

February 2015

What Works and What Does Not? *Benefit-Cost Findings from WSIPP*

Since the late 1990s, the Washington State Legislature has directed the Washington State Institute for Public Policy (WSIPP) to calculate the return on investment to taxpayers from a variety of education, prevention, and intervention programs and policies.¹

On WSIPP's website, readers can download all of our current findings. In this report, we also present the results, current as of February 2015.

To carry out legislative assignments, WSIPP reviews research evidence from around the United States and elsewhere on the effectiveness of policy options in crime, child welfare, K–12 education, mental health, substance abuse, public health, prevention, and health care. To date, we have analyzed rigorous research evidence and computed return on investment findings for over 200 programs.

Summary

For the last 20 years, WSIPP has conducted systematic evidence reviews and economic analysis on a variety of topics for the Washington State Legislature. Over time, we have improved and refined the methods we use to conduct this research.

When WSIPP undertakes an economic analysis at the direction of the legislature, we use a standardized set of procedures to collect and analyze research literature. We then apply consistent methods to translate the research findings to dollars and cents, asking, "What are the overall benefits and costs?" of each program or policy option. Finally, we use information about the uncertainty in the research findings and economic assumptions to compute the risk associated with each policy option.

The primary goal of this research is to provide the legislature with objective information about the long-term economic consequences of each program or policy option reviewed.

In this report, we summarize our current findings.

¹ Additionally, in 2013, WSIPP's Board of Directors authorized WSIPP to work on a project (the Pew-MacArthur Results First Initiative) with the MacArthur Foundation and the Pew Charitable Trusts to extend WSIPP's benefit-cost analysis beyond areas previously assigned through legislation.

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I. Research Approach

When WSIPP carries out study assignments from the legislature to identify what works in public policy, we implement a three-step research approach.

Step 1: What Works? What Does Not?

In the first step, we estimate whether various programs and policies can achieve desired outcomes. These outcomes might be reductions in undesirable outcomes like crime or child abuse and neglect or increases in desirable outcomes like high school graduation. We carefully analyze all high-quality studies from the United States and elsewhere to identify programs and policies that have been demonstrated to change outcomes. We focus on research studies with strong evaluation designs and exclude studies with weak research methods.

Our empirical approach follows a “meta-analytic” framework where we assess systematically all credible evaluations we can locate on a given topic. Given the weight of the collective evidence, we calculate an average expected effect of a program or policy on each particular outcome of interest. These outcomes vary across topic areas but include crime, education, child abuse and neglect, symptoms of mental health disorders, alcohol and drug abuse and dependence, early use of drugs and alcohol, and use of health care resources.

Example Legislative Study Direction

The Washington Legislature directs WSIPP to undertake research when it passes a policy or budget bill. Since the late 1990s, the legislature has directed WSIPP to conduct “what works?” and return on investment reviews more than 20 times. For example, the 2009 Legislature included the following study language in WSIPP’s budget:

(4) \$100,000 of the general fund state appropriation for fiscal year 2010 and \$100,000 of the general fund state appropriation for fiscal year 2011 are provided solely for the Washington state institute for public policy to report to the legislature regarding efficient and effective programs and policies. The report shall calculate the return on investment to taxpayers from evidence-based prevention and intervention programs and policies that influence crime, K–12 education outcomes, child maltreatment, substance abuse, mental health, public health, public assistance, employment, and housing. The institute for public policy shall provide the legislature with a comprehensive list of programs and policies that improve these outcomes for children and adults in Washington and result in more cost-efficient use of public resources.

Engrossed Substitute House Bill 1244, Sec. 610, Chapter 564, Laws of 2009 PV.

Step 2: What Makes Economic Sense?

Next, we consider the benefits and costs of implementing a program or policy by answering two questions.

- How much would it cost Washington taxpayers to produce the results found in Step 1?
- How much would it be worth to people in Washington State to achieve the results found in Step 1?

That is, in dollars and cents, what are the benefits and costs of each program or policy?

To answer these questions, we have developed, and continue to refine, an economic model. The model provides an internally consistent monetary valuation so program and policy options can be compared on an apples-to-apples basis. Our benefit-cost results are expressed with standard financial statistics: net present values and benefit-cost ratios.

We present monetary estimates from three perspectives:

- 1) program participants
- 2) taxpayers
- 3) other people in society

The sum of these perspectives provides a “total Washington” view on whether a program or policy produces benefits that exceed costs.

Benefits to individuals and society may stem from multiple sources. For example, a policy option that reduces juvenile crime leads to the decreased use of resources such as juvenile state institutions, thereby reducing taxpayer costs. In addition, preventing juveniles from committing

crime also increases their likelihood of high school graduation. Thus, program participants will have higher earnings, on average, in the labor market. Finally, less crime means fewer victims who benefit monetarily from avoided crime. Our benefit-cost model produces estimates of these types of effects.

Step 3: What is the Risk in the Benefit-Cost Findings?

Any tabulation of benefits and costs involves a degree of risk about the estimates calculated. This is expected in any investment analysis, whether in the private or public sector. To assess the riskiness of our conclusions, we perform a “Monte Carlo simulation” in which we vary key factors in our calculations. The purpose of this analysis is to determine the probability that a particular program or policy will at least have benefits that are equal to or greater than costs (“break even”).

Thus, we produce two “big picture” findings for each program: an expected benefit-cost result and, given our understanding of the risks, the probability that the program or policy will at least break even.

Readers interested in an in-depth description of the research methods for these three steps can review our [Technical Documentation](#).²

² Washington State Institute for Public Policy, (2014). *Benefit-cost technical documentation*. Olympia, WA: Author. Available online at <http://www.wsipp.wa.gov/TechnicalDocumentation/WsippBenefitCostTechnicalDocumentation.pdf>

II. Findings

To date, we have located and analyzed sufficiently rigorous research on nearly 300 separate programs and policy options. Of these, we have been able to conduct benefit-cost analysis on over 200 topics.³ We have found that many produce, on average, benefits that outweigh the costs; some programs and policies, however, do not.

Exhibit 1 displays WSIPP's current list of benefit-cost results for all of the programs and policies for which we have been able to estimate benefits and costs to date. The results are organized into the following categories:

- Juvenile justice
- Adult criminal justice
- Child welfare
- Pre-K to 12 education
- Children's mental health
- Substance abuse
- Adult mental health
- Public health and prevention

In addition, we have recently completed meta-analytic reviews of several health care interventions; these results can be found on our website.⁴ Benefit-cost findings for these programs are forthcoming in 2015.

Exhibit 1 reports our estimates of the total monetary benefits of each specific topic, along with the cost and a measure of risk.

In the "Benefits minus costs" column, we present one of our two bottom-line estimates for each program, expressed in 2013 dollars on a per-participant basis. Of the 218 programs and policies listed, we find that 180 (83%) have benefits that outweigh costs, while 38 (17%) do not.

While the benefit-minus-cost estimate provides one summary of how long-term monetary benefits of a program stack up against the costs, there is always uncertainty when estimating this value. We take this uncertainty into account in our second bottom-line estimate for each program's return on investment. In the "Chance benefits will exceed costs" column in **Exhibit 1**, we present the results of a 10,000 case Monte Carlo simulation, where we ask, "in what percent of the simulation runs did the program *at least* pay for itself?"

³ We are able to estimate benefits and costs for many of the programs with rigorous research evidence. However, in some cases, we are unable to estimate the total costs involved with certain programs or policies. In other cases, we are, at this time, unable to monetize some outcomes measured in evaluation research. For the meta-analytic results of those programs for which we are unable to conduct benefit-cost analysis, see: <http://www.wsipp.wa.gov/BenefitCost>

⁴ <http://www.wsipp.wa.gov/BenefitCost?topicId=6>

A 75% statistic in this column would indicate that, after considering the uncertainty in the estimates, three out of four times a program's benefits would exceed its costs, while 25% of the time, the program would not pay off.

Based on this second investment criterion, we find that 110 of the 218 programs (about half) have at least a 75% chance of breaking even.

Together, these two summary measures indicate that some, but not all, policy options provide attractive returns on investment. The purpose of the information in Exhibit 1 is, therefore, to help the legislature craft budgets that are likely to improve outcomes.

Exhibit 1 Juvenile Justice

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Functional Family Therapy (youth in state institutions)	\$37,554	\$8,012	\$29,542	(\$3,358)	\$34,196	\$11.21	100 %
Aggression Replacement Training (youth in state institutions)	\$28,955	\$6,126	\$22,829	(\$1,552)	\$27,403	\$18.69	96 %
Functional Family Therapy (youth on probation)	\$29,944	\$7,728	\$22,216	(\$3,357)	\$26,587	\$8.94	100 %
Multisystemic Therapy for substance abusing juvenile offenders	\$27,227	\$5,235	\$21,991	(\$7,578)	\$19,648	\$3.60	76 %
Multisystemic Therapy	\$23,082	\$5,495	\$17,587	(\$7,576)	\$15,507	\$3.05	92 %
Aggression Replacement Training (youth on probation)	\$16,076	\$4,121	\$11,955	(\$1,552)	\$14,524	\$10.38	96 %
Family Integrated Transitions (youth in state institutions)	\$25,586	\$6,419	\$19,167	(\$11,565)	\$14,021	\$2.22	76 %
Functional Family Parole (with quality assurance)	\$14,478	\$3,475	\$11,003	(\$4,478)	\$10,000	\$3.24	79 %
Multidimensional Treatment Foster Care	\$17,286	\$4,256	\$13,031	(\$8,111)	\$9,175	\$2.13	67 %
Multidimensional Family Therapy (MDFT) for substance abusers	\$14,185	\$4,281	\$9,904	(\$7,805)	\$6,380	\$1.82	67 %
Coordination of Services	\$6,446	\$1,693	\$4,753	(\$406)	\$6,040	\$15.90	76 %
Therapeutic communities for chemically dependent juvenile offenders	\$10,364	\$2,628	\$7,735	(\$4,576)	\$5,788	\$2.27	76 %
Drug court	\$7,318	\$2,092	\$5,226	(\$3,159)	\$4,159	\$2.32	65 %
Victim offender mediation	\$4,386	\$1,197	\$3,189	(\$596)	\$3,790	\$7.37	88 %
Drug treatment for juvenile offenders	\$6,133	\$1,947	\$4,186	(\$3,744)	\$2,388	\$1.64	70 %
Other chemical dependency treatment for juveniles (non-therapeutic communities)	\$220	\$441	(\$221)	(\$3,193)	(\$2,973)	\$0.07	28 %
Scared Straight	(\$13,491)	(\$3,429)	(\$10,062)	(\$66)	(\$13,557)	(\$204.33)	1 %

Exhibit 1 continued
Adult Criminal Justice

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Electronic monitoring (probation)	\$27,363	\$6,691	\$20,673	\$1,102	\$28,465	n/a	94 %
Offender Re-entry Community Safety Program (dangerously mentally ill offenders)	\$58,499	\$19,337	\$39,162	(\$33,254)	\$25,245	\$1.76	95 %
Therapeutic communities for offenders with co-occurring disorders	\$27,658	\$7,511	\$20,148	(\$3,665)	\$23,994	\$7.56	100 %
Correctional education (basic or post-secondary) in prison	\$23,346	\$6,088	\$17,258	(\$1,161)	\$22,185	\$20.13	100 %
Vocational education in prison	\$21,377	\$5,649	\$15,727	(\$1,619)	\$19,757	\$13.22	100 %
Drug Offender Sentencing Alternative (for drug offenders)	\$21,204	\$5,494	\$15,710	(\$1,576)	\$19,629	\$13.48	99 %
Mental health courts	\$20,253	\$5,541	\$14,711	(\$3,007)	\$17,245	\$6.75	100 %
Electronic monitoring (parole)	\$15,979	\$3,950	\$12,030	\$1,102	\$17,081	n/a	100 %
Outpatient/non-intensive drug treatment (incarceration)	\$15,982	\$4,195	\$11,788	(\$923)	\$15,060	\$17.35	100 %
Inpatient/intensive outpatient drug treatment (incarceration)	\$16,436	\$4,390	\$12,046	(\$1,575)	\$14,861	\$10.45	100 %
Risk Need & Responsivity supervision (for high and moderate risk offenders)	\$18,571	\$5,311	\$13,260	(\$4,906)	\$13,665	\$3.79	100 %
Therapeutic communities for chemically dependent offenders (community)	\$12,489	\$3,310	\$9,179	(\$1,541)	\$10,948	\$8.12	100 %
Cognitive behavioral treatment (for high and moderate risk offenders)	\$11,201	\$2,884	\$8,317	(\$424)	\$10,777	\$26.47	100 %
Case management: swift & certain/graduated sanctions for substance abusing offenders	\$15,652	\$4,510	\$11,142	(\$4,897)	\$10,755	\$3.20	96 %
Drug courts	\$14,687	\$3,919	\$10,768	(\$4,870)	\$9,816	\$3.06	100 %
Drug Offender Sentencing Alternative (for property offenders)	\$11,389	\$3,042	\$8,347	(\$1,576)	\$9,813	\$7.24	70 %
Sex offender treatment in the community	\$10,358	\$2,213	\$8,145	(\$1,630)	\$8,728	\$6.36	85 %
Work release	\$6,831	\$1,828	\$5,003	(\$679)	\$6,152	\$10.08	99 %
Employment training/job assistance in the community	\$6,203	\$1,568	\$4,635	(\$139)	\$6,064	\$44.66	99 %
Therapeutic communities for chemically dependent offenders (incarceration)	\$10,676	\$3,368	\$7,308	(\$4,933)	\$5,743	\$2.17	96 %
Correctional industries in prison	\$6,953	\$1,961	\$4,992	(\$1,462)	\$5,491	\$4.77	100 %
Intensive supervision (surveillance & treatment)	\$12,769	\$4,197	\$8,572	(\$8,061)	\$4,707	\$1.59	78 %
Sex offender treatment during incarceration	\$9,559	\$2,413	\$7,146	(\$5,122)	\$4,436	\$1.87	78 %
Outpatient/non-intensive drug treatment (community)	\$5,064	\$1,368	\$3,696	(\$838)	\$4,226	\$6.05	91 %
Inpatient/intensive outpatient drug treatment (community)	\$1,416	\$481	\$935	(\$1,032)	\$384	\$1.38	52 %
Case management: not swift and certain for substance abusing offenders	\$3,052	\$1,369	\$1,683	(\$4,900)	(\$1,848)	\$0.62	34 %
Intensive supervision (surveillance only)	(\$3,414)	(\$324)	(\$3,090)	(\$4,239)	(\$7,653)	(\$0.81)	7 %
Domestic violence perpetrator treatment (Duluth-based model)	(\$8,459)	(\$1,948)	(\$6,511)	(\$1,405)	(\$9,864)	(\$6.29)	18 %

Exhibit 1 continued

Adult Criminal Justice, Prison and Policing Strategies

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Strategies to reduce prison population							
For lower risk offenders, decrease prison average daily population by 250, by lowering length of stay by 3 months	(\$1,258)	(\$517)	(\$741)	\$5,703	\$4,445	n/a	98 %
For moderate risk offenders, decrease prison average daily population by 250, by lowering length of stay by 3 months	(\$5,463)	(\$1,055)	(\$4,408)	\$5,703	\$240	n/a	53 %
For high risk offenders, decrease prison average daily population by 250, by lowering length of stay by 3 months	(\$10,256)	(\$1,692)	(\$8,564)	\$5,702	(\$4,554)	n/a	18 %
Strategies to increase police presence (costs and benefits are presented per-officer)							
Deploy one additional police officer with hot spots strategies	\$645,751	\$69,865	\$575,885	(\$93,684)	\$552,066	\$6.94	100 %
Deploy one additional police officer with statewide average practices	\$577,533	\$62,192	\$515,342	(\$89,158)	\$488,375	\$6.52	100 %

Child Welfare

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Parent Child Interaction Therapy (PCIT) for families in the child welfare system	\$18,320	\$4,287	\$14,033	(\$1,589)	\$16,731	\$11.55	100 %
Intensive family preservation services (Homebuilders(c))	\$19,697	\$11,195	\$8,503	(\$3,376)	\$16,322	\$5.84	100 %
Subsidized guardianship (Title IV-E waivers)	\$3,655	\$512	\$3,142	\$4,128	\$7,783	n/a	100 %
SafeCare	\$2,932	\$684	\$2,248	(\$179)	\$2,753	\$16.54	99 %
Alternative response	\$929	\$217	\$712	(\$236)	\$693	\$3.94	96 %
Flexible funding (Title IV-E waivers)	\$503	\$142	\$361	\$0	\$503	n/a	100 %
Other family preservation services (non-Homebuilders®)	(\$3,767)	(\$347)	(\$3,420)	(\$3,096)	(\$6,863)	(\$1.22)	0 %

Exhibit 1 continued
Pre-K to 12 Education

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (NPV)	Benefit to cost ratio	Chance benefits will exceed costs
School-wide positive behavior programs	\$31,741	\$7,631	\$24,110	(\$221)	\$31,521	\$143.98	99 %
State and district early childhood education programs	\$33,423	\$10,375	\$23,048	(\$7,037)	\$26,386	\$4.76	89 %
Consultant teachers: Literacy Collaborative	\$18,566	\$4,482	\$14,084	(\$730)	\$17,836	\$25.44	89 %
Head Start	\$24,728	\$7,786	\$16,942	(\$8,661)	\$16,068	\$2.86	83 %
Tutoring: By peers	\$15,876	\$3,771	\$12,105	(\$111)	\$15,765	\$143.20	84 %
Teacher professional development: Use of data to guide instruction	\$13,546	\$3,221	\$10,325	(\$107)	\$13,439	\$126.97	100 %
Consultant teachers: Online coaching	\$11,245	\$2,693	\$8,552	(\$191)	\$11,054	\$58.98	73 %
Summer book programs: Multi-year intervention	\$11,191	\$2,687	\$8,504	(\$212)	\$10,979	\$52.94	71 %
Project Lead The Way (PLTW)	\$11,837	\$3,011	\$8,826	(\$1,744)	\$10,093	\$6.79	88 %
Tutoring: By certificated teachers, small-group, structured	\$11,211	\$2,820	\$8,391	(\$1,406)	\$9,804	\$7.98	96 %
Consultant teachers: Content-Focused Coaching	\$8,014	\$1,899	\$6,115	(\$57)	\$7,957	\$141.00	68 %
Tutoring: By adults, one-on-one, structured	\$9,956	\$2,631	\$7,326	(\$2,290)	\$7,667	\$4.36	87 %
Special literacy instruction for English language learner students	\$7,638	\$1,893	\$5,745	(\$291)	\$7,347	\$26.37	69 %
Tutoring: By non-certificated adults, small-group, structured	\$6,740	\$1,658	\$5,083	(\$536)	\$6,205	\$12.60	77 %
Tutoring: By adults for English language learner students	\$7,607	\$2,029	\$5,578	(\$1,408)	\$6,198	\$5.45	61 %
Out-of-school-time tutoring by adults	\$6,678	\$1,689	\$4,988	(\$917)	\$5,761	\$7.29	75 %
Case management in schools	\$5,252	\$1,479	\$3,773	(\$248)	\$5,005	\$21.21	66 %
Teacher professional development: Targeted	\$5,135	\$1,247	\$3,888	(\$260)	\$4,875	\$19.79	84 %
Summer learning programs: Academically focused	\$5,345	\$1,400	\$3,945	(\$1,132)	\$4,213	\$4.73	92 %
Summer book programs: One-year intervention, with additional support	\$3,650	\$881	\$2,769	(\$114)	\$3,536	\$32.12	60 %
Consultant teachers: Coaching	\$3,455	\$847	\$2,607	(\$252)	\$3,203	\$13.72	86 %
Teacher professional development: Induction/mentoring	\$2,238	\$541	\$1,697	(\$74)	\$2,164	\$30.26	60 %
Parents as tutors with teacher oversight	\$2,933	\$789	\$2,145	(\$794)	\$2,139	\$3.70	55 %
National Board for Professional Teaching Standards (NBPTS)	\$2,277	\$557	\$1,721	(\$187)	\$2,090	\$12.20	100 %
Per-pupil expenditures: 10% increase for one student cohort from	\$12,309	\$3,398	\$8,911	(\$10,705)	\$1,604	\$1.14	53 %
Class size: reducing average class size by one student in kindergarten	\$1,633	\$475	\$1,158	(\$204)	\$1,430	\$8.02	95 %
Summer book programs: One-year intervention	\$1,488	\$366	\$1,123	(\$77)	\$1,411	\$19.36	57 %
Teacher professional development: Online, targeted	\$1,610	\$417	\$1,194	(\$291)	\$1,319	\$5.54	57 %
Class size: reducing average class size by one student in grade 1	\$850	\$262	\$588	(\$203)	\$646	\$4.18	84 %
Tutoring: By adults, one-on-one, non-structured	\$2,032	\$653	\$1,380	(\$1,425)	\$608	\$1.43	51 %
Teacher performance pay programs	\$632	\$154	\$478	(\$35)	\$597	\$18.14	63 %
Educator professional development: Use of data to guide instruction	\$566	\$136	\$430	(\$18)	\$548	\$31.80	53 %
Class size: reducing average class size by one student in grade 2	\$476	\$159	\$317	(\$204)	\$272	\$2.34	65 %

Exhibit 1 continued
Pre-K to 12 Education

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Class size: reducing average class size by one student in grade 3	\$344	\$123	\$221	(\$204)	\$141	\$1.69	55 %
Class size: reducing average class size by one student in one grade, 9-12	\$257	\$90	\$168	(\$164)	\$93	\$1.57	51 %
Class size: reducing average class size by one student in one grade, 4-6	\$258	\$96	\$161	(\$184)	\$74	\$1.40	52 %
Class size: reducing average class size by one student in one grade, 7-8	\$237	\$87	\$150	(\$167)	\$70	\$1.42	51 %
Teacher professional development: Not targeted	(\$27)	\$5	(\$31)	(\$86)	(\$113)	(\$0.31)	24 %
Full-day kindergarten	(\$519)	\$192	(\$711)	(\$2,677)	(\$3,195)	(\$0.19)	14 %
Even Start	(\$3,982)	(\$447)	(\$3,535)	(\$4,187)	(\$8,169)	(\$0.95)	26 %
Early Head Start	(\$1,725)	\$3,103	(\$4,828)	(\$10,767)	(\$12,492)	(\$0.16)	16 %

Exhibit 1 continued
Children's Mental Health

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Anxiety							
Remote Cognitive Behavioral Therapy (CBT) for anxious children	\$24,492	\$7,284	\$17,207	\$766	\$25,257	n/a	100 %
Group Cognitive Behavioral Therapy (CBT) for anxious children	\$7,918	\$2,330	\$5,588	\$405	\$8,322	n/a	100 %
Individual Cognitive Behavioral Therapy (CBT) for anxious children	\$5,711	\$1,837	\$3,874	(\$757)	\$4,954	\$7.56	96 %
Parent Cognitive Behavioral Therapy (CBT) for anxious children	\$2,315	\$606	\$1,708	\$627	\$2,942	n/a	99 %
Attention Deficit Hyperactivity Disorder							
Behavioral Parent Training (BPT) for children with ADHD	\$172	\$30	\$143	\$110	\$282	n/a	95 %
Multimodal Therapy (MMT) for children with ADHD	\$8,217	\$3,338	\$4,880	(\$8,620)	(\$403)	\$0.96	43 %
Cognitive Behavioral Therapy (CBT) for children with ADHD	(\$782)	(\$69)	(\$713)	(\$1,015)	(\$1,797)	(\$0.77)	0 %
Depression							
Cognitive Behavioral Therapy (CBT) for depressed adolescents	\$555	\$90	\$464	(\$500)	\$55	\$1.11	51 %
Disruptive Behavior							
Triple P Positive Parenting Program: Level 4, group	\$1,126	\$233	\$893	\$541	\$1,668	n/a	100 %
Other Behavioral Parent Training (BPT) for children with disruptive behavior disorders	\$1,241	\$320	\$920	\$109	\$1,349	n/a	96 %
Brief Strategic Family Therapy (BSFT)	\$1,611	\$594	\$1,017	(\$527)	\$1,084	\$3.06	75 %
Triple P Positive Parenting Program: Level 4, individual	\$1,665	\$597	\$1,069	(\$961)	\$705	\$1.74	72 %
Multimodal Therapy (MMT) for children with disruptive behavior	\$1,811	\$563	\$1,248	(\$1,314)	\$497	\$1.39	50 %
Incredible Years: parent training	\$1,535	\$646	\$889	(\$1,286)	\$248	\$1.19	52 %
Parent Child Interaction Therapy (PCIT) for children with disruptive behavior	\$1,419	\$581	\$839	(\$1,369)	\$50	\$1.04	47 %
Incredible Years: parent training and child training	\$1,004	\$512	\$491	(\$1,681)	(\$678)	\$0.60	22 %
Families and Schools Together (FAST)	\$863	\$311	\$552	(\$1,815)	(\$952)	\$0.47	46 %
Serious Emotional Disturbance							
Multisystemic Therapy (MST) for youth with serious emotional disturbance (SED)	\$3,558	\$2,525	\$1,033	(\$6,683)	(\$3,124)	\$0.53	26 %
Trauma							
Eye Movement Desensitization and Reprocessing (EMDR) for child trauma	\$8,594	\$2,583	\$6,012	\$160	\$8,754	n/a	85 %
Cognitive Behavioral Therapy (CBT)-based models for child trauma	\$6,412	\$1,920	\$4,491	\$327	\$6,738	n/a	99 %

Exhibit 1 continued
Substance Abuse

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Substance Abuse Early Intervention							
Brief Intervention in primary care	\$7,243	\$2,028	\$5,215	(\$264)	\$6,978	\$27.43	94 %
Brief Intervention in a medical hospital	\$6,027	\$1,670	\$4,357	(\$156)	\$5,871	\$38.82	75 %
Brief Intervention in emergency department (SBIRT)	\$4,465	\$1,228	\$3,238	(\$420)	\$4,045	\$10.64	78 %
Brief Alcohol Screening and Intervention of College Students (BASICS): A Harm Reduction Approach	\$2,473	\$660	\$1,813	(\$71)	\$2,401	\$34.76	74 %
Substance Abuse Treatment for Youth							
Adolescent Assertive Continuing Care	\$11,089	\$3,387	\$7,701	(\$2,181)	\$8,907	\$5.09	68 %
Teen Marijuana Check-Up	\$1,898	\$588	\$1,311	(\$106)	\$1,793	\$17.94	100 %
Substance Abuse Treatment for Adults							
Cognitive Behavior Coping Skills Therapy	\$48,869	\$2,287	\$46,582	(\$258)	\$48,611	\$189.66	99 %
Contingency management (higher-cost) for substance abuse	\$23,489	\$1,394	\$22,095	(\$554)	\$22,936	\$42.66	79 %
Seeking Safety: A Psychotherapy for Trauma/PTSD and Substance Abuse	\$13,191	\$605	\$12,585	(\$385)	\$12,806	\$34.31	71 %
Family Behavior Therapy (FBT)	\$13,659	\$1,461	\$12,197	(\$1,847)	\$11,812	\$7.40	69 %
Motivational Interviewing to enhance treatment engagement	\$10,695	\$2,792	\$7,902	(\$260)	\$10,435	\$41.22	66 %
Brief Cognitive Behavioral Intervention for Amphetamine Users	\$10,322	\$1,047	\$9,275	(\$205)	\$10,117	\$50.60	67 %
12-Step Facilitation Therapy	\$8,409	\$573	\$7,836	\$319	\$8,728	n/a	66 %
Matrix Intensive Outpatient Model for the Treatment of Stimulant Abuse	\$9,808	\$515	\$9,293	(\$1,244)	\$8,565	\$7.91	62 %
Contingency management (higher-cost) for marijuana use	\$8,398	\$2,603	\$5,795	(\$554)	\$7,844	\$15.28	79 %
Motivational Enhancement Therapy (MET) (problem drinkers)	\$8,103	\$2,285	\$5,817	(\$330)	\$7,772	\$24.55	62 %
Community Reinforcement Approach (CRA) with Vouchers	\$8,448	\$908	\$7,540	(\$1,170)	\$7,278	\$7.26	62 %
Brief Marijuana Dependence Counseling	\$7,588	\$2,357	\$5,232	(\$542)	\$7,047	\$14.03	92 %
Relapse Prevention Therapy	\$6,188	\$396	\$5,792	\$0	\$6,188	n/a	58 %
Holistic Harm Reduction Program (HHRP+)	\$6,515	\$460	\$6,056	(\$791)	\$5,725	\$8.31	60 %
Peer support for substance abuse	\$5,389	\$503	\$4,886	(\$2,728)	\$2,661	\$2.00	54 %
Contingency management (lower-cost) for substance abuse	\$2,575	\$216	\$2,360	(\$242)	\$2,334	\$10.96	60 %
Individual Drug Counseling Approach for the Treatment of Cocaine Addiction	\$4,401	\$182	\$4,218	(\$2,311)	\$2,090	\$1.91	54 %
Contingency management (lower-cost) for marijuana use	\$367	\$146	\$221	(\$243)	\$125	\$1.53	51 %
Supportive-Expressive Psychotherapy for substance abuse	(\$2,915)	\$172	(\$3,087)	(\$1,979)	(\$4,894)	(\$1.49)	43 %
Behavioral Self-Control Training (BSCT)	(\$17,168)	(\$4,422)	(\$12,746)	(\$153)	(\$17,321)	(\$112.03)	23 %
Substance Abuse Medication-assisted Treatment							
Methadone maintenance treatment	\$14,603	\$1,664	\$12,939	(\$3,658)	\$10,944	\$4.02	99 %
Buprenorphine/Buprenorphine-Naloxone (Suboxone and Subutex) treatment	\$9,944	\$1,107	\$8,836	(\$4,485)	\$5,459	\$2.25	90 %

Exhibit 1 continued
Adult Mental Health

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Cognitive Behavioral Therapy (CBT) for adult anxiety	\$38,398	\$11,584	\$26,814	(\$352)	\$38,046	\$109.40	99 %
Cognitive Behavioral Therapy for posttraumatic stress disorder (PTSD)	\$36,690	\$11,281	\$25,408	(\$345)	\$36,345	\$106.74	100 %
Cognitive Behavioral Therapy (CBT) for adult depression	\$26,148	\$7,445	\$18,703	(\$233)	\$25,914	\$112.16	100 %
Collaborative Primary Care for anxiety	\$25,649	\$7,824	\$17,825	(\$796)	\$24,853	\$32.36	94 %
Collaborative Primary Care for depression	\$8,739	\$2,408	\$6,331	(\$797)	\$7,942	\$11.01	100 %
Cognitive Behavioral Therapy for schizophrenia/psychosis	\$7,336	\$4,633	\$2,703	(\$1,421)	\$5,915	\$5.18	59 %
PTSD prevention following trauma	\$4,922	\$1,634	\$3,288	(\$826)	\$4,096	\$5.98	99 %
Collaborative Primary Care for Depression with comorbid medical conditions	\$4,815	\$1,269	\$3,547	(\$840)	\$3,976	\$5.75	99 %
Individual Placement and Support (IPS) for individuals with serious mental illness	\$1,487	\$562	\$924	(\$780)	\$707	\$2.04	66 %
Primary care in integrated settings (Veteran's Administration, Kaiser Permanente)	\$552	\$199	\$353	(\$225)	\$327	\$2.46	57 %
Primary care in behavioral health settings	\$530	\$172	\$359	(\$215)	\$315	\$2.48	56 %
Mobile crisis response	\$752	\$820	(\$68)	(\$1,158)	(\$406)	\$0.65	28 %
Primary care in behavioral health settings (community-based settings)	(\$599)	(\$130)	(\$469)	(\$267)	(\$866)	(\$2.26)	16 %
Peer support: Substitution of a peer specialist for a non-peer on the treatment team	(\$1,138)	(\$346)	(\$791)	\$0	(\$1,138)	n/a	20 %
Peer support: Addition of a peer specialist to the treatment team	\$633	\$741	(\$109)	(\$3,407)	(\$2,775)	\$0.19	1 %
Illness Management and Recovery (IMR)	(\$1,172)	\$339	(\$1,511)	(\$3,396)	(\$4,568)	(\$0.35)	17 %
Forensic Assertive Community Treatment (FACT)	(\$4,443)	\$597	(\$5,039)	(\$12,548)	(\$16,990)	(\$0.35)	0 %
Supported housing for chronically homeless adults	(\$5,801)	\$561	(\$6,362)	(\$14,944)	(\$20,745)	(\$0.39)	0 %
Assertive Community Treatment	(\$9,463)	\$187	(\$9,649)	(\$17,720)	(\$27,183)	(\$0.53)	4 %

Exhibit 1 continued
Public Health & Prevention

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
School-based							
Mentoring for students: school-based (taxpayer costs only)	\$34,137	\$9,538	\$24,599	(\$1,146)	\$32,991	\$29.82	79 %
Mentoring for students: school-based (with volunteer costs)	\$33,515	\$9,445	\$24,069	(\$1,786)	\$31,729	\$18.77	78 %
Elementary school-based social development programs	\$13,946	\$3,952	\$9,994	(\$236)	\$13,710	\$59.31	77 %
Seattle Social Development Project	\$15,238	\$4,591	\$10,647	(\$3,081)	\$12,157	\$4.94	68 %
Good Behavior Game	\$9,081	\$2,788	\$6,294	(\$158)	\$8,924	\$57.53	93 %
Caring School Community (formerly Child Development Project)	\$8,611	\$2,171	\$6,440	(\$1,218)	\$7,393	\$7.06	62 %
School-based tobacco prevention programs	\$4,012	\$986	\$3,026	(\$62)	\$3,950	\$64.64	99 %
Project EX	\$3,511	\$819	\$2,692	(\$58)	\$3,452	\$60.13	86 %
Minnesota Smoking Prevention Program	\$2,712	\$652	\$2,061	(\$32)	\$2,681	\$86.00	94 %
All Stars	\$2,389	\$735	\$1,654	(\$101)	\$2,288	\$23.59	99 %
Drug Abuse Resistance Education (D.A.R.E.)	\$1,941	\$334	\$1,607	(\$53)	\$1,888	\$36.44	84 %
Behavioral Monitoring and Reinforcement Program (BMRP)	\$3,004	\$967	\$2,037	(\$1,300)	\$1,705	\$2.31	59 %
SPORT	\$1,333	\$325	\$1,008	(\$38)	\$1,294	\$34.70	74 %
Life Skills Training	\$1,125	\$246	\$879	(\$97)	\$1,028	\$11.58	84 %
American Indian adolescent substance abuse prevention programs	\$787	\$265	\$522	(\$55)	\$733	\$14.45	78 %
keepin' it REAL	\$646	\$201	\$445	(\$48)	\$598	\$13.51	72 %
ATHENA (Athletes Targeting Healthy Exercise and Nutrition Alternatives)	\$503	\$127	\$376	(\$37)	\$466	\$13.53	57 %
Too Good for Drugs	\$498	\$158	\$341	(\$52)	\$446	\$9.56	97 %
Lions Quest Skills for Adolescence	\$477	\$96	\$381	(\$94)	\$383	\$5.06	79 %
Project ALERT	\$504	\$176	\$329	(\$147)	\$357	\$3.43	77 %
Project Towards No Drug Abuse (TND)	\$182	\$46	\$136	(\$64)	\$118	\$2.86	53 %
Promoting Alternative Thinking Strategies (PATHS)	\$10	\$18	(\$8)	(\$117)	(\$107)	\$0.09	8 %
Youth advocacy/empowerment programs for tobacco prevention	(\$155)	(\$35)	(\$120)	(\$22)	(\$178)	(\$6.92)	33 %
Project SUCCESS	(\$178)	(\$19)	(\$159)	(\$155)	(\$333)	(\$1.15)	42 %
InShape	(\$395)	(\$119)	(\$276)	(\$15)	(\$410)	(\$26.60)	46 %
Reconnecting Youth	(\$6,147)	(\$1,385)	(\$4,762)	(\$750)	(\$6,897)	(\$8.21)	0 %
Home- or Family-based							
Nurse Family Partnership for low-income families	\$27,174	\$9,955	\$17,219	(\$9,842)	\$17,332	\$2.77	71 %
Family-based tobacco and substance use prevention	\$5,407	\$1,357	\$4,050	(\$178)	\$5,229	\$30.46	93 %
Strengthening Families for Parents and Youth 10-14	\$3,850	\$981	\$2,869	(\$1,098)	\$2,751	\$3.51	66 %
Computer-based substance use prevention programs	\$1,390	\$349	\$1,041	(\$69)	\$1,321	\$20.26	68 %
Guiding Good Choices (formerly Preparing for the Drug Free Years)	\$1,419	\$526	\$893	(\$654)	\$765	\$2.17	61 %
Parents as Teachers	\$2,875	\$988	\$1,887	(\$2,684)	\$191	\$1.07	50 %
Other home visiting programs for at-risk mothers and children	\$5,533	\$3,333	\$2,201	(\$5,746)	(\$212)	\$0.96	47 %

Exhibit 1 continued
Public Health & Prevention

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Family Check-Up (also known as Positive Family Support)	\$68	\$51	\$18	(\$323)	(\$255)	\$0.21	47 %
Healthy Families America	\$2,394	\$2,092	\$302	(\$4,698)	(\$2,305)	\$0.51	46 %
Parent Child Home Program	\$1,210	\$1,394	(\$184)	(\$5,668)	(\$4,458)	\$0.21	33 %
Community-based							
Computer-based programs for smoking cessation	\$30,799	\$5,650	\$25,149	(\$39)	\$30,760	\$782.07	100 %
Text messaging programs for smoking cessation	\$18,069	\$3,208	\$14,861	(\$51)	\$18,018	\$351.58	100 %
Quantum Opportunities Program	\$42,802	\$17,932	\$24,870	(\$26,432)	\$16,370	\$1.64	63 %
Mentoring for students: community-based (taxpayer costs only)	\$11,626	\$3,493	\$8,133	(\$1,262)	\$10,364	\$9.24	67 %
Mentoring for students: community-based (with volunteer costs)	\$10,694	\$3,513	\$7,181	(\$3,193)	\$7,501	\$3.36	60 %
Project STAR	\$4,261	\$1,049	\$3,212	(\$499)	\$3,761	\$8.55	97 %
Communities That Care	\$1,826	\$561	\$1,265	(\$573)	\$1,253	\$3.25	85 %
Project Northland	\$692	\$187	\$505	(\$185)	\$507	\$3.74	73 %
Children's Aid Society--Carrera	\$7,565	\$4,059	\$3,507	(\$14,474)	(\$6,909)	\$0.52	38 %
CASASTART	(\$3,742)	\$212	(\$3,953)	(\$6,937)	(\$10,679)	(\$0.54)	12 %
Fast Track prevention program	(\$24,400)	\$1,273	(\$25,673)	(\$60,013)	(\$84,412)	(\$0.41)	0 %
Population-level policies							
Access to tobacco quitlines	\$33,436	\$2,017	\$31,419	(\$211)	\$33,225	\$158.44	98 %
More intensive tobacco quitlines (compared to less intensive quitlines)	\$9,702	\$1,390	\$8,312	(\$128)	\$9,574	\$75.68	100 %
Anti-smoking media campaign, youth effect	\$3,398	\$813	\$2,585	(\$27)	\$3,371	\$125.82	99 %
Enforcement of tobacco age-of-sale laws	\$2,293	\$697	\$1,596	(\$6)	\$2,288	\$399.16	100 %
Anti-smoking media campaigns, adult effect	\$1,899	\$530	\$1,369	(\$35)	\$1,865	\$55.38	89 %
Triple P Positive Parenting Program (System)	\$469	\$154	\$315	(\$147)	\$322	\$3.22	99 %

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