



## Return on Investment: Evidence-Based Options to Improve Statewide Outcomes —April 2012 Update—

In the mid-1990s, the Washington State Legislature first began to direct the Washington State Institute for Public Policy (Institute) to identify “evidence-based” policies that have been shown to improve particular outcomes.

The motivation for these assignments is straightforward: to provide Washington policymakers and budget writers with a list of well-researched policies that can, with a high degree of probability, lead to better statewide results and a more efficient use of taxpayer dollars.

This short report provides a snapshot, as of April 2012, of our current list of evidence-based policy options on many public policy topics. Where possible, we provide an independent assessment of the benefits and costs of each option from the perspective of Washington citizens and taxpayers.

In essence, this report is similar to an investment advisor’s “buy-sell” list—it contains current recommendations on policy options that can give taxpayers a good return on their investment (“buys”), as well as those that apparently cannot (“sells”).

**This report replaces previously published Institute reports on these topics.**

We will occasionally add or update results for individual policy options on our website as new information becomes available. Exhibit 1 of this report includes hyperlinks to detailed results for each program.

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### Background

The Institute was created by the 1983 Washington Legislature to carry out non-partisan research at legislative direction.

The 1997 Legislature directed the Institute to review “evidence-based” policy strategies in juvenile justice and adult corrections. We identified several programs that had been tried and evaluated elsewhere but were not then operating in Washington. We found that some, but not all, programs had the potential to reduce crime and save Washington taxpayers money.<sup>1</sup> In subsequent sessions, the legislature used the information to begin a series of policy reforms.<sup>2</sup> Many practical lessons have been learned about how to implement these programs with fidelity statewide.<sup>3</sup>

Based on this initial success, in the early 2000s the legislature began to direct the Institute to apply the same evidence-based and benefit-cost approach to other public policy areas, including K–12 education, early childhood education, prevention, child welfare, mental health, substance abuse, and public health.<sup>4</sup>

In this report, we discuss our research approach and summarize our current results on these topics.

### General Research Approach

As we have carried out these legislative assignments, we have been implementing a three-step research approach.

- 1) We systematically assess evidence on “what works” (and what does not) to improve outcomes.
- 2) We calculate costs and benefits for Washington State and produce a ranking of public policy options.
- 3) We measure the riskiness of our conclusions by testing how bottom lines vary when estimates and assumptions change.

A brief description of each step follows.

### **Step 1: What Works? What Doesn't?**

In the first research step, we estimate the probability that various policies and programs can improve outcomes. Once the legislature has indicated an outcome of interest, we then carefully analyze all high-quality studies from the United States and elsewhere to identify well-researched policy options that have achieved the outcome (as well as those that have not). We look for research studies with strong evaluation designs; we ignore studies with weak research methods. Our empirical approach then follows a meta-analytic framework to assess systematically all credible evaluations we can locate on a given topic. We produce an estimated effect of a policy on a particular outcome of interest, as well as an estimate of the margin of error in that effect.

### **Step 2: What Makes Economic Sense?**

Next, we insert benefits and costs into the analysis by answering two questions.

- ✓ How much does it cost to produce the results found in Step 1?
- ✓ How much is it worth to people in Washington State to achieve the outcome? That is, in dollar and cents terms, what are the program's benefits?

To answer these questions, we have developed—and we continue to refine—an economic model that assesses benefits and costs. The goal is to provide an internally consistent monetary valuation so that one option can be compared fairly to another. Our bottom line benefit-cost measures include standard financial statistics: net present values, benefit-cost ratios, and rates of return on investment.

We present these monetary estimates from three distinct perspectives: the benefits and costs that accrue solely to program participants, those received by taxpayers, and those received by other people in society (for example, crime victims).

The sum of these three perspectives provides a “total Washington” view on whether a policy or program produces benefits that exceed costs. Our model can also restrict the focus solely to the taxpayer perspective which can be useful for fiscal analysis and state budget preparation.

### **Step 3: Assessing the Riskiness of the Estimates.**

The third analytical step involves testing the robustness of our results. Any tabulation of benefits and costs involves some degree of speculation about future performance. This is expected in any investment analysis, whether it is in the private or public sector. To assess the riskiness of our

conclusions, we perform a “Monte Carlo simulation” in which we vary the key factors in our calculations. The purpose of the risk analysis is to determine the odds that a particular policy option will at least break even. This type of analysis is used by many businesses in investment decision making.

Thus, for each option, we produce two “big picture” findings: expected benefit-cost results (net present values and rates of return) and, given our understanding of the risks involved, the odds that the policy will at least have benefits greater than costs.

### **Changes Since the July 2011 Update**

Since the Institute's benefit-cost findings were last published in July 2011, several findings have changed substantially, due to improvements in our benefit-cost methodology. The changes affect our previous results in two major ways, one that affects a particular topic area, and another that cuts across all topic areas.

First, we changed the method by which we monetize children's mental health disorders to more closely match the methods we use to monetize adult mental health disorders. The benefit-cost model is now able to distinguish between the effects of preventing disruptive behavior disorders compared to the effects of treating youth who already have these disorders. The effect of this modeling change, relative to our July 2011 findings, lowers the expected benefits of programs that affect child externalizing behaviors.

Second, we have updated our methods to avoid “double counting” benefits from a single monetary source. For instance, a program evaluation that measures high school graduation rates, test scores, and disordered alcohol use would be monetized, in part, via changes to lifetime earnings in the labor market from each of these outcomes. In the former version of our model, to avoid double counting, we allowed the highest of these three values to “trump” the other values. We discovered that, in a Monte Carlo simulation, consistently selecting the highest of the three values biased the results in a positive direction, and may not have accurately represented the expected monetary benefits of a policy. Thus our prior trumping method favored policies that measured multiple outcomes in their evaluations; for example, the more ways a study measured impacts on labor market earnings, the more likely our previous model would have estimated a positive overall benefit.

In the current update, we have improved our trumping method by taking a weighted average of all outcomes that derive benefits from a single monetary source. Using the new method, we more accurately represent the expected benefits from programs that measure multiple outcomes. This modeling change lowered the estimated benefits of a number of programs that measured certain monetary benefits through multiple outcomes.

For more detail on these modeling changes, see the [technical appendix](#).<sup>5</sup>

## April 2012 Results

In this report, we summarize our results in a *Consumer Reports*-like list of what works and what does not, ranked by benefit-cost statistics and a measure of investment risk. We identify a number of evidence-based options that can help policy makers achieve desired outcomes as well as offer taxpayers a good return on their investment, with low risk of failure. Washington is already investing in several of these options. We also find other evidence-based options that do not produce favorable results.

In Exhibit 1, we have arranged the information by major topic. Some programs listed, of course, achieve outcomes that cut across these topics. The documents hyperlinked to the program titles in this exhibit provide comprehensive outcome information.

For some programs, insufficient information was available to allow a calculation of benefits and costs. We list these programs in each topic area, along with the reason for their exclusion.

### Example: How to Read Exhibit 1.

To illustrate our findings, we summarize results for a program called Functional Family Therapy (FFT), designed for juveniles on probation. This program is listed under the topic of juvenile justice in Exhibit 1. FFT was originally tested in Utah; Washington began to implement the program in the mid-1990s. The legislature continues to fund FFT, and it is now used by many Washington juvenile courts.

We reviewed all research we could find on FFT and found eight credible evaluations that investigated whether it reduces crime. The appendix linked in Exhibit 1 provides specific information on the eight studies in our meta-analysis of FFT.

- In Exhibit 1, we show our estimate of the total benefits of FFT per participant (2011 dollars). These benefits spring primarily from reduced crime, but also include labor market and health care benefits due to increased probability of high school graduation.

- Of the total benefits, Exhibit 1 shows that we expect some to be received by taxpayers and the majority to accrue to others, including the participants and people who were not victimized.
- Exhibit 1 also shows our estimates of the program costs per participant in Washington.
- The columns in the right-hand side of Exhibit 1 display our benefit-cost summary statistics for FFT. We show the net present value (benefits minus costs), and the benefit-to-cost ratio. Finally, we show the results of a risk analysis of our estimated bottom line for FFT.
- Based on these findings, one would conclude that FFT is an attractive evidence-based program that reduces crime and achieves a favorable return on investment, with a small chance of an undesirable outcome. These are the central reasons why FFT continues to be part of Washington's crime-reduction portfolio.

In addition to the summary information displayed in Exhibit 1, we have prepared supplementary documents. The individually linked documents provide detailed results for each option summarized in Exhibit 1, while the technical appendix provides a comprehensive description of the research methods used to compute the results.

<sup>1</sup> Aos, S., Barnoski, R., & Lieb, R. (1998). *Watching the bottom line: cost-effective interventions for reducing crime in Washington* (Document No. 98-01-1201), Olympia: Washington State Institute for Public Policy.

<sup>2</sup> Barnoski, R. (2004). *Outcome evaluation of Washington State's research-based programs for juvenile offenders* (Document No. 04-01-1201), Olympia: Washington State Institute for Public Policy.

<sup>3</sup> Drake, E.K. (2010). *Washington State juvenile court funding: Applying research in a public policy setting*. (Document No. 10-12-1201), Olympia: Washington State Institute for Public Policy. See also: Barnoski, R. (2009). *Providing evidence-based programs with fidelity in Washington State juvenile courts: Cost analysis* (Document No. 09-12-1201), Olympia: Washington State Institute for Public Policy.

<sup>4</sup> Previous benefit-cost studies prepared by the Washington State Institute for Public Policy for the legislature include:

- Aos, S., Lee, S., Drake, E., Pennucci, A., Klima, T., Miller, M., Anderson, L., Mayfield, J., & Burley, M. (2011). *Return on investment: evidence-based options to improve statewide outcomes - July 2011 update* - (Document No. 11-07-1201).
- Lee, S., Aos, S., & Miller, M. (2008). *Evidence-based programs to prevent children from entering and remaining in the child welfare system: Benefits and costs for Washington* (Document No. 08-07-3901).
- Aos, S., & Pennucci, A. (2007). *Report to the Joint Task Force on Basic Education Finance: School employee compensation and student outcomes* (Document No. 07-12-2201).
- Aos, S., Miller, M., & Mayfield, J. (2007). *Benefits and costs of k-12 educational policies: Evidence-based effects of class size reductions and full-day kindergarten* (Document No. 07-03-2201).
- Aos, S., Miller, M., & Drake, E. (2006). *Evidence-based public policy options to reduce future prison construction, criminal justice costs, and crime rates* (Document No. 06-10-1201).
- Aos, S., Mayfield, J., Miller, M., & Yen, W. (2006). *Evidence-based treatment of alcohol, drug, and mental health disorders: Potential benefits, costs, and fiscal impacts for Washington State* (Document No. 06-06-3901).
- Aos, S., Lieb, R., Mayfield, J., Miller, M., & Pennucci, A. (2004). *Benefits and costs of prevention and early intervention programs for youth* (Document No. 04-07-3901).

<sup>5</sup> [www.wsipp.wa.gov/rptfiles/12-04-1201B.pdf](http://www.wsipp.wa.gov/rptfiles/12-04-1201B.pdf).

## Exhibit 1

### Monetary Benefits and Costs of Evidence-Based Public Policies

Summary of policy topics assigned to the Washington State Institute for Public Policy by the Washington State Legislature  
Estimates for Washington State, as of April 2012

| Topic Area/Program   | Last Updated | Monetary Benefits |           |              | Costs      | Summary Statistics                       |                                    |   |
|--|--------------|-------------------|-----------|--------------|------------|--|------------------------------------|---|
|  |              | Total Benefits    | Taxpayer  | Non-Taxpayer |            | Benefits Minus Costs (net present value) | Benefit to Cost Ratio <sup>1</sup> | Measured Risk (odds of a positive net present value)              |
| <p>Benefits and costs are life-cycle present-values per participant, in 2011 dollars. The programs are listed by major topic area, although some programs achieve benefits in multiple areas. Also, some programs achieve benefits that we cannot monetize; see linked documents for program-specific details.</p> |              |                   |           |              |            |  |                                    |   |
| <b>Juvenile Justice</b>  |              |                   |           |              |            |  |                                    |   |
| <a href="#">Functional Family Therapy (Institutions<sup>2</sup>)</a>   | April 2012   | \$70,370          | \$14,476  | \$55,895     | (\$3,262)  | \$67,108                                 | \$21.57                            | 100%  |
| <a href="#">Aggression Replacement Training (Institutions)</a>   | April 2012   | \$62,947          | \$12,972  | \$49,976     | (\$1,508)  | \$61,440                                 | \$41.75                            | 94%   |
| <a href="#">Multidimensional Treatment Foster Care</a>   | April 2012   | \$39,197          | \$8,165   | \$31,032     | (\$7,922)  | \$31,276                                 | \$4.95                             | 85%   |
| <a href="#">Functional Family Therapy (Probation)</a>  | April 2012   | \$33,967          | \$8,052   | \$25,916     | (\$3,261)  | \$30,706                                 | \$10.42                            | 100%  |
| <a href="#">Aggression Replacement Training (Probation)</a>  | April 2012   | \$31,249          | \$7,423   | \$23,826     | (\$1,510)  | \$29,740                                 | \$20.70                            | 96%   |
| <a href="#">Multisystemic Therapy (MST)</a>  | April 2012   | \$32,121          | \$7,138   | \$24,983     | (\$7,370)  | \$24,751                                 | \$4.36                             | 98%   |
| <a href="#">Family Integrated Transitions (Institutions)</a>   | April 2012   | \$28,137          | \$5,751   | \$22,386     | (\$11,219) | \$16,918                                 | \$2.51                             | 91%   |
| <a href="#">Drug Court</a>   | April 2012   | \$13,667          | \$3,084   | \$10,583     | (\$3,091)  | \$10,576                                 | \$4.42                             | 94%   |
| <a href="#">Coordination of Services</a>   | April 2012   | \$5,501           | \$1,412   | \$4,089      | (\$395)    | \$5,106                                  | \$13.94                            | 82%   |
| <a href="#">Victim Offender Mediation</a>  | April 2012   | \$4,205           | \$1,080   | \$3,125      | (\$579)    | \$3,626                                  | \$7.27                             | 95%   |
| <a href="#">Scared Straight</a>  | April 2012   | (\$4,949)         | (\$1,271) | (\$3,678)    | (\$65)     | (\$5,014)                                | (\$76.35)                          | 0%  |
| <p><b>Juvenile justice programs for which we have not calculated benefits and costs (at this time):</b></p>  |              |                   |           |              |            |  |                                    |   |
| Cognitive Behavioral Therapy (general)   | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Diversion Programs   | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Juvenile Boot Camps  | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Supervision for Juvenile Offenders   | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Sex Offender Treatment for Juvenile Offenders  | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Team Child   | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Teen Courts  | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Wilderness Challenge Programs  | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| <b>Adult Criminal Justice</b>  |              |                   |           |              |            |  |                                    |   |
| <a href="#">Offender Re-entry Community Safety Program (dangerously mentally ill offenders)</a>  | April 2012   | \$70,535          | \$18,120  | \$52,415     | (\$32,247) | \$38,288                                 | \$2.19                             | 100%  |
| <a href="#">Drug Offender Sentencing Alternative (drug offenders)</a>  | April 2012   | \$22,365          | \$5,318   | \$17,047     | (\$1,542)  | \$20,823                                 | \$14.51                            | 100%  |
| <a href="#">Supervision with Risk Need and Responsivity Principles (high and moderate risk)</a>  | April 2012   | \$24,203          | \$5,817   | \$18,386     | (\$3,543)  | \$20,660                                 | \$6.83                             | 100%  |
| <a href="#">Correctional Education in Prison</a>   | April 2012   | \$21,426          | \$5,238   | \$16,188     | (\$1,128)  | \$20,298                                 | \$19.00                            | 100%  |
| <a href="#">Electronic Monitoring (radio frequency or global positioning systems)</a>  | April 2012   | \$18,745          | \$4,438   | \$14,307     | \$1,067    | \$19,812                                 | n/e                                | 100%  |
| <a href="#">Vocational Education in Prison</a>   | April 2012   | \$20,446          | \$5,017   | \$15,429     | (\$1,571)  | \$18,875                                 | \$13.01                            | 100%  |
| <a href="#">Mental Health Courts</a>   | April 2012   | \$20,424          | \$4,998   | \$15,425     | (\$2,935)  | \$17,488                                 | \$6.96                             | 100%  |
| <a href="#">Drug Treatment in the Community</a>  | April 2012   | \$17,711          | \$4,206   | \$13,504     | (\$1,602)  | \$16,108                                 | \$11.05                            | 100%  |
| <a href="#">Drug Courts</a>  | April 2012   | \$15,433          | \$3,376   | \$12,057     | (\$4,178)  | \$11,255                                 | \$3.69                             | 100%  |
| <a href="#">Drug Treatment in Prison</a>   | April 2012   | \$15,577          | \$3,834   | \$11,743     | (\$4,603)  | \$10,974                                 | \$3.38                             | 100%  |
| <a href="#">Drug Offender Sentencing Alternative (property offenders)</a>  | April 2012   | \$11,273          | \$2,666   | \$8,607      | (\$1,540)  | \$9,733                                  | \$7.32                             | 78%   |
| <a href="#">Cognitive Behavioral Therapy (moderate and high risk)</a>  | April 2012   | \$9,695           | \$2,308   | \$7,387      | (\$412)    | \$9,283                                  | \$23.55                            | 100%  |
| <a href="#">Intensive Supervision: With Treatment</a>  | April 2012   | \$15,169          | \$3,610   | \$11,559     | (\$7,874)  | \$7,295                                  | \$1.93                             | 96%   |
| <a href="#">Work Release</a>   | April 2012   | \$7,117           | \$1,749   | \$5,368      | (\$661)    | \$6,456                                  | \$10.77                            | 99%   |
| <a href="#">Correctional Industries in Prison</a>  | April 2012   | \$7,042           | \$1,713   | \$5,329      | (\$1,417)  | \$5,625                                  | \$4.97                             | 100%  |
| <a href="#">Employment Training/Job Assistance in the Community</a>  | April 2012   | \$5,501           | \$1,311   | \$4,190      | (\$135)    | \$5,366                                  | \$40.76                            | 100%  |
| <a href="#">Intensive Supervision: Surveillance Only</a>   | April 2012   | (\$578)           | (\$133)   | (\$445)      | (\$4,140)  | (\$4,718)                                | (\$0.14)                           | 11%   |
| <a href="#">Domestic Violence Perpetrator Treatment Programs</a>   | April 2012   | (\$4,908)         | (\$1,165) | (\$3,742)    | (\$1,359)  | (\$6,266)                                | (\$3.61)                           | 14%   |
| <p><b>Adult criminal justice programs for which we have not calculated benefits and costs (at this time):</b></p>  |              |                   |           |              |            |  |                                    |   |
| Adult Boot Camps   | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Drug Treatment in Jail   | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Jail Diversion for Mentally Ill Offenders  | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Life Skills Education Programs for Adults  | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Restorative Justice for Lower-Risk Adult Offenders   | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Sex Offender Community Notification and Registration   | June 2009    |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |
| Sex Offender Treatment   | October 2006 |                   |           |              |            |  |                                    | See previous WSIPP <a href="#">publication</a> for past findings. |

## Exhibit 1

### Monetary Benefits and Costs of Evidence-Based Public Policies

Summary of policy topics assigned to the Washington State Institute for Public Policy by the Washington State Legislature  
Estimates for Washington State, as of April 2012

| Topic Area/Program  | Last Updated  | Monetary Benefits |          |              | Costs      | Summary Statistics                          |                                    |  |
|---|---------------|-------------------|----------|--------------|------------|---|------------------------------------|--|
|   |               | Total Benefits    | Taxpayer | Non-Taxpayer |            | Benefits Minus Costs<br>(net present value) | Benefit to Cost Ratio <sup>1</sup> | Measured Risk<br>(odds of a positive net present value)                              |
| <b>Child Welfare</b>  |               |                   |          |              |            |   |                                    |  |
| <a href="#">Nurse Family Partnership for Low-Income Families</a>  | April 2012    | \$22,781          | \$6,219  | \$16,562     | (\$9,600)  | \$13,181                                    | \$2.37                             | 80%  |
| <a href="#">Parent Child Interaction Therapy (PCIT) for Families in the Child Welfare System</a>                        | April 2012    | \$7,168           | \$1,277  | \$5,892      | (\$1,551)  | \$5,617                                     | \$4.62                             | 100%   |
| <a href="#">Intensive Family Preservation Services (Homebuilders)</a>   | April 2012    | \$6,942           | \$3,759  | \$3,183      | (\$3,288)  | \$3,655                                     | \$2.11                             | 99%  |
| <a href="#">SafeCare</a>  | April 2012    | \$1,501           | \$278    | \$1,223      | (\$102)    | \$1,399                                     | \$14.65                            | 100%   |
| <a href="#">Parents as Teachers</a>   | April 2012    | \$4,992           | \$1,116  | \$3,876      | (\$4,227)  | \$765                                       | \$1.18                             | 57%  |
| <a href="#">Alternative Response</a>  | April 2012    | \$852             | \$257    | \$595        | (\$96)     | \$756                                       | \$8.88                             | 100%   |
| <a href="#">Triple P Positive Parenting Program (System)</a>  | April 2012    | \$865             | \$334    | \$531        | (\$143)    | \$722                                       | \$6.06                             | 100%   |
| <a href="#">Other home visiting programs for at-risk mothers and children</a>   | April 2012    | \$5,138           | \$1,233  | \$3,904      | (\$5,603)  | (\$465)                                     | \$0.92                             | 44%  |
| <a href="#">Parent Child Home Program</a>   | April 2012    | \$3,920           | \$1,082  | \$2,838      | (\$5,496)  | (\$1,576)                                   | \$0.71                             | 38%  |
| <a href="#">Healthy Families America</a>  | April 2012    | \$2,589           | \$1,165  | \$1,424      | (\$4,601)  | (\$2,011)                                   | \$0.56                             | 26%  |
| <a href="#">Other Family Preservation Services (non-Homebuilders)</a>   | April 2012    | (\$902)           | (\$208)  | (\$693)      | (\$3,046)  | (\$3,948)                                   | (\$0.30)                           | 0%   |
| <b>Child welfare programs for which we have not calculated benefits and costs (at this time):</b>                       |               |                   |          |              |            |   |                                    |  |
| <a href="#">Family Team Decision Making</a>   | April 2012    |                   |          |              |            |   |                                    | See linked document for meta-analytic results.                                       |
| <a href="#">Structured Decision Making Risk Assessment</a>  | April 2012    |                   |          |              |            |   |                                    | See linked document for meta-analytic results.                                       |
| Dependency (or Family Treatment) Drug Courts  | July 2008     |                   |          |              |            |   |                                    | See previous WSIPP <a href="#">publication</a> for past findings; update in process. |
| Flexible Funding via Title IV-E Waivers   | July 2008     |                   |          |              |            |   |                                    | See previous WSIPP <a href="#">publication</a> for past findings.                    |
| Subsidized Guardianship   | July 2008     |                   |          |              |            |   |                                    | See previous WSIPP <a href="#">publication</a> for past findings.                    |
| Circle of Security  |               |                   |          |              |            |   |                                    | Too few rigorous evaluations.  |
| Project KEEP  |               |                   |          |              |            |   |                                    | Too few rigorous evaluations.  |
| Promoting First Relationships   |               |                   |          |              |            |   |                                    | Too few rigorous evaluations.  |
| <b>Pre-K to 12 Education</b>  |               |                   |          |              |            |   |                                    |  |
| <a href="#">Reading Recovery (K-12 Tutoring)</a>  | April 2012    | \$18,603          | \$4,410  | \$14,194     | (\$1,895)  | \$16,708                                    | \$9.82                             | 100%   |
| <a href="#">Early Childhood Education for Low Income 3- and 4-Year Olds</a>   | April 2012    | \$22,457          | \$6,802  | \$15,655     | (\$7,523)  | \$14,934                                    | \$2.99                             | 100%   |
| <a href="#">K-12 Tutoring by Peers</a>  | April 2012    | \$12,273          | \$2,904  | \$9,369      | (\$1,016)  | \$11,257                                    | \$12.08                            | 100%   |
| <a href="#">Tutoring (vs. No Tutoring) for English Language Learner Students</a>  | April 2012    | \$10,938          | \$2,598  | \$8,341      | (\$1,362)  | \$9,576                                     | \$8.03                             | 85%  |
| <a href="#">Special Literacy Instruction for English Language Learner Students</a>                                      | April 2012    | \$6,969           | \$1,652  | \$5,317      | (\$282)    | \$6,688                                     | \$24.75                            | 90%  |
| <a href="#">K-12 Tutoring by Adults</a>   | April 2012    | \$6,683           | \$1,586  | \$5,097      | (\$1,992)  | \$4,691                                     | \$3.36                             | 93%  |
| <a href="#">Teacher Induction Programs</a>  | April 2012    | \$3,648           | \$866    | \$2,783      | (\$63)     | \$3,585                                     | \$57.79                            | 88%  |
| <a href="#">K-12 Parent Involvement Programs</a>  | April 2012    | \$3,575           | \$850    | \$2,725      | (\$836)    | \$2,739                                     | \$4.28                             | 68%  |
| <a href="#">National Board for Professional Teaching Standards (NBPTS) Certification Bonuses</a>                        | April 2012    | \$1,802           | \$428    | \$1,374      | (\$69)     | \$1,734                                     | \$26.28                            | 100%   |
| <a href="#">Teacher Performance Pay Programs</a>  | April 2012    | \$295             | \$69     | \$225        | (\$34)     | \$261                                       | \$8.62                             | 63%  |
| <a href="#">Additional Day of K-12 Instructional Time</a>   | April 2012    | \$86              | \$20     | \$65         | (\$27)     | \$59  | \$3.18                             | 59%  |
| <a href="#">K-12 Educator Content-Specific Professional Development</a>   | April 2012    | \$19              | \$4      | \$14         | (\$6)      | \$12  | \$3.01                             | 52%  |
| <a href="#">K-12 Educator Professional Development (Non-Content Specific)</a>   | April 2012    | (\$1)             | (\$0)    | (\$0)        | (\$6)      | (\$7)                                       | (\$0.11)                           | 48%  |
| <a href="#">Even Start</a>  | April 2012    | (\$1,257)         | (\$296)  | (\$961)      | (\$4,126)  | (\$5,383)                                   | (\$0.30)                           | 14%  |
| <a href="#">Early Head Start</a>  | April 2012    | \$2,264           | \$1,516  | \$748        | (\$10,420) | (\$8,156)                                   | \$0.22                             | 17%  |
| <b>Pre-K to 12 education programs for which we have not calculated benefits and costs (at this time):</b>               |               |                   |          |              |            |   |                                    |  |
| <a href="#">Pre-K and Elementary Bilingual Instructional Programs (vs. English-based) for English Language Learners</a> | April 2012    |                   |          |              |            |   |                                    | See linked document for meta-analytic results.                                       |
| <a href="#">K-12 Teachers—Impact of Having a Graduate Degree</a>  | April 2012    |                   |          |              |            |   |                                    | See linked document for meta-analytic results.                                       |
| <a href="#">K-12 Teachers—Impact of Having an In-subject Graduate Degree</a>  | April 2012    |                   |          |              |            |   |                                    | See linked document for meta-analytic results.                                       |
| <a href="#">K-12 Teachers—Effectiveness by Years of Experience</a>  | April 2012    |                   |          |              |            |   |                                    | See linked document for meta-analytic results.                                       |
| Class Size  | March 2007    |                   |          |              |            |   |                                    | See previous WSIPP <a href="#">publication</a> for past findings.                    |
| Full-Day Kindergarten (vs. half-day)  | March 2007    |                   |          |              |            |   |                                    | See previous WSIPP <a href="#">publication</a> for past findings.                    |
| Increased Per-Student Expenditures  | December 2007 |                   |          |              |            |   |                                    | See previous WSIPP <a href="#">publication</a> for past findings.                    |

**Exhibit 1**

**Monetary Benefits and Costs of Evidence-Based Public Policies**

*Summary of policy topics assigned to the Washington State Institute for Public Policy by the Washington State Legislature  
Estimates for Washington State, as of April 2012*

| Topic Area/Program   | Last Updated | Monetary Benefits   |          |              | Costs      | Summary Statistics                       |                                    |  |
|--|--------------|---|----------|--------------|------------|--|------------------------------------|--|
|  |              | Total Benefits  | Taxpayer | Non-Taxpayer |            | Benefits Minus Costs (net present value) | Benefit to Cost Ratio <sup>1</sup> | Measured Risk (odds of a positive net present value) |
| <b>Children's Mental Health</b>  |              |   |          |              |            |  |                                    |  |
| <a href="#">Cognitive Behavioral Therapy (CBT)-Based Models for Child Trauma</a>                       | April 2012   | \$8,929   | \$2,779  | \$6,151      | \$317      | <b>\$9,246</b>                           | n/e                                | 100%   |
| <a href="#">Remote Cognitive Behavioral Therapy (CBT) for Anxious Children</a>                         | April 2012   | \$7,653   | \$2,265  | \$5,388      | \$741      | <b>\$8,393</b>                           | n/e                                | 96%  |
| <a href="#">Group Cognitive Behavioral Therapy (CBT) for Anxious Children</a>                          | April 2012   | \$7,247   | \$2,143  | \$5,104      | \$393      | <b>\$7,640</b>                           | n/e                                | 98%  |
| <a href="#">Individual Cognitive Behavioral Therapy (CBT) for Anxious Children</a>                     | April 2012   | \$7,337   | \$2,170  | \$5,166      | (\$734)    | <b>\$6,603</b>                           | \$10.00                            | 95%  |
| <a href="#">Eye Movement Desensitization and Reprocessing (EMDR) for Child Trauma</a>                  | April 2012   | \$5,804   | \$1,815  | \$3,989      | \$155      | <b>\$5,959</b>                           | n/e                                | 79%  |
| <a href="#">Parent Cognitive Behavioral Therapy (CBT) for Anxious Young Children</a>                   | April 2012   | \$3,291   | \$998    | \$2,293      | \$608      | <b>\$3,899</b>                           | n/e                                | 81%  |
| <a href="#">Cognitive Behavioral Therapy (CBT) for Depressed Adolescents</a>                           | April 2012   | \$3,441   | \$1,022  | \$2,419      | (\$484)    | <b>\$2,957</b>                           | \$7.11                             | 99%  |
| <a href="#">Brief Strategic Family Therapy (BSFT)</a>  | April 2012   | \$3,112   | \$965    | \$2,147      | (\$512)    | <b>\$2,601</b>                           | \$6.08                             | 69%  |
| <a href="#">Parent Child Interaction Therapy (PCIT) for Children with Disruptive Behavior Problems</a> | April 2012   | \$3,385   | \$1,120  | \$2,265      | (\$1,335)  | <b>\$2,049</b>                           | \$2.53                             | 100%   |
| <a href="#">Triple P Positive Parenting Program: Level 4, Individual</a>                               | April 2012   | \$3,621   | \$1,195  | \$2,426      | (\$1,833)  | <b>\$1,788</b>                           | \$1.98                             | 92%  |
| <a href="#">Triple P Positive Parenting Program: Level 4, Group</a>                                    | April 2012   | \$2,112   | \$696    | \$1,416      | (\$375)    | <b>\$1,737</b>                           | \$5.63                             | 100%   |
| <a href="#">Multisystemic Therapy (MST) for Youth with Serious Emotional Disturbance (SED)</a>         | April 2012   | \$7,443   | \$2,885  | \$4,558      | (\$6,501)  | <b>\$942</b>                             | \$1.14                             | 68%  |
| <a href="#">Behavioral Parent Training (BPT) for Children with Disruptive Behavior Disorders</a>       | April 2012   | \$768   | \$252    | \$516        | \$105      | <b>\$873</b>                             | n/e                                | 68%  |
| <a href="#">Families and Schools Together (FAST)</a>   | April 2012   | \$2,610   | \$775    | \$1,834      | (\$1,759)  | <b>\$851</b>                             | \$1.48                             | 52%  |
| <a href="#">Behavioral Parent Training (BPT) for Children with ADHD</a>                                | April 2012   | \$430   | \$126    | \$304        | \$106      | <b>\$536</b>                             | n/e                                | 98%  |
| <a href="#">Incredible Years: Parent Training</a>  | April 2012   | \$2,482   | \$797    | \$1,685      | (\$2,074)  | <b>\$408</b>                             | \$1.20                             | 61%  |
| <a href="#">Incredible Years: Parent Training + Child Training</a>                                     | April 2012   | \$2,429   | \$774    | \$1,655      | (\$2,135)  | <b>\$295</b>                             | \$1.14                             | 59%  |
| <a href="#">Multimodal Therapy (MMT) for Children with Disruptive Behavior</a>                         | April 2012   | \$656   | \$222    | \$435        | (\$1,274)  | (\$617)                                  | \$0.52                             | 42%  |
| <a href="#">Cognitive Behavioral Therapy (CBT) for Children with ADHD</a>                              | April 2012   | (\$37)  | (\$8)    | (\$28)       | (\$985)    | (\$1,021)                                | (\$0.04)                           | 3%   |
| <a href="#">Multimodal Therapy (MMT) for Children with ADHD</a>  | April 2012   | \$1,749   | \$440    | \$1,309      | (\$8,343)  | (\$6,593)                                | \$0.21                             | 11%  |
| Children's mental health programs for which we have not calculated benefits and costs (at this time):  |              |   |          |              |            |  |                                    |  |
| Intensive Case Management (Wraparound) for Youth with Emotional Disturbance                            | July 2008    | See previous WSIPP <a href="#">publication</a> for past findings. |          |              |            |  |                                    |  |
| <b>General Prevention Programs for Children and Adolescents</b>  |              |   |          |              |            |  |                                    |  |
| <a href="#">Youth Mentoring Programs (taxpayer costs only)</a>   | April 2012   | \$7,207   | \$1,958  | \$5,249      | (\$1,479)  | <b>\$5,728</b>                           | \$4.87                             | 61%  |
| <a href="#">Good Behavior Game</a>   | April 2012   | \$4,790   | \$1,337  | \$3,454      | (\$154)    | <b>\$4,637</b>                           | \$31.19                            | 100%   |
| <a href="#">Quantum Opportunities Program</a>  | April 2012   | \$30,311  | \$8,737  | \$21,574     | (\$25,743) | <b>\$4,568</b>                           | \$1.18                             | 60%  |
| <a href="#">Youth Mentoring Programs</a>   | April 2012   | \$8,333   | \$2,348  | \$5,985      | (\$4,799)  | <b>\$3,534</b>                           | \$1.74                             | 58%  |
| <a href="#">Seattle Social Development Project</a>   | April 2012   | \$5,804   | \$1,686  | \$4,118      | (\$3,026)  | <b>\$2,779</b>                           | \$1.92                             | 59%  |
| <a href="#">Guiding Good Choices</a>   | April 2012   | \$2,540   | \$598    | \$1,942      | (\$870)    | <b>\$1,670</b>                           | \$2.92                             | 85%  |
| <a href="#">Behavioral Monitoring and Reinforcement Program</a>  | April 2012   | \$1,995   | \$531    | \$1,463      | (\$1,276)  | <b>\$719</b>                             | \$1.56                             | 58%  |
| <a href="#">Promoting Alternative Thinking Strategies (PATHS)</a>                                      | April 2012   | (\$19)  | (\$6)    | (\$13)       | (\$115)    | (\$134)                                  | (\$0.17)                           | 23%  |
| <a href="#">Strengthening Families for Parents and Youth 10-14</a>                                     | April 2012   | \$696   | \$213    | \$483        | (\$1,077)  | (\$381)                                  | \$0.65                             | 7%   |
| <a href="#">Children's Aid Society--Carrera</a>  | April 2012   | \$7,184   | \$2,381  | \$4,802      | (\$14,220) | (\$7,036)                                | \$0.51                             | 37%  |
| <a href="#">CASASTART</a>  | April 2012   | (\$1,574)   | (\$385)  | (\$1,188)    | (\$6,806)  | (\$8,380)                                | (\$0.23)                           | 0%   |
| <a href="#">Fast Track prevention program</a>  | April 2012   | \$1,953   | \$450    | \$1,503      | (\$58,747) | (\$56,794)                               | \$0.03                             | 0%   |

**Exhibit 1**

**Monetary Benefits and Costs of Evidence-Based Public Policies**

*Summary of policy topics assigned to the Washington State Institute for Public Policy by the Washington State Legislature  
Estimates for Washington State, as of April 2012*

| Topic Area/Program  | Last Updated | Monetary Benefits   |          |              | Costs   | Summary Statistics                       |                                    |  |
|---|--------------|---|----------|--------------|---------|--|------------------------------------|--|
|   |              | Total Benefits  | Taxpayer | Non-Taxpayer |         | Benefits Minus Costs (net present value) | Benefit to Cost Ratio <sup>1</sup> | Measured Risk (odds of a positive net present value) |
| Benefits and costs are life-cycle present-values per participant, in 2011 dollars. The programs are listed by major topic area, although some programs achieve benefits in multiple areas. Also, some programs achieve benefits that we cannot monetize; see linked documents for program-specific details. |              |   |          |              |         |  |                                    |  |
| <b>Substance Abuse</b>  |              |   |          |              |         |  |                                    |  |
| <a href="#">Motivational Interviewing / Motivational Enhancement Therapy for Alcohol Abuse</a>  | April 2012   | \$9,164   | \$1,926  | \$7,238      | (\$206) | \$8,957                                  | \$44.38                            | 100%   |
| <a href="#">Motivational Interviewing / Motivational Enhancement Therapy for Smoking</a>  | April 2012   | \$7,949   | \$295    | \$7,654      | (\$206) | \$7,743                                  | \$38.49                            | 99%  |
| <a href="#">Brief Alcohol Screening and Intervention for College Students (BASICS)</a>  | April 2012   | \$3,110   | \$771    | \$2,339      | (\$226) | \$2,883                                  | \$13.75                            | 97%  |
| <a href="#">Motivational Interviewing / Motivational Enhancement Therapy for Cannabis Abuse</a>   | April 2012   | \$2,388   | \$691    | \$1,697      | (\$206) | \$2,182                                  | \$11.58                            | 100%   |
| <a href="#">Motivational Interviewing / Motivational Enhancement Therapy for Illicit Drug Abuse</a>   | April 2012   | \$2,023   | \$593    | \$1,430      | (\$207) | \$1,816                                  | \$9.78                             | 97%  |
| <a href="#">Life Skills Training</a>  | April 2012   | \$1,290   | \$289    | \$1,001      | (\$34)  | \$1,256                                  | \$37.52                            | 100%   |
| <a href="#">Project Towards No Drug Abuse (TND)</a>   | April 2012   | \$123   | \$31     | \$92         | (\$14)  | \$109                                    | \$8.61                             | 76%  |
| <a href="#">Project STAR</a>  | April 2012   | \$582   | \$151    | \$431        | (\$489) | \$93                                     | \$1.19                             | 71%  |
| <a href="#">Project ALERT</a>   | April 2012   | \$7   | \$2      | \$5          | (\$145) | (\$138)                                  | \$0.05                             | 1%   |
| <b>Substance abuse prevention and treatment programs for which we have not calculated benefits and costs (at this time):</b>  |              |   |          |              |         |  |                                    |  |
| All Stars   | July 2004    | See previous WSIPP <a href="#">publication</a> for past findings. |          |              |         |  |                                    |  |
| DARE  | July 2004    | See previous WSIPP <a href="#">publication</a> for past findings. |          |              |         |  |                                    |  |
| Minnesota Smoking Prevention Program  | July 2004    | See previous WSIPP <a href="#">publication</a> for past findings. |          |              |         |  |                                    |  |
| Project Northland   | July 2004    | See previous WSIPP <a href="#">publication</a> for past findings. |          |              |         |  |                                    |  |
| Project Towards No Tobacco Use  | July 2004    | See previous WSIPP <a href="#">publication</a> for past findings. |          |              |         |  |                                    |  |
| <b>Adult Mental Health</b>  |              |   |          |              |         |  |                                    |  |
| <a href="#">Cognitive Behavioral Therapy (CBT) for Adult Anxiety</a>  | April 2012   | \$17,731  | \$4,938  | \$12,793     | (\$341) | \$17,390                                 | \$52.01                            | 97%  |
| <a href="#">Cognitive Behavioral Therapy (CBT) for Adult Depression</a>   | April 2012   | \$15,632  | \$4,619  | \$11,013     | (\$227) | \$15,405                                 | \$68.90                            | 100%   |
| <b>Adult mental health treatment programs for which we have not calculated benefits and costs (at this time):</b>   |              |   |          |              |         |  |                                    |  |
| Day Programs for Mentally Ill Adults  |              | Review in process.  |          |              |         |  |                                    |  |
| Remote Cognitive Behavioral Therapy   |              | Review in process.  |          |              |         |  |                                    |  |
| Treatments for Post-Traumatic Stress Disorder   |              | Review in process.  |          |              |         |  |                                    |  |
| Eye Movement Desensitization and Reprocessing   |              | Review in process.  |          |              |         |  |                                    |  |
| Primary Care Interventions for Depression   |              | Review in process.  |          |              |         |  |                                    |  |
| <b>Public Health</b>  |              |   |          |              |         |  |                                    |  |
| See Technical Appendix I for meta-analytic results for prevention programs targeting teen pregnancy and obesity. We have not have not completed our computation of benefits and costs for these programs.   |              |   |          |              |         |  |                                    |  |
| <b>Teen Pregnancy Prevention:</b>   |              |   |          |              |         |  |                                    |  |
| <a href="#">Postponing Sexual Involvement</a>   | April 2012   | See linked document for meta-analytic results.                    |          |              |         |  |                                    |  |
| <a href="#">School-Based Service Learning</a>   | April 2012   | See linked document for meta-analytic results.                    |          |              |         |  |                                    |  |
| <a href="#">School-based Sexual Education</a>   | April 2012   | See linked document for meta-analytic results.                    |          |              |         |  |                                    |  |
| <a href="#">Teen Outreach Program</a>   | April 2012   | See linked document for meta-analytic results.                    |          |              |         |  |                                    |  |
| <a href="#">Adolescent Sibling Pregnancy Prevention</a>   | April 2012   | See linked document for meta-analytic results.                    |          |              |         |  |                                    |  |
| <b>Obesity Prevention:</b>  |              |   |          |              |         |  |                                    |  |
| <a href="#">School programs for healthy eating to prevent obesity</a>   | April 2012   | See linked document for meta-analytic results.                    |          |              |         |  |                                    |  |
| <a href="#">School programs for physical activity to prevent obesity</a>  | April 2012   | See linked document for meta-analytic results.                    |          |              |         |  |                                    |  |
| <a href="#">School programs for healthy eating &amp; physical activity to prevent obesity</a>   | April 2012   | See linked document for meta-analytic results.                    |          |              |         |  |                                    |  |
| <b>Obesity prevention programs for which we have not calculated meta-analytic results (at this time):</b>   |              |   |          |              |         |  |                                    |  |
| Early child care centers & homes nutrition & physical activity programs   |              | Too few rigorous evaluations.                                     |          |              |         |  |                                    |  |
| Taxes on sweetened beverages and snack food   |              | Too few rigorous evaluations.                                     |          |              |         |  |                                    |  |
| Nutrition labeling on menus & posting nutritional information   |              | Too few rigorous evaluations.                                     |          |              |         |  |                                    |  |

**Exhibit 1**

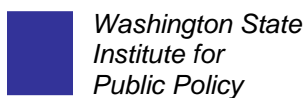
**Monetary Benefits and Costs of Evidence-Based Public Policies**

*Summary of policy topics assigned to the Washington State Institute for Public Policy by the Washington State Legislature  
Estimates for Washington State, as of April 2012*

| <u>Topic Area/Program</u>   | <u>Last Updated</u> | <u>Monetary Benefits</u> |                 | <u>Costs</u> | <u>Summary Statistics</u> |  |  |
|---|---------------------|--------------------------|-----------------|--------------|---------------------------|--|--|
|   |                     | <u>Total Benefits</u>    | <u>Taxpayer</u> |              | <u>Non-Taxpayer</u>       | <u>Benefits Minus Costs</u><br>(net present value) | <u>Benefit to Cost Ratio<sup>1</sup></u> |
| <p><b>Housing</b></p> <p>See Technical Appendix I for meta-analytic results for housing programs for offenders returning to the community and adults with mental illness. We have not have not completed our computation of benefits and costs for these programs.</p> <p><a href="#">Housing Supports for Offenders Returning to the Community</a>      April 2012      See linked document for meta-analytic results.</p> <p><a href="#">Housing Support for Adults With Mental Illness</a>      April 2012      See linked document for meta-analytic results.</p> <p><a href="#">Housing Supports for Serious Violent Offenders</a>      April 2012      See linked document for meta-analytic results.</p> |                     |                          |                 |              |                           |  |  |
| <p><b>Notes to Exhibit 1</b></p> <p><sup>1</sup> Benefit to cost ratios cannot be computed in every case; we list "n/e" for those that cannot be reliably estimated.</p> <p><sup>2</sup> Institutions = state institutionalized juvenile justice populations</p>  |                     |                          |                 |              |                           |  |  |

For further information, contact Stephanie Lee at [slee@wsipp.wa.gov](mailto:slee@wsipp.wa.gov)

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The Washington Legislature created the Washington State Institute for Public Policy in 1983. The Institute is governed by a Board of Directors that represents the legislature, governor, and public universities. The Board guides the development of all Institute activities. The mission of the Institute is to assist policymakers, particularly those in the legislature, in making informed judgments about important, long-term issues facing Washington State.