

December 2013

Inventory of Evidence-Based and Research-Based Programs for Adult Corrections

A series of recent public policy reforms has moved Washington State toward the use of “evidence-based” programs.¹ The central concept behind these reforms is to identify and implement strategies shown through rigorous research to improve statewide outcomes (e.g., crime rates or high school graduation rates) cost-effectively.

The 2013 Legislature passed a bill to facilitate the use of evidence-based programs in adult corrections.² The legislation directed the Washington State Institute for Public Policy (WSIPP) to:

- ✓ Develop terms to define evidence-based and research-based programs;
- ✓ Create an inventory of adult correctional programs and classify those programs as evidence-based or research-based; and
- ✓ Conduct additional systematic reviews where research evidence currently lacks.

The legislation also directs the Department of Corrections (DOC) to determine if the programs it delivers are evidence-based or research-based according to the inventory developed by WSIPP. DOC is required to develop a plan to phase-out ineffective programs and implement evidence-based programs by 2015.³

Summary

The 2013 Legislature directed the Washington State Institute for Public Policy (WSIPP) to (1) develop definitions for “evidence-based” and “research-based” and (2) create an inventory of evidence-based and research-based programs to be used by the Department of Corrections.

This report contains WSIPP’s definitions as well as an inventory of evidence-based and research-based programs for adult corrections.

This legislative assignment parallels another project approved by WSIPP’s Board of Directors requiring WSIPP to expand its benefit-cost model into new topic areas (Medicaid, aging, homelessness, public health, and employment/workforce training). In addition to expanding our benefit-cost model, we will continue to update adult corrections programs and policies relevant to Washington State until the project ends in 2015.

Section I of this report contains definitions for evidence-based and research-based programs. Updated systematic reviews are found in Section II. The adult corrections inventory is located in Section III of this report.

¹ Engrossed Second Substitute House Bill 2536, Chapter 232, Laws of 2012; Second Substitute Senate Bill 5732, Chapter 338, Laws of 2013; and Third Engrossed Substitute Senate Bill 5034, Chapter 4, Laws of 2013.

² Third Engrossed Substitute Senate Bill 5034, Chapter 4, Laws of 2013.

³ Per the legislation, DOC hired a consultant from the Washington State Institute for Criminal Justice Research to assist with the implementation of this legislation.

Suggested citation: Drake, E. (2013). *Inventory of evidence-based and research-based programs for adult corrections* (Document No. 13-12-1901). Olympia: Washington State Institute for Public Policy.

I. Definitions

To assemble an inventory of evidence-based and research-based programs, the terms must first be defined.

The Washington State legislature began to enact statutes during the mid-1990s that promoted an evidence-based approach to several public policies.⁴ "Evidence-based" was not consistently defined in the early legislation but, in general, described a program or policy supported by rigorous research clearly demonstrating effectiveness.

The 2012 and 2013 Legislatures directed WSIPP to publish more refined definitions of evidence-based, research-based, and promising practices for children's services, adult behavioral health services, and education.⁵

Our definitions for evidence-based and research-based programs for adult corrections follow the definitions enacted by the 2013 Legislature for adult behavioral health services.

Exhibit 1

Suggested WSIPP Definitions for Adult Corrections	
Evidence-based	A program or practice that has been tested in heterogeneous or intended populations with multiple randomized and/or statistically-controlled evaluations, or one large multiple-site randomized and/or statistically-controlled evaluation, where the weight of the evidence from a systematic review demonstrates sustained improvements in recidivism or other outcomes of interest. [#] 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 and/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."
Cost-beneficial	A program or practice where the monetary benefits exceed costs with a high degree of probability according to the Washington State Institute for Public Policy.

[#] To date, WSIPP has primarily analyzed recidivism as an outcome for adult corrections programs; however, we recognize that other outcomes in corrections may be of interest such as substance abuse, employment, infractions, violations, or custody level. Our work can be expanded in the future to include these outcomes when available in the research literature.

⁴ Drake, E. (2012). Reducing crime and criminal justice costs: Washington State's evolving research approach. *Justice Research and Policy, 14*(1).

⁵ WSIPP was directed to develop these definitions in collaboration with the University of Washington's Evidence-Based Practice Institute. Engrossed Second Substitute House Bill 2536, Chapter 232, Laws of 2012; Second Substitute Senate Bill 5732, Chapter 338, Laws of 2013; and Third Engrossed Substitute Senate Bill 5034, Chapter 4, Laws of 2013.

II. Updated Reviews

WSIPP has developed a three-step research process to draw conclusions about what works (and what does not) to achieve particular outcomes of legislative interest.

- 1) **Evidence**—We systematically assess all high-quality studies to identify policy options that have been tried, tested, and found to achieve improvements in outcomes.
- 2) **Benefits and costs**—We determine how much it would cost Washington taxpayers to buy these results, and we calculate how much it would benefit people in Washington to achieve the improved outcome.
- 3) **Risk**—We assess the risk of our estimates and determine the odds that a particular policy option will at least break even.

The sidebar to the right provides more detail on WSIPP’s research approach and our standard of rigor used to summarize the research studies.

A considerable amount of knowledge exists about interventions and strategies proven to reduce crime. To accomplish the assignment within the timeframe established in legislation, we relied on WSIPP’s current and previous reviews on what works to reduce crime.⁶

The 2013 Legislature directed WSIPP to collaborate with DOC to identify gaps in WSIPP’s current knowledge base. WSIPP consulted with DOC staff and legislative staff and identified two programs that DOC delivers that were not already included in WSIPP’s evidence- and research-based results: Effective Practices in Community Supervision (EPICS)⁷ and sex offender treatment.⁸

Approach & Standards of Research Rigor[#]

When WSIPP is asked to conduct an evidence-based review, we follow a number of steps to ensure a rigorous and consistent analysis. These procedures include the following:

All literature—We systematically review the national and international research literature and consider all available studies we can locate on a topic rather than selecting only a few; that is, we do not “cherry pick” studies to include in our reviews.

Minimum standards of rigor—To be included in our reviews, we require that an evaluation’s research design include treatment and comparison groups from intent-to-treat samples. We include random assignment and quasi-experimental studies when the study uses appropriate statistical techniques. Natural experimental designs including regression discontinuity and instrumental variables are also considered.

Meta-analysis—A formal statistical procedure, meta-analysis, is used to calculate an average “effect size,” which indicates the expected magnitude of change from the treatment on the outcome of interest. That is, we determine whether the weight of the evidence indicates outcomes are, on average, achieved.

Benefit-cost—To determine if the financial benefits of a program outweigh its costs, we use our benefit-cost model. Further, we conduct a risk analysis to estimate the odds that a program will at least break even.

[#] For full detail on WSIPP’s methods, see: Washington State Institute for Public Policy, (2013). *Benefit-Cost Technical Manual: Methods and User Guide*. (Doc. No. 13-10-1201b). Olympia, WA: Author.

⁶ Aos, S. & Drake, E. (2013). *Prison, police, and programs: Evidence-based options that reduce crime and save money* (Doc. No. 13-11-1901). Olympia: Washington State Institute for Public Policy.

⁷ DOC began using EPICS as part of its efforts to reform community supervision. See: Department of Corrections (2012). *Changing community supervision: A shift towards evidence based corrections*. Tumwater: WA. Retrieved from: <http://www.doc.wa.gov/aboutdoc/docs/2E2SSB6204WhitePaper.pdf>

⁸ DOC’s Offender Change Division includes cognitive behavioral treatment, education, sex offender treatment, substance abuse treatment, and vocational training. WSIPP has conducted recent

systematic reviews (2010-2013) on all of these topics except for sex offender treatment, which has not been updated since 2006.

Effective Practices in Community Supervision

Effective Practices in Community Supervision (EPICS) is a specific method of delivering community supervision based on the principles of “Risk, Need, and Responsivity” (RNR). The general approach to the RNR model was first developed by Canadian researchers in 1990 and is defined as follows:⁹

- ✓ **Risk principle**—use interventions commensurate with risk for re-offense.
- ✓ **Need principle**—target criminogenic needs such as anti-social attitudes or substance use.
- ✓ **Responsivity principle**—use interventions aligned with the offender’s abilities and motivation (focusing on cognitive behavioral or social learning interventions).

We located seven studies that evaluated supervision using RNR principles and also met our standards of rigor.¹⁰ This broad group of studies examined supervision delivered to moderate to high-risk offenders on both probation and parole.

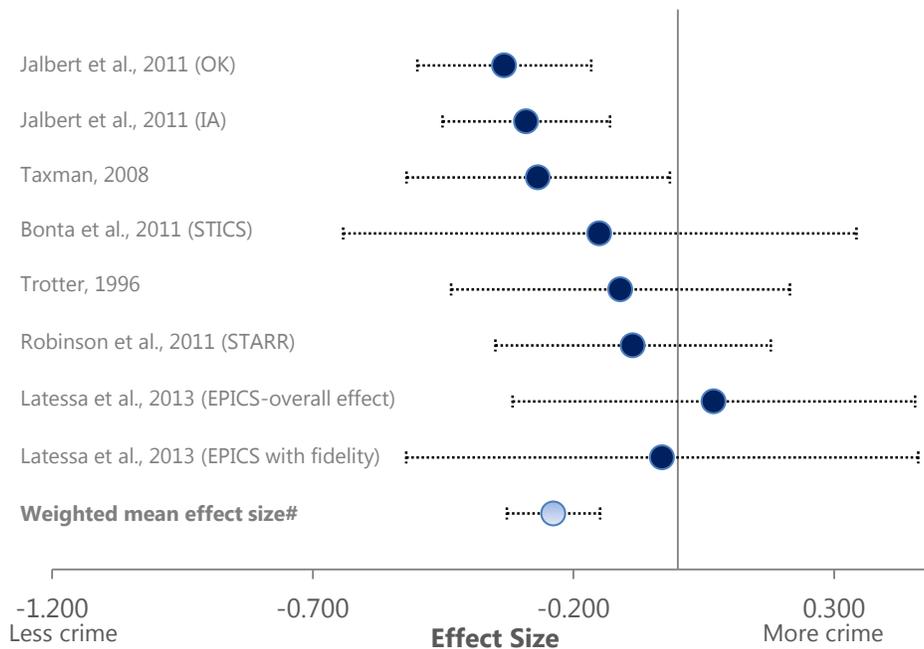
Officers are trained how to deliver supervision using principles of the RNR model. Specific models in the analysis include:

- 1) Effective Practices in Community Supervision (EPICS);
- 2) Staff Training Aimed at Reducing Rearrest (STARR); and
- 3) Strategic Training Initiative in Community Supervision (STICS).

For our meta-analysis, we located one evaluation of EPICS, one evaluation of STARR, and one evaluation of STICS. The remaining four studies were not “name brand” RNR models.

The weighted average effect size for these seven studies is -0.239, which translates to a 14 percentage point change in crime from RNR models in comparison with traditional supervision. The effect sizes are reported in [Exhibit 2](#).

Exhibit 2
Adjusted Effect Sizes for Supervision with Risk Need and Responsivity



The weighted mean effect size contains the overall effect from Latessa et al., 2013; not EPICS with fidelity.

⁹ Andrews, D., Bonta, J., & Hoge, R. (1990). *Classification for effective rehabilitation: Rediscovering psychology*. *Criminal Justice and Behavior*, 17, 19–52.

¹⁰ We found one new study that could be included in our update (Latessa et al., 2013).

Our benefit-cost findings for supervision based on RNR principles are located in the inventory ([Exhibit 4](#)) at the end of the report. Supervision with RNR principles produced a net benefit of \$13,224 per participant.

While we find that RNR supervision is a cost-beneficial way to reduce crime, our findings on the specific RNR model we were asked to review—EPICS—are nuanced for the following reasons:

- ✓ **Mixed findings**—RNR supervision principles, in general, demonstrate effectiveness, but sole evaluation of the specific model, EPICS, does not. In [Exhibit 2](#), the non-significant finding is listed as Latessa et al., 2013.
- ✓ **Fidelity matters**—Although the overall finding on EPICS was not favorable, when delivered with fidelity, EPICS demonstrates a small decrease in crime.¹¹ In [Exhibit 2](#), EPICS with fidelity shows a non-significant decrease in recidivism.

Thus, our findings on EPICS are equivocal. Until further evidence becomes available, we conclude that it is too early to tell whether EPICS, the specific model of RNR supervision, works. A future evaluation will contribute much needed research to determine if EPICS is effective at reducing recidivism.

[Sex Offender Treatment](#)

We systematically reviewed the literature on sex offender treatment. In the studies reviewed, the treatment was either delivered during an offender’s confinement or while supervised in the community. We analyzed its effectiveness in these two settings.

Sex offender treatment for offenders in confinement is typically delivered in a separate therapeutic

¹¹ Only two of the seven studies in our meta-analysis assessed whether officers delivered community supervision with fidelity to the RNR model (Bonta et al., 2011 & Latessa et al., 2013). Both found a greater reduction in recidivism when officers delivered supervision with fidelity to RNR principles.

environment. Therapeutic components for this broad group of studies included cognitive behavioral treatment, individual and group counseling, psychotherapy, behavioral therapy, and aversion therapy.

We located eight studies that could be included in our review of sex offender treatment during confinement. The weighted average effect size for these studies was -0.156, which translates to a 24% change in crime in comparison with no treatment. Our benefit cost analysis, as shown in [Exhibit 4](#), demonstrates \$5,315 in net benefits per participant.

The studies of sex offender treatment in the community include broad therapeutic components such as cognitive behavioral treatment, individual or group counseling, psychotherapy, behavioral therapy, and aversion therapy. Supervision is a key aspect of the treatment in these studies.

Seven studies could be included in our review of sex offender treatment in the community. The weighted average effect size for these studies was -0.269, which translates to a 16% change in crime in comparison with no treatment. Our benefit cost analysis, as shown in [Exhibit 4](#), demonstrates \$11,564 in net benefits per participant.

[Conclusion](#)

WSIPP identified two programs—sex offender treatment and EPICS—that were not previously included in WSIPP’s evidence- and research-based results. Our updated findings on the two topics in this report allowed us to incorporate the results in the adult corrections inventory.

The weight of the evidence indicates that sex offender treatment, delivered in confinement or in the community, is evidence-based and generates benefits that exceed costs.

Our findings on EPICS, however, are not as clear cut. While we find supervision based on RNR principles is effective, the evidence on the particular

approach—EPICS—is still undetermined until further research becomes available.

Detailed findings from the updated reviews are located under the benefit-cost section of our website.¹²

III. Inventory

The inventory was built from WSIPP’s November 2013 report to the legislature that describes evidence-based and research-based programs that affect crime, as well as the two topics updated in Section II of this report.¹³ The inventory is located in [Exhibit 4](#) (next page).

Each program is designated as evidence-based or research-based according to the definitions in [Exhibit 1](#). When a program does not meet the definitional requirements to be classified as evidence-based, we provide a justification for doing so. Those reasons are located at the end of this report.

Our updated reviews, presented in Section II, were included in the inventory. Supervision with RNR principles was classified as evidence-based. Both sex offender treatments, in confinement or in the community, were also classified as evidence-based according to the definitions in this report.

[Next Steps](#)

WSIPP periodically updates our findings on adult corrections as new studies become available.

¹² <http://www.wsipp.wa.gov/BenefitCost>

¹³ Aos, S. & Drake, E. (2013).

Exhibit 4

Inventory of Evidence-Based and Research-Based Programs for Adult Corrections As of December 2013

Program	Benefit-Cost							Effect Size				Inventory Definition			Last literature review
	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Cost	Benefits minus costs (NPV)	Benefit to cost ratio	Odds of a positive net present value	Effect size (adjusted)	P-value	# studies	Number in treatment group	Definition	Reason not evidence-based	Percent minority	
Offender Re-entry Community Safety Program (dangerously mentally ill offenders)	\$57,765	\$19,087	\$38,677	(\$32,924)	\$24,840	\$1.75	93%	-0.756	0.000	1	172	⊙	Single evaluation	n/a	Apr. 2012
Electronic monitoring (radio frequency or global positioning systems)	\$23,085	\$5,617	\$17,468	\$1,093	\$24,178	n/e	100%	-0.264	0.000	16	18,263	●		40%	Apr. 2012
Therapeutic communities for offenders with co-occurring disorders	\$26,842	\$7,321	\$19,520	(\$3,628)	\$23,213	\$7.40	99%	-0.270	0.002	4	385	●		63%	Dec. 2012
Drug Offender Sentencing Alternative (drug offenders)	\$23,441	\$6,068	\$17,373	(\$1,574)	\$21,867	\$14.89	99%	-0.272	0.015	1	264	⊙	Single evaluation	n/a	Apr. 2012
Correctional education (basic or post-secondary) in prison	\$22,539	\$5,875	\$16,664	(\$1,149)	\$21,390	\$19.62	100%	-0.238	0.000	11	9,351	●		62%	Apr. 2012
Vocational education in prison	\$21,131	\$5,585	\$15,546	(\$1,599)	\$19,531	\$13.21	100%	-0.226	0.000	3	1,950	●		47%	Apr. 2012
Outpatient/non-intensive drug treatment (incarceration)	\$18,452	\$4,797	\$13,655	(\$589)	\$17,863	\$31.34	100%	-0.173	0.000	8	3,084	●		56%	Dec. 2012
Mental health courts	\$20,211	\$5,522	\$14,689	(\$2,995)	\$17,217	\$6.75	100%	-0.224	0.001	6	1,424	●		37%	Apr. 2012
Inpatient/intensive outpatient drug treatment (incarceration)	\$17,900	\$4,748	\$13,152	(\$1,208)	\$16,692	\$14.82	100%	-0.172	0.001	6	1,267	●		71%	Dec. 2012
Swift & certain/graduated sanction case management for substance abusing offenders	\$19,385	\$5,430	\$13,955	(\$4,834)	\$14,551	\$4.01	97%	-0.258	0.006	7	3,700	●		47%	Dec. 2012
Supervision with Risk Need and Responsivity Principles (high and moderate risk)	\$18,073	\$5,181	\$12,892	(\$4,849)	\$13,224	\$3.73	100%	-0.239	0.000	7	3,165	●		37%	Apr. 2012
Sex offender treatment in the community	\$13,178	\$2,764	\$10,415	(\$1,614)	\$11,564	\$8.18	87%	-0.269	0.091	7	786	●		n/a	Dec. 2013
Drug Offender Sentencing Alternative (property offenders)	\$11,775	\$3,126	\$8,649	(\$1,572)	\$10,203	\$7.49	71%	-0.151	0.504	1	59	⊙	Single evaluation/Benefit-cost	n/a	Dec. 2012
Cognitive behavioral treatment (high and moderate risk offenders)	\$10,364	\$2,677	\$7,687	(\$419)	\$9,945	\$24.72	99%	-0.125	0.001	38	31,775	●		45%	Apr. 2012
Therapeutic communities for chemically dependent offenders (community)	\$11,494	\$3,171	\$8,323	(\$2,463)	\$9,031	\$4.67	99%	-0.147	0.001	8	34,878	●		53%	Dec. 2012
Work release	\$7,550	\$2,012	\$5,538	(\$675)	\$6,875	\$11.19	96%	-0.080	0.029	7	16,406	●		35%	Apr. 2012
Therapeutic communities for chemically dependent offenders (incarceration)	\$10,794	\$3,323	\$7,471	(\$4,359)	\$6,435	\$2.48	98%	-0.119	0.000	18	7,596	●		52%	Dec. 2012
Employment training/job assistance in the community	\$5,949	\$1,502	\$4,447	(\$138)	\$5,811	\$43.26	99%	-0.074	0.020	16	9,217	●		35%	Apr. 2012
Outpatient/non-intensive drug treatment (community)	\$6,390	\$1,669	\$4,721	(\$589)	\$5,802	\$10.85	92%	-0.076	0.099	4	129,749	●		44%	Dec. 2012
Correctional industries in prison	\$6,859	\$1,931	\$4,929	(\$1,447)	\$5,412	\$4.74	98%	-0.078	0.000	9	10,455	●		45%	Apr. 2012
Sex offender treatment during incarceration	\$10,378	\$2,570	\$7,808	(\$5,063)	\$5,315	\$2.05	82%	-0.156	0.033	6	2,508	●		n/a	Dec. 2013
Intensive supervision (treatment)	\$12,619	\$4,150	\$8,469	(\$8,031)	\$4,588	\$1.57	78%	-0.205	0.004	17	3,078	●		54%	Apr. 2012
Inpatient/intensive outpatient drug treatment (community)	\$3,746	\$1,050	\$2,696	(\$945)	\$2,801	\$3.96	79%	-0.048	0.649	5	17,722	●		48%	Dec. 2012
Drug courts	\$5,386	\$1,940	\$3,446	(\$4,271)	\$1,115	\$1.26	85%	-0.248	0.000	67	27,872	●		58%	Apr. 2012
Other case management for substance abusing offenders	\$4,059	\$1,614	\$2,446	(\$4,841)	(\$781)	\$0.84	45%	-0.074	0.457	13	1,000	⊙	Benefit-cost	68%	Dec. 2012
Intensive supervision (surveillance)	(\$2,494)	(\$93)	(\$2,401)	(\$4,220)	(\$6,714)	n/e	10%	0.004	0.951	14	1,699	⊙		58%	Apr. 2012
Domestic violence perpetrator treatment	(\$6,137)	(\$1,370)	(\$4,767)	(\$1,390)	(\$7,527)	n/e	19%	0.064	0.537	9	1,116	⊙		44%	Apr. 2012

Key: ● = Evidence-Based; ⊙ = Research-Based; ⊖ = Produces null or poor outcomes.

The following terms are used to identify reasons programs do not meet the evidence-based definition:

Benefit-cost: The WSIPP benefit-cost model was used to determine whether a program meets the benefit-cost criterion. Programs that do not achieve at least a 75% chance of a positive net present value are not considered evidence-based. The WSIPP model uses Monte Carlo simulation (5,000 runs of the model) to test the probability that benefits exceed costs.

Heterogeneity: According to the definitions in [Exhibit 1](#), to be designated as evidence-based, a program must have been tested on a “heterogeneous” population. We operationalized heterogeneity in two ways. First, the proportion of program participants belonging to ethnic/racial minority groups must be greater than or equal to the proportion of persons age 18 or higher in Washington State. From the 2010 Census, 81% were Caucasian and 19% belonged to ethnic/racial minority groups. Thus, if the weighted average of program participants in the outcome evaluations of the program had at least 19% ethnic/racial minorities, the program was considered to have been tested on a heterogeneous population. Second, the heterogeneity criterion can also be achieved if at least one of a program’s outcome evaluations has been conducted on persons in Washington and a subgroup analysis demonstrates the program is effective for ethnic/racial minorities ($p \leq 0.2$). Programs that do not meet either of these two criteria do not meet the heterogeneity definition.

Implementation/Manual: This criterion addresses whether a program has a manual to allow implementation with a set of procedures to allow successful replication. We operationalized this element by following the recommendations of Lipsey et al., (2010).[#] Lipsey et al., (2010) found four important characteristics for effective programs. First, programs must be targeted toward higher-risk offenders. Second, programs should follow the theoretical principles of a therapeutic approach that focus on changing behaviors or skills (as opposed to programs that are rooted in punishment or deterrence). Third, model programs such as *Thinking 4 a Change* are good choices, but generic or local programs rooted in those same principles are also effective. Lastly, quality assurance and fidelity to the model are essential and indicators such as high dropout rates or staff turnover can indicate poor quality assurance. When a broad grouping of programs, such as therapeutic communities, does not have a specific manual, but follow the aforementioned four principles on implementation, we classified the program as evidence-based. However, some programs within these categories (e.g., *Thinking 4 a Change* in the cognitive behavioral treatment category) have very specific “off-the-shelf” manuals as indicated in the column, “Manual,” on the inventory.

Mixed results within an outcome: If findings have mixed results from different measures, for example, undesirable outcomes for felony convictions and desirable outcomes for misdemeanor convictions, the program does not meet evidence-based criteria.

Program cost: A program cost was not available to WSIPP at the time of the inventory. Thus, WSIPP could not conduct a benefit-cost analysis.

Single evaluation: The program does not meet the minimum standard of multiple evaluations or one large multiple-site evaluation contained in the current or alternative definitions.

Weight of evidence: Results from a random effects meta-analysis indicate that the weight of the evidence does not support desired outcomes ($p > 0.10$), or results from a single large study indicate the program is not effective.

[#]Lipsey, M., Howell, J., Kelly, M., Chapman, G., & Carver, D. (2010). Improving the effectiveness of juvenile justice programs: A new perspective on evidence-based practice. Center for Juvenile Justice Reform.

For further information, contact:
Elizabeth Drake at 360.586.2767, EKDrake@wsipp.wa.gov

Document No. 13-12-1901

Washington State Institute for Public Policy

The Washington State Legislature created the Washington State Institute for Public Policy in 1983. A Board of Directors—representing the legislature, the governor, and public universities—governs WSIPP and guides the development of all activities. WSIPP’s mission is to carry out practical research, at legislative direction, on issues of importance to Washington State.