Program and comparison costs	We use per-participant costs from Barnoski (2009).	We use the FY 2016 cost information received from Juvenile Rehabilitation.
Benefit-cost populations	Juvenile court - low-risk youth [1993-1999 cohort]	Juvenile court - low-risk youth [2004-2007 cohort]

Notes:

[#] Details on our rationale for making these revisions in juvenile justice programs are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

Education and Employment Training (EET, King County) for court-involved youth

The evidence classification for EET did not change from the 2018 inventory to the 2019 inventory. EET remains classified as a research-based program.

Details on changes to this analysis follow.

Changes to the Meta-Analysis. For the 2019 update, no new research literature was available to include in the analysis for EET for court-involved youth. We did not add, remove, or revise any studies in this analysis.

Changes to the Benefit-Cost Analysis. In the 2019 update, we revised some components of the benefit-cost analysis for this program. The cost for the comparison group now reflects that both the treated and untreated youth received usual services (i.e., a comparison group cost of $0). Exhibit 9 details these changes between December 2018 and December 2019.

Exhibit 9

Updates to the Benefit-Cost Analysis in 2019

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	Juvenile justice adjustment factors did not apply to effect sizes in this meta-analysis, so all effect sizes were unadjusted.	Effects in meta-analysis remain unadjusted.
Program and comparison costs	The comparison group cost reflected the weighted average cost of programs provided to youth in the comparison group, as reported in Miller et al. (2015).	The EET comparison group received usual services, services likely available to youth in the treatment. WSIPP uses a usual services comparison cost, where services were likely shared by the treatment participants, as a net cost of $0.
Benefit-cost populations	Juvenile court - moderate/high risk [1993-1999 cohort]	Juvenile court - moderate/high risk [2004-2007 cohort]

Notes:

[#] Details on our rationale for making these revisions in juvenile justice programs are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

Functional Family Therapy (FFT) for court-involved youth

With the changes made in the 2019 update, the classification for FFT for court-involved youth changed from evidence-based to null.

Previously, the meta-analysis for FFT reported a statistically significant ($p<0.20$) effect on crime in the desired direction. Now, the population-specific meta-analysis reports an effect size that is not statistically significant (no difference from zero, $p>0.20$). The primary drivers of this change were the removal of evaluations on non-court-involved samples of youth and modifications to two effect sizes (Barnoski, 2004 and Peterson, 2017).

Further details on changes to this analysis follow.

Update to the Meta-Analysis. For the 2019 update, WSIPP completed population-specific meta-analyses for FFT. We exclude evaluations for non-court samples of youth or evaluations where WSIPP was unable to access the methodological rigor of the analysis from the meta-analysis. For research that WSIPP kept in the meta-analysis, there were two instances where information used to calculate the effect size changed. Exhibit 10 lists evaluations that were either added, removed, or revised, by citation.[32]

[32] Full citation list available in Section IV.

Exhibit 10

Evaluations Added, Removed, or Revised in the 2019 Update

Citation	2019 Analysis change	Reason for change
Alexander & Parsons (1973)	Removed this evaluation	Status offender sample, not a criminal population
Barnoski (2004)	Updated methods	Previous effect size was weighted by Washington State FFT therapist quality assurance ratings from 2015 to 2017. WSIPP no longer adjusts effect size by quality ratings and prefers to report overall effect sizes for the expected average implementation of the program.
Barton et al. (1985)	Moved this evaluation to a separate analysis	Findings from the evaluation moved to the "FFT for youth post-release" analysis.
Erickson (2008)	Moved this evaluation to a separate analysis	Findings from the evaluation moved to the "FFT for court-involved youth convicted of a sex offense" analysis.
Gordon (1995)	Moved this evaluation to a separate analysis	Findings from the evaluation moved to the "FFT for youth post-release" analysis.
Lantz (1982)	Removed this evaluation	Insufficient information to assess methodological rigor
Peterson (2017)	Updated methods	Previous effect size was based only on felony recidivism. Now, we use the measure of overall recidivism, which includes both misdemeanor and felony recidivism.
Slesnick & Prestopnik (2009)	Removed this evaluation	Youth not currently involved in the juvenile justice system
Waldron et al. (2001)	Removed this evaluation	Youth not currently involved in the juvenile justice system

Update to the Benefit-Cost Analysis. In the 2019 update, we revised some components of the benefit-cost analysis for this program. Costs for FFT were updated to incorporate the most current cost information for the program as implemented in Washington State by the juvenile courts. Exhibit 11 details these changes between December 2018 and December 2019.

Exhibit 11

Updates to the Benefit-Cost Analysis in 2019

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	Juvenile justice adjustment factors were applied to some of the effect sizes in this meta-analysis.	None of the effect sizes in this meta-analysis are adjusted.
Program and comparison costs	We use per-participant costs from Barnoski (2009).	We use FY 2016 cost information received from Juvenile Rehabilitation to calculate a monthly cost of FFT. We apply the monthly cost to the weighted average length of time in FFT per the studies in the meta-analysis.
Benefit-cost populations	Juvenile court - moderate/high risk [1993-1999 cohort]	Juvenile court - moderate/high risk [2004-2007 cohort]

Notes:

[#] Details on our rationale for making these revisions in juvenile justice programs are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

Multisystemic Therapy (MST) for court-involved/post-release youth

The evidence classification for MST did not change from the 2018 inventory to the 2019 inventory. MST remains classified as an evidence-based program.

Details on changes to this analysis follow.

Changes to the Meta-Analysis. For the 2019 update, WSIPP completed population-specific meta-analyses for all analyses regarding MST. Evaluations on populations of youth with substance use disorder or youth convicted of sex offenses were excluded from the meta-analysis. We included additional research literature in the meta-analysis. Exhibit 12 lists evaluations that were either added, removed, or revised, by citation.[33]

Exhibit 12

Evaluations Added, Removed, or Revised in the 2019 Update

Citation	2019 analysis change	Reason for change
Asscher et al. (2014)	Moved this evaluation to a separate analysis	The findings from the evaluation moved to the "MST for youth with serious emotional disturbance" analysis.
Butler et al. (2011)	Added this evaluation	Both the treated and untreated youth receive the extensive usual services.
Centre for Children and Families in The Justice System (2006)	Removed this evaluation	Three of the four sites have youth not currently involved in the juvenile justice system.
Henggeler et al. (2006)	Moved this evaluation to a separate analysis	Youth meet the DSM criteria for alcohol and substance abuse or dependence; The findings from the evaluation moved to the "MST-SA for court-involved youth" analysis.
Lescied et al. (2002)	Added this evaluation	Study reports site-specific findings to isolate effects for youth currently involved in the juvenile justice system.

[33] Full citation list available in Section IV.

Changes to the Benefit-Cost Analyses. In the 2019 update, we revised some components of the benefit-cost analysis for this program. Costs for MST were updated to incorporate the most current cost information for the program as implemented in Washington State by the juvenile courts. Exhibit 13 details these changes between December 2018 and December 2019.

Exhibit 13

Updates to the Benefit-Cost Analysis in 2019

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	Juvenile justice adjustment factors were applied to some of the effect sizes in this meta-analysis.	None of the effect sizes in this meta-analysis are adjusted.
Program and comparison costs	We use per-participant costs from Barnoski (2009).	We use FY 2016 cost information received from Juvenile Rehabilitation to calculate the monthly cost of MST. We apply the monthly cost to the weighted average length of time in MST per the studies in the meta-analysis.
Benefit-cost populations	Juvenile Court - moderate/high risk [1993-1999 cohort]	Juvenile Court - moderate/high [2004-2007 cohort]

Notes:

[#] Details on our rationale for making these revisions in juvenile justice programs are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

Step Up for court-involved youth

With the changes made in the 2019 update, the classification for Step Up changed from promising to null.

In the 2018 inventory, Step Up was a "promising" program that had a well-established theory of change but had no rigorous evaluations on outcomes of interest. In the 2019 update, we include two rigorous evaluations of the program on a population of court-involved youth with a domestic violence issue. Those studies report mixed findings, resulting in a meta-analysis with non-significant findings ($p>0.20$) for both crime and domestic violence recidivism.

Changes to the Meta-Analysis. WSIPP conducted a new literature search to find rigorous evaluations of the program. Exhibit 14 lists evaluations that were added to this analysis.[34]

Exhibit 14

Evaluations Added, Removed, or Revised in the 2019 Update

Citation	2019 Analysis change	Reason for change
Gilman & Walker (2019)	Added this evaluation	Study has a rigorous research design and is conducted on court-involved youth
Organizational Research Services (2005)	Added this evaluation	Study has a rigorous research design and is conducted on court-involved youth

Changes to the Benefit-Cost Analysis. Before 2019, we did not conduct a benefit-cost analysis on Step Up because there were no rigorous evaluations of this program. In 2019, we conducted a benefit-cost analysis for Step Up for the first time. The reported costs for Step Up incorporate the most current cost information for the program as implemented in Washington State by the juvenile courts.

Exhibit 15

Specific Updates to the Analyses by Update Category from 2018 to 2019

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	N/A	Effects in the meta-analysis are unadjusted.
Program and comparison costs	N/A	The annual per-participant cost estimate is the average total cost per family in Washington State, provided by L. Anderson (personal communication, March 22, 2019).
Benefit-cost populations	N/A	Juvenile Court - domestic violence [2004-2007 cohort]

Notes:

[#] Explanations for how WSIPP operationalizes each update category are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

[34] Full citation list available in Section IV.

Juvenile Rehabilitation Programs

Aggression Replacement Training (ART) for youth in state institutions

With the changes made in the 2019 update, the classification for ART for youth in state institutions changed from research-based to promising.

Previously, the meta-analysis for ART reported a statistically significant ($p<0.20$ level) effect on crime in the desired direction. Now, the meta-analysis does not report an effect on crime but does include a non-statistically significant effect ($p>0.20$) for disruptive behavior disorder symptoms. This change was primarily driven by the removal of evaluations of youth not confined in state institutions (e.g., the removal of studies on court-involved youth, youth post-release, and youth not involved in the juvenile justice system). We also added a rigorous evaluation of youth in state institutions that measured disruptive behavior (this evaluation did not measure crime). We do not conduct a benefit-cost analysis for this program because the study does not report the primary outcome of interest (crime).

Further details on changes to this analysis follow.

Updates to the Meta-Analysis. For the 2019 update, WSIPP completed population-specific meta-analyses for ART. Evaluations that were not on youth in state institutions were excluded from the meta-analysis and analyzed separately. Exhibit 16 lists evaluations that were either added, removed, or revised, by citation.[35]

Exhibit 16

Evaluations Added, Removed, or Revised in the 2019 Update

Citation	2019 analysis change	Reason for change
Barnoski (2004)	Moved this evaluation to a separate analysis	The findings from the evaluation moved to the "ART for court-involved/post-release youth" analysis.
Erickson et al. (2013)	Added this evaluation	Evaluation of ART for youth while confined in state institutions
Gibbs (1995)	Moved this evaluation to a separate analysis	This study is on Equipping Youth to Help Each Other (EQUIP), which is a combination of ART and another program. JR nominated EQUIP as a separate program, and it is now reported independently.
Goldstein & Glick, (1995)	Moved this evaluation to a separate analysis	The findings from the evaluation moved to the "ART for court-involved/post-release youth" analysis.
Peterson (2017)	Removed this evaluation	The findings from the evaluation moved to the "ART for court-involved/post-release youth" analysis. This evaluation is replaced by Knoth et al. (2019) because the analyzed samples overlap, and the Knoth et al. study includes a larger sample from a longer period of time.

[35] Full citation list available in Section IV.

Updates to the Benefit-Cost Analysis. We did not conduct a benefit-cost analysis for the ART for youth in state institutions topic because the literature did not report on a primary outcome of interest (crime). Exhibit 17 details the information on our December 2018 benefit-cost analysis, contrasted with the lack of benefit-cost analysis in December 2019.

Exhibit 17

Updates to the Benefit-Cost Analysis in 2019

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	Juvenile justice adjustment factors adjusted some of the effect sizes in this meta-analysis.	None of the effect sizes in this meta-analysis are adjusted.
Program and comparison costs	The per-participant cost estimate is based on an average program length of ten weeks, from Barnoski (2009).	N/A
Benefit-cost populations	Juvenile Rehabilitation - General [1993-1999 cohort]	N/A

Notes:

[#] Details on our rationale for making these revisions in juvenile justice programs are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

Dialectical Behavioral Therapy (DBT) for youth in state institutions

The classification for DBT did not change from the 2018 inventory to the 2019 inventory. DBT remains classified as a research-based program.

Details on changes to this analysis follow.

Updates to the Meta-Analysis. For the 2019 update, no new research literature was available to include in the analysis for DBT for youth in state institutions. We made no changes to the meta-analysis.

Updates to the Benefit-Cost Analysis. In the 2019 update, we revised some components of the benefit-cost analysis for this program. Costs for DBT were updated to incorporate the most current cost information for the program as implemented in Washington State. Exhibit 18 details these changes between December 2018 and December 2019.

Exhibit 18

Updates to the Benefit-Cost Analysis in 2019

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	Juvenile justice adjustment factors did not apply to effect sizes in this meta-analysis, so all effect sizes were unadjusted.	Effects in meta-analysis remain unadjusted.
Program and comparison costs	We estimated program costs using public salary information from the Office of Financial Management. We assume one Corrections Mental Health Counselor is needed per 16 youth in the program for 26 weeks, and 1-2 weeks pass between the 8-week program modules.	We use hourly wages for Corrections Mental Health Counselors from the Office of Financial Management and multiply this by 1.44 to account for benefits. We assume that each participant receives two and a half hours of group therapy and one hour of individual therapy per week over six months. We assume that there are eight participants in the average therapy group.
Benefit-cost populations	Juvenile Rehabilitation - committed (general) [1993-1999 cohort]	Juvenile Rehabilitation - moderate/high risk [2004-2007 cohort]

Notes:

[#] Details on our rationale for making these revisions in juvenile justice programs are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

Functional Family Therapy (FFT) for youth post-release

The classification for FFT for youth post-release[36] did not change from the 2018 inventory to the 2019 inventory. FFT for youth post-release remains an evidence-based program.

Updates to the Meta-Analysis. For the 2019 update, WSIPP completed population-specific meta-analyses for all analyses regarding FFT. Evaluations evaluating a court population of youth, a non-juvenile justice-involved population of youth, or a population of youth convicted with a sex offense was excluded from the meta-analysis. Exhibit 19 lists evaluations that were either added, removed, or revised, by citation.[37]

Exhibit 19

Evaluations Added, Removed, or Revised in the 2019 Update

Citation	2019 analysis change	Reason for change
Alexander & Parsons (1973)	Removed this evaluation	Status offender population, not a criminal population
Barnoski (2004)	Moved this evaluation to a separate analysis	The findings from the evaluation moved to the "FFT for court-involved youth" analysis.
Erickson (2008)	Moved this evaluation to a separate analysis	The findings from the evaluation moved to the "FFT for court-involved youth convicted of a sex offense" analysis.
Hannson (1998)	Moved this evaluation to a separate analysis	The findings from the evaluation moved to the "FFT for court-involved youth" analysis.
Humayun et al. (2017)	Moved this evaluation to a separate analysis	The findings from the evaluation moved to the "FFT for court-involved youth" analysis.
Lantz (1982)	Removed this evaluation	Insufficient information to assess methodological rigor
Peterson (2017)	Moved this evaluation to a separate analysis	The findings from the evaluation moved to the "FFT for court-involved youth" analysis.
Slesnick & Prestopnik (2009)	Removed this evaluation	Youth not currently involved in the juvenile justice system.
Waldron et al. (2001)	Removed this evaluation	Youth not currently involved in the juvenile justice system.

[36] In prior years, the title of this program was "FFT for youth in state institutions". This year, we revised the name of the program to reflect the fact that youth receive this program upon release from confinement in state institutions.
[37] Full citation list available in Section IV.

Updates to the Benefit-Cost Analysis. In the 2019 update, we revised some components of the benefit-cost analysis for this program. Costs for FFT were updated to incorporate the most current cost information for the program as implemented in Washington State. Exhibit 20 details these changes between December 2018 and December 2019.

Exhibit 20

Updates to the Benefit-Cost Analysis in 2019

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	Juvenile justice adjustment factors adjusted some of the effect sizes in this meta-analysis.	None of the effect sizes in this meta-analysis are adjusted.
Program and comparison costs	We use per-participant costs from Barnoski (2009).	We use FY 2016 cost information received from Juvenile Rehabilitation to calculate a monthly cost of FFT. We apply the monthly cost to the weighted average length of time in FFT per the studies in the meta-analysis.
Benefit-cost populations	Juvenile Rehabilitation - committed (general) [1993-1999 cohort]	Juvenile Rehabilitation - committed (moderate/high risk) [2004-2007 cohort]

Notes:

[#] Details on our rationale for making these revisions in juvenile justice programs are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

Functional Family Probation and Parole (FFP) for court-involved/post-release youth

The classification for FFP did not change from the 2018 inventory to the 2019 inventory. FFP remains classified as null.

Changes to the Meta-Analysis. For the 2019 update, no new research literature was available to include in the analysis for FFP for youth post-release. The meta-analysis for FFP did not change following the update to the program and continued to report non-significant findings for crime.

Changes to the Benefit-Cost Analysis. In the 2019 update, we revised some components of the benefit-cost analysis for this program. Costs for FFP were updated to incorporate the most current cost information for the program as implemented in Washington State. Exhibit 21 details these changes between December 2018 and December 2019.

Exhibit 21

Updates to the Benefit-Cost Analysis in 2019

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	Juvenile justice adjustment factors adjusted some of the effect sizes in this meta-analysis.	None of the effect sizes in this meta-analysis are adjusted.
Program and comparison costs	We use per-participant costs of FFT from Barnoski (2009). Comparison group costs reflect the cost of parole supervision (using FY 2008 information).	We use FY 2016 cost information received from Juvenile Rehabilitation to calculate a monthly cost of FFT (a program similar to FFP). We apply the monthly cost of FFT to the weighted average length of time in FFP per the studies in the meta-analysis. Comparison group costs reflect the cost of parole supervision (using FY 2015 information).
Benefit-cost populations	Juvenile Rehabilitation - committed (general) [1993-1999 cohort]	Juvenile Rehabilitation - committed (general) [2004-2007 cohort]

Notes:

[#] Details on our rationale for making these revisions in juvenile justice programs are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

Multisystemic Therapy-Family Integrated Transitions (MST-FIT) for youth in state institutions

With the changes made in the 2019 update, the classification for MST-FIT[38] changed from research-based to promising.

We did not include new literature in the meta-analysis, but we made some revisions to the effect sizes included in the analysis. We now use the effect of the program on overall recidivism rather than felony recidivism. We also replaced the findings from an evaluation with a longer follow-up period with findings from a shorter follow-up period on the same sample of youth. These revisions left the analysis with a non-significant finding ($p<0.20$ level) for crime. The analysis includes only one small evaluation, so the classification of the program is promising.

Further details on changes to this analysis follow.

Changes to the Meta-Analysis. Previously, WSIPP used the measure of felony recidivism as the effect of the program; WSIPP's preference is to use the more general measure of average effectiveness of a program. To that end, now, the MST-FIT meta-analysis reflects the findings of overall recidivism (i.e., both misdemeanor and felony recidivism), which is the primary driver to the change in the significance for the findings in the meta-analysis. Also, we replace the 36-month follow-up study of MST-FIT in the meta-analysis with the 18-month follow-up study because WSIPP does not estimate effect sizes from the hazard ratios (see Section II).

Exhibit 22

Evaluations Added, Removed, or Revised in the 2019 Update

Citation	2019 analysis change	Reason for change
Aos (2004)	Added this evaluation	See Trupin et al. (2011).
Trupin et al. (2011)	Removed this evaluation	We previously used the felony recidivism outcome rather than overall recidivism. Also, WSIPP does not estimate effect sizes from hazard ratios reported in the study. WSIPP replaces the study with the findings from Aos (2004). Aos reports an 18-month follow-up of youth, where the Trupin et al. (2011) study followed those same youth for 36-months. Now with the Aos (2004) study, we use the measure of overall recidivism.

[38] Before the 2019 update, the results for MST-FIT were published under a different name, Family Integrated Transitions. After consultation with the MST-FIT Quality Assurance Coordinator for Washington State (J. Leblang, personal communication, March 21, 2019) the name was changed to reflect that Family Integrated Transitions is a licensed adaptation of Multisystemic Therapy.

Changes to the Benefit-Cost Analysis. In the 2019 update, we revised some components of the benefit-cost analysis for this program. Costs for MST-FIT were updated to incorporate the most current cost information for the program as implemented in Washington State. Exhibit 23 details these changes between December 2018 and December 2019.

Exhibit 23

Updates to the Benefit-Cost Analysis in 2019

Updates to analyses[#]	Analysis as of December 2018[^]	2019 Update
Adjustment factors	Juvenile justice adjustment factors adjusted some of the effect sizes in this meta-analysis.	None of the effect sizes in this meta-analysis are adjusted.
Program and comparison costs	We use per-participant costs from Barnoski (2009).	We use the FY 2016 cost information received from Juvenile Rehabilitation.
Benefit-cost populations	Juvenile Rehabilitation - committed (general) [1993-1999 cohort]	Juvenile Rehabilitation - committed (moderate/high risk) [2004-2007 cohort]

Notes:

[#] Details on our rationale for making these revisions in juvenile justice programs are in Section II.

[^] Information in this column reflects WSIPP's published findings as of December 2018; however, not all juvenile justice analyses had been updated in 2018.

IV. Citations

In Section III, we listed the specific changes made to the meta-analyses for the juvenile justice programs eligible for state funding in Washington. We reviewed these programs as part of the 2019 update to juvenile justice programs for the Children's Services Inventory. The references listed here are organized by the program and report the citations that we discuss in the previous section. The citations listed here include only those citations that were added, removed, or revised through the 2019 update. For a list of current citations included in each analysis, see WSIPP's website.

Mentioned Citations

Aggression Replacement Training (ART) for court-involved/post-release youth

Barnoski, R. (2004). *Outcome evaluation of Washington State's research-based programs for juvenile offenders.* (Doc. No. 04-01-1201). Olympia: Washington State Institute for Public Policy.

Gibbs, J.C. (1995). EQUIP: A peer-group treatment program for delinquents. In R.R. Ross, D.H. Antonowicz, & G.K. Dhaliwal (Eds.), *Going straight: Effective delinquency prevention & offender rehabilitation*. 179-192. Ottawa, Ontario, Canada: AIR Training Publications.

Goldstein, A.P., Glick, B., Irwin, M.J., Pask-McCartney, C., & Rubama, I. (1989). *Reducing delinquency: Intervention in the community.* New York: Pergamon Press.

Knoth, L., Wanner, P., & He, L. (2019). *Washington State's Aggression Replacement Training for juvenile court youth: Outcome evaluation.* (Doc. No.19-06-1201). Olympia: Washington State Institute for Public Policy.

Peterson, A. (2017). *Aggression Replacement Training in a probation setting: outcomes for youths starting treatment January 2010 - September 2012.* Olympia, WA: Center for Court Research, Administrative Office of the Courts.

Coordination of Services (COS) for court-involved youth

Barnoski, R. (2004). *Outcome evaluation of Washington State's research-based programs for juvenile offenders.* (Doc. No. 04-01-1201). Olympia: Washington State Institute for Public Policy.

Fumia, D., Drake, E., & He, L. (2015). *Washington's Coordination of Services Program for Juvenile Offenders: Outcome Evaluation and Benefit-Cost Analysis* (Doc. No. 15-09-1901). Olympia: Washington State Institute for Public Policy.

Education and Employment Training (EET, King County) for court-involved youth

Miller, M., Fumia, D., & He, L. (2015). *The King County Education and Employment Training (EET) Program: Outcome evaluation and benefit-cost analysis*. (Doc. No: 15-12-3901). Olympia: Washington State Institute for Public Policy.

Functional Family Therapy (FFT) for court-involved youth

Alexander, J.F., & Parsons, B.V. (1973). Short-term behavioral intervention with delinquent families: Impact on family process and recidivism. *Journal of Abnormal Psychology, 81*(3), 219-225.

Barnoski, R. (2004). *Outcome evaluation of Washington State's research-based programs for juvenile offenders.* (Doc. No. 04-01-1201). Olympia: Washington State Institute for Public Policy.

Barton, C., Alexander, J.F., Waldron, H., Turner, C W., & Warburton, J. (1985). Generalizing treatment effects of functional family therapy: Three replications. *American Journal of Family Therapy, 13*(3), 16-26.

Erickson, C.J. (2008). The effectiveness of functional family therapy in the treatment of juvenile sexual offenders. *Dissertation Abstracts International, 69-10*(B), 6409.

Gordon, D.A. (1995). Functional Family Therapy for delinquents. In R.R. Ross, D.H. Antonowicz, & G.K. Dhaliwal (Eds.), *Going straight: Effective delinquency prevention & offender rehabilitation*. 163-178. Ottawa, Ontario, Canada: AIR Training Publications.

Hannson, K. (1998). Functional Family Therapy replication in Sweden: Treatment outcome with juvenile delinquents. Paper presented to the Eighth International Conference on treating addictive behaviors. Santa Fe, NM, February 1998, as reported in: Alexander, J., Barton, C., Gordon, D., Grotpeter, J., Hansson, K., Harrison, R., Mears, S., Mihalic, S., Parsons, B., Pugh, C., Schulman, S., Waldron, H., and Sexton, T. (1998). *Blueprints for Violence Prevention, Book Three: Functional Family Therapy.* Boulder, CO: Center for the Study and Prevention of Violence.

Lantz, B.L. (1982). Preventing adolescent placement through Functional Family Therapy and tracking. Utah Department of Social Services, West Valley Social Services, District 2K, Kearns, UT 84118. As reported in: Alexander, J., Barton, C., Gordon, D., Grotpeter, J., Hansson, K., Harrison, R., Mears, S., Mihalic, S., Parsons, B., Pugh, C., Schulman, S., Waldron, H., and Sexton, T. (1998). *Blueprints for Violence Prevention, Book Three: Functional Family Therapy*. Boulder, CO: Center for the Study and Prevention of Violence.

Peterson, A. (2017). *Functional Family Therapy in a probation setting: Outcomes for youths starting treatment January 2010 - September 2012.* Olympia, WA: Center for Court Research, Administrative Office of the Courts.

Slesnick, N., & Prestopnik, J.L. (2009). Comparison of family therapy outcome with alcohol-abusing, runaway adolescents. *Journal of Marital and Family Therapy, 35*(3), 255-277.

Waldron, H.B., Slesnick, N., Brody, J.L., Turner, C.W., & Peterson, T.R. (2001). Treatment outcomes for adolescent substance abuse at 4- and 7-month assessments. *Journal of Consulting and Clinical Psychology, 69*(5), 802-813.

Multisystemic Therapy (MST) for court-involved/post-release youth

Asscher, J.J., Dekovic, M., Manders, W., van der Laan, P.H., Prins, P.J.M., van Arum, S., & Dutch MST Cost-Effectiveness Study Group. (2014). Sustainability of the effects of Multisystemic Therapy for juvenile delinquents in The Netherlands: effects on delinquency and recidivism. *Journal of Experimental Criminology, 10*, 227-243

Butler, S., Fonagy, P., Baruch, G., & Hickey, N. (2011). A randomized controlled trial of multisystemic therapy and a statutory therapeutic intervention for young offenders. *Journal of the American Academy of Child and Adolescent Psychiatry, 50*(12), 1220-1235.

Centre for Children and Families in the Justice System. (2006). Randomized study of MST in Ontario, Canada: Final results. Retrieved June 23, 2011 from http://www.lfcc.on.ca/mst_final_results.html

Fain, T., & Michel Greathouse, S. (2014). Effectiveness of multisystemic therapy for minority youth: Outcomes over 8 years in Los Angeles County. *Journal of Juvenile Justice, 3*(2), 24-38.

Henggeler, S.W., Melton, G.B., Brondino, M.J., Scherer, D.G., & Hanley, J.H. (1997). Multisystemic therapy with violent and chronic juvenile offenders and their families: The role of treatment fidelity in successful dissemination. *Journal of Consulting and Clinical Psychology, 65*(5), 821-833.

Henggeler, S.W., Melton, G.B., Smith, L.A., Schoenwald, S.K., & Hanley, J.H. (1992). Family preservation using multisystemic therapy: An effective alternative to incarcerating serious juvenile offenders. *Journal of Consulting and Clinical Psychology, 60*, 953 – 961.

Henggeler, S.W., Halliday-Boykins, C.A., Cunningham, P.B., Randall, J., Shapiro, S.B, & Chapman, J.E. (2006). Juvenile drug court: Enhancing outcomes by integrating evidence-based treatments. *Journal of Consulting and Clinical Psychology, 74*(1), 42-54.

Leschied, A.W., & Cunningham, A.J., National Crime Prevention Centre (Canada), London Family Court Clinic. (2002). Seeking effective interventions for serious young offenders: Interim results of a four-year randomized study of multisystemic therapy in Ontario, Canada. London, ON: Centre for Children and Families in the Justice System.

Schaeffer, C.M., & Borduin, C.M. (2005). Long-term follow-up to a randomized clinical trial of Multisystemic Therapy with serious and violent juvenile offenders. Journal of Consulting and Clinical Psychology, 73(3), 445-453.

Step Up for court-involved youth

Gilman, A., & Walker, S. (2019). *Evaluating the effects of an adolescent family violence intervention program on recidivism among court-involved youth.* (Unpublished manuscript).

Organizational Research Services (2005). *King County Step-up Program Evaluation.* Seattle, Washington.

Aggression Replacement Training (ART) for youth in state institutions

Barnoski, R. (2004). *Outcome evaluation of Washington State's research-based programs for juvenile offenders.* (Doc. No. 04-01-1201). Olympia: Washington State Institute for Public Policy.

Erickson, J.A. (2013). The efficacy of Aggression Replacement Training with female juvenile offenders in a residential commitment program (Unpublished dissertation). University of South Florida.

Gibbs, J.C. (1995). EQUIP: A peer-group treatment program for delinquents. In R.R. Ross, D.H. Antonowicz, & G.K. Dhaliwal (Eds.), *Going straight: Effective delinquency prevention & offender rehabilitation.* 179-192. Ottawa, Ontario, Canada: AIR Training Publications.

Goldstein, A.P., Glick, B., Irwin, M.J., Pask-McCartney, C., & Rubama, I. (1989). *Reducing delinquency: Intervention in the community.* New York: Pergamon Press.

Knoth, L., Wanner, P., & He, L. (2019). *Washington State's Aggression Replacement Training for juvenile court youth: Outcome evaluation.* (Doc. No. 19-06-1201). Olympia: Washington State Institute for Public Policy.

Peterson, A. (2017). *Aggression Replacement Training in a probation setting: outcomes for youths starting treatment January 2010 - September 2012.* Olympia, WA: Center for Court Research, Administrative Office of the Courts.

Dialectical Behavioral Therapy (DBT) for youth in state institutions

Drake, E., & Barnoski, R. (2006). *Recidivism findings for the Juvenile Rehabilitation Administration's dialectical behavior therapy program: Final report* (Doc. No. 06-07-1201). Olympia, WA. Washington State Institute for Public Policy.

Functional Family Therapy (FFT) for youth post-release

Alexander, J.F., & Parsons, B.V. (1973). Short-term behavioral intervention with delinquent families: Impact on family process and recidivism. *Journal of Abnormal Psychology, 81*(3), 219-225.

Barnoski, R. (2004). *Outcome evaluation of Washington State's research-based programs for juvenile offenders* (Doc. No. 04-01-1201). Olympia: Washington State Institute for Public Policy.

Barton, C., Alexander, J.F., Waldron, H., Turner, C W., & Warburton, J. (1985). Generalizing treatment effects of functional family therapy: Three replications. *American Journal of Family Therapy, 13*(3), 16-26.

Erickson, C.J. (2008). The effectiveness of functional family therapy in the treatment of juvenile sexual offenders. Dissertation Abstracts International, 69-10(B), 6409.

Gordon, D.A. (1995). Functional Family Therapy for delinquents. In R.R. Ross, D.H. Antonowicz, & G.K. Dhaliwal (Eds.), *Going straight: Effective delinquency prevention & offender rehabilitation*. 163-178. Ottawa, Ontario, Canada: AIR Training Publications.

Lantz, B.L. (1982). Preventing adolescent placement through Functional Family Therapy and tracking. Utah Department of Social Services, West Valley Social Services, District 2K, Kearns, UT 84118. As reported in: Alexander, J., Barton, C., Gordon, D., Grotpeter, J., Hansson, K., Harrison, R., Mears, S., Mihalic, S., Parsons, B., Pugh, C., Schulman, S., Waldron, H., and Sexton, T. (1998). *Blueprints for Violence Prevention, Book Three: Functional Family Therapy*. Boulder, CO: Center for the Study and Prevention of Violence.

Peterson, A. (2017). *Functional Family Therapy in a probation setting: Outcomes for youths starting treatment January 2010 - September 2012.* Olympia, WA: Center for Court Research, Administrative Office of the Courts.

Slesnick, N., & Prestopnik, J.L. (2009). Comparison of family therapy outcome with alcohol-abusing, runaway adolescents. *Journal of Marital and Family Therapy, 35*(3), 255-277.

Waldron, H.B., Slesnick, N., Brody, J.L., Turner, C.W., & Peterson, T.R. (2001). Treatment outcomes for adolescent substance abuse at 4- and 7-month assessments. *Journal of Consulting and Clinical Psychology, 69*(5), 802-813.

Functional Family Probation and Parole (FFP) for youth post-release

Darnell, A.J., & Schuler, M.S. (2015). Quasi-experimental study of Functional Family Therapy effectiveness for juvenile justice aftercare in a racially and ethnically diverse community sample. *Children and Youth Services Review, 50(*3), 75-82.

Lucenko, L. He, Mancuso, D., & Felver, B. (2011). *Effects of Functional Family Parole on re-arrest and employment for youth in Washington State.* Research Data Analysis Division: Olympia, Washington.

Sexton, T., Rowland, M., & McEnery, A. (2009). *Interim outcome evaluation of the Washington State Functional Family Parole Project.* Center for Adolescent and Family Studies. Bloomington, Indiana.

Multisystemic Therapy-Family Integrated Transitions (MST-FIT) for youth in state institutions

Aos, S. (2004). *Washington State's Family Integrated Transitions program for juvenile offenders: Outcome evaluation and benefit-cost analysis* (Doc. No. 04-12-1201). Olympia WA: Washington State Institute for Public Policy.

Trupin, E.J., Kerns, S.E., Walker, S.C., DeRobertis, M.T., & Stewart, D.G. (2011). Family integrated transitions: A promising program for juvenile offenders with co-occurring disorders. *Journal of Child & Adolescent Substance Abuse*, *20*(5), 421-436.

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