

Watching the Bottom Line: Cost-Effective Interventions for Reducing Crime in Washington

How does a homeowner know if it's "worth it" to insulate a house? Using pocket-book economics, the homeowner determines if the savings in future heating bills are greater than the cost of the insulation. Some insulation investments are cost-effective, others are not.

How do we know if it's "worth it" to spend tax dollars on a particular crime prevention program? It's worth it if future savings to taxpayers and potential victims of crime are greater than the cost of the program. Some programs are cost-effective, others are not.

The Washington State Legislature directed the Washington State Institute for Public Policy to evaluate the costs and benefits of certain criminal justice policies, violence prevention programs, and other efforts to decrease criminal recidivism and at-risk behaviors of youth.¹ This progress report contains information on several interventions that have been shown to work, some that have not, and some that are promising but not yet fully evaluated.

Similar to the home insulation example, this analysis focuses on the "bottom-line" economics of different programs that try to reduce criminal behavior, by comparing up-front program costs paid by taxpayers to any future benefits that a program produces.

Research Approach The goal of the Institute's research is to identify interventions that lower crime **and** lower total costs to taxpayers and crime victims. To do this, the Institute is systematically reviewing published research in the United States on juvenile delinquency interventions. Many programs are designed for youth already in the juvenile justice system, where the goal is to reduce subsequent criminal activity. Other prevention programs seek to lower the chance that a young person will commit crimes in the first place. We focus on both categories, concentrating on studies that use sound research designs and are published in peer-reviewed journals.²

Crime imposes costs that are paid by crime victims, and by taxpayers who fund the police, courts, and correctional systems. If a program reduces subsequent criminal activity, then some of these future costs can be avoided. The Institute estimates the magnitude of these avoided costs and stacks them up against the taxpayer-cost of particular programs. The result provides information on the **net** economic benefit of different options available to the legislature and other decision-making bodies.³ This is the same type of financial analysis that an investor might use to study rates of return on mutual funds, real estate, or other alternative investments; the focus is on the comparative bottom line.

¹ RCW 13.40.500 and RCW 70.190.050.

² The Institute is conducting the review of the literature in conjunction with the Social Development Research Group, School of Social Work, University of Washington.

³ In a forthcoming technical report, the Institute will describe in detail the analytical methods used to make these calculations.

THREE GENERAL FINDINGS

1. Does Anything Work? *Yes, but the results are often modest.*

In the Institute's review of the national research literature, we found that some interventions have been successful in lowering the chance that a young person will commit crimes. Other approaches, however, have failed to reduce these odds.

Even programs with the most favorable outcomes show success rates that many would consider relatively modest. We found that the best interventions for juvenile offenders lower the chance of re-offending by about 40 percent. An example can help put this number in perspective. In Washington State, about 45 percent of juvenile offenders placed on probation by the courts are subsequently re-convicted for a felony offense by the time they are 25 years old.⁴ The intervention programs with the best recorded results can potentially lower this recidivism rate to about 27 percent (a 40 percent reduction from a 45 percent starting point)—a significant reduction, but not a magic cure.

Thus the answer to the question “Does Anything Work?” is yes—some programs have been well-researched and shown to lower the odds of criminal offending, but the success rates of even the best of these interventions are relatively modest.

2. Are Successful Interventions Also Cost-Effective? *Some are, some are not.*

The follow-up to the “does anything work” question is an economic one: Are the programs that have been shown to lower the rate of criminal behavior also cost-effective? That is, do they save more money than they cost?

Table 2 summarizes the economics of sixteen of the researched interventions we have reviewed to date. The good news from this list is that there are some programs—if they are implemented well—that can lower crime rates *and* save more money than they cost.

Thus the answer to the question “Are Successful Interventions Also Cost-Effective?” is that some are and others are not. Like any investment strategy, the goal is to pick the winners and avoid the losers.

3. Most Criminal Justice Programs Have Not Been—But Should Be—Evaluated.

In Washington, as in the rest of the United States, most programs designed to reduce crime have never been rigorously evaluated. Some interventions may be working and we don't know it, while others may not be effective yet absorb scarce tax dollars that could better be directed toward effective programs.

The 1997 Legislature passed E3SHB 3900 and included a provision for the state juvenile courts to implement research-proven interventions for juvenile offenders. The Act directed the Institute to evaluate the costs and benefits of the programs. When completed, these evaluations will provide the legislature with assistance in making sound resource decisions for these particular programs.

In the broader arena of state crime prevention and deterrence programs, however, there is much that remains unknown. Carefully constructed evaluations can help the state assess programs within juvenile and adult corrections. They can also help evaluate the crime

⁴ The 45 percent felony recidivism rate is for juveniles placed on probation caseloads, not for less serious offenders given diversion.

prevention benefits of early-childhood and drug and substance abuse programs. The most useful evaluations will ask and answer two basic questions. First, do the programs lower crime rates and other costly behaviors? Second, if the programs work, do they save more money than they cost; that is, are they cost-effective?

ECONOMIC ANALYSIS OF INTERVENTIONS WITH CRIMINAL JUSTICE OUTCOMES

To date, the Institute has analyzed evaluations for sixteen programs. Some programs are located in Washington, though most are from elsewhere in the United States. Many interventions are experimental programs that test a particular approach; a few evaluations focus on system-wide applications. Table 1 briefly describes each program.

Table 1
Programs Evaluated for Criminal Justice Outcomes

Early Childhood Programs	
Perry Pre-School (Michigan)	A two-year pre-school educational program in the early 1960s for children in poverty, with weekly home visits by teacher.
Syracuse Family Development	A five-year early 1970s program for low income, mostly single parent, families with pre-natal care, weekly home visits, parent training, child care, and nutrition.
Middle Childhood Programs	
Seattle Social Development Project	A classroom management and instructional program for grades 1 to 6 with components designed to prevent delinquency and substance abuse.
Adolescent (Non-Juvenile Offender) Programs	
Big Brothers/Big Sisters Mentoring	An intervention that matches a youth with a positive, caring adult volunteer for at least a year.
Quantum Opportunities	The intervention was a four-year program for disadvantaged high-school youth that included mentoring, tutoring, life skills, and financial incentives to graduate.
Juvenile Offender Programs	
Adolescent Diversion Project (Michigan)	An intervention for first-time or minor juvenile offenders using behavioral contracting and child advocacy.
Functional Family Therapy	A home-based intervention focused on increasing family problem-solving skills and interactions among family members.
Intensive Supervision (Ohio)	A late 1980s intensive supervision program as an alternative to institutional commitment for non-violent felony offenders.
Intensive Supervision (Orange Co., CA)	An intensive supervision program for chronic juvenile offenders with family therapy provided by volunteers, along with community service programs.
InterAgency Coordination	In a rural setting, the intervention focused on improving how local agencies coordinated service delivery to individual first-time offenders.
Juvenile Boot Camp Summary	The combined results of four recent studies of juvenile boot camps in California, Denver, Cleveland, and Mobile.
Multi-Systemic Therapy	An intensive home-based intervention for high-risk juvenile offenders in immediate risk of institutional placement.
Paint Creek Youth Center (Ohio)	An experimental program (small facility with many intervention services) for serious juvenile offenders committed to state institutions.
Teamchild (King County, WA)	A program providing legal (civil) and community advocacy services to juvenile offenders.
Thurston County FastTrack Diversion	A program for first-time minor offenders on diversion where youth appear before a community accountability board shortly after committing an offense.
Treatment Foster Care (Oregon)	A program in which chronic juvenile offenders are placed in a home with trained foster parents, along with other treatment and probation services.

Five of the programs are for youth not involved in the criminal justice system. These programs typically try to affect several behaviors—for example, teen pregnancy, substance abuse, and academic performance—in addition to preventing future criminal activity. Although society and taxpayers can benefit in many ways from reductions in these other behaviors, at present the Institute’s analysis is restricted to measuring crime-related costs.

The remaining 11 programs are for youth already involved in the juvenile court system. Some are for first- or second-time juvenile offenders while others are for chronic or serious offenders. Usually the primary goal of these offender-based programs is to reduce the chance that a juvenile will commit subsequent criminal offenses.

Analyzing the comparative economics of these programs requires interpretation beyond the reported research results. Because most studies do not analyze program economics, the Institute takes five analytical steps in reviewing each program. Table 2 displays the results. (A forthcoming Institute report will describe the technical detail behind these estimates.)

1. How could a particular program be applied in Washington? For each intervention, the Institute estimates the most likely practical application within the state’s justice or early intervention systems. For example, most of the juvenile offender programs listed on Tables 1 and 2 could be implemented in Washington through the juvenile courts.

2. Can a program produce the same results in another setting? Many programs have demonstrated results in small experimental settings. Their success rates, however, may not hold when they are replicated, especially on a larger scale. Rather than assuming that the results achieved in one setting are always transferable, the Institute considers each program individually, analyzing factors such as the strength of the research design, the length of the follow-up period, and the size the of experiment. This process generally results in *reduced* estimates of the expected effects for each intervention.

3. How much does a program cost? The Institute estimates the costs to taxpayers to implement each program.

4. What is the value of a program’s crime reduction for the state? If a program succeeds in lowering crime rates, some costs of crime can be avoided in the future. The Institute analyzes these life-cycle costs for the criminal justice system, estimating the marginal operating and capital costs of police, courts and prosecutors, local government juvenile and adult corrections’ costs, and state government costs for the Juvenile Rehabilitation Administration and the Department of Corrections. The Institute uses national estimates to measure the monetary costs incurred by the direct victims of crime. If an intervention can lower the amount of future crime, it can lower crime victim costs in addition to criminal justice system costs paid by the taxpayer.⁵

5. What are the summary economic statistics for a program? Combining all of this information allows the calculation of standard economic measures. In Table 2 we show the net present value of each program from a taxpayer’s perspective, and from a combined perspective of taxpayers and crime victims. We also show two other statistics: the number of years it takes for a taxpayer to be “paid back” for the up-front cost of the program, and the minimum percentage reduction in felonies the program needs to achieve to break even.

⁵ See, *Victim Costs and Consequences: A New Look*, U.S. Dept. of Justice, 1996. Monetary (“out-of-pocket”) victim costs per felony crime include estimated medical spending, mental health payments, lost future earnings, and property damage.

Table 2

Estimated Taxpayer Costs & Crime-Reduction Benefits of Sixteen Programs (in 1997 Dollars)

Name of Intervention and Quality of Research Design (H = high; M = medium; P = preliminary)	Program Effectiveness for Reducing Felonies in Washington				Taxpayer Costs and Taxpayer Criminal Justice System Benefits, Per Program Participant					Crime Victim Costs Avoided	Net Gain (Loss), Taxpayer AND Crime Victim Costs Avoided	
	Type of Offenses Measured	Without the Program, the Number of Offenses per Person	With the Program, the Number of Offenses per Participant	Percent Change	Net Present Value			Number of Years Before Cost Is Paid Back	Percent Reduction in Felonies Needed to Break Even			
					Cost of Program	Criminal Justice Costs Avoided	Net Gain (Loss)					
Early Childhood Programs												
Perry Pre-School (Michigan)	H	felony arrests by age 27	1.75	0.90	-48%	\$13,938	\$13,442	(\$496)	Doesn't Pay Back	-50%	\$16,717	\$16,221
Syracuse Family Development	M	felony convictions by age 25	0.18	0.01	-93%	\$18,037	\$3,953	(\$14,084)	Doesn't Pay Back	Can't Break Even	\$3,842	(\$10,241)
Middle Childhood Programs												
Seattle Social Development Project	H	felony arrests by age 25	1.01	0.80	-21%	\$2,991	\$3,068	\$78	14	-20%	\$3,191	\$3,268
Adolescent (Non-Juvenile Offender) Programs												
Big Brothers/Big Sisters Mentoring	P	felony convictions by age 25	0.27	0.21	-20%	\$1,000	\$1,978	\$978	3	-10%	\$2,505	\$3,483
Quantum Opportunities	M	felony arrests by age 25	0.35	0.10	-71%	\$12,528	\$4,216	(\$8,312)	Doesn't Pay Back	Can't Break Even	\$4,247	(\$4,066)
Juvenile Offender Programs												
Adolescent Diversion Project (Michigan)	H	felony re-convictions by age 25	0.45	0.29	-34%	\$1,028	\$6,055	\$5,027	1	-6%	\$7,299	\$12,326
Functional Family Therapy	M	felony re-convictions by age 25	0.68	0.49	-27%	\$1,900	\$7,168	\$5,268	1	-7%	\$8,640	\$13,908
Intensive Supervision (Ohio)	M	felony re-convictions by age 25	0.68	0.59	-13%	\$5,959	\$4,004	(\$1,955)	Doesn't Pay Back	-19%	\$4,159	\$2,204
Intensive Supervision (Orange Co., CA)	P	felony re-convictions by age 25	0.68	0.53	-22%	\$4,556	\$6,164	\$1,609	4	-16%	\$6,961	\$8,569
InterAgency Coordination	M	felony re-convictions by age 25	0.27	0.19	-29%	\$1,000	\$2,900	\$1,900	2	-10%	\$3,672	\$5,572
Juvenile Boot Camp Summary	H	felony re-convictions by age 25	0.68	0.78	16%	(\$1,515)	(\$4,426)	(\$2,912)	Doesn't Pay Back	5%	(\$4,998)	(\$7,910)
Multi-Systemic Therapy	H	felony re-convictions by age 25	0.68	0.38	-44%	\$4,500	\$12,381	\$7,881	2	-16%	\$13,982	\$21,863
Paint Creek Youth Center (Ohio)	H	felony re-convictions by age 25	0.68	0.56	-16%	\$4,705	\$5,056	\$351	6	-15%	\$5,250	\$5,601
Teamchild (King County, WA)	P	felony re-convictions by age 25	0.27	0.21	-20%	\$625	\$2,074	\$1,449	2	-6%	\$2,500	\$3,950
Thurston County FastTrack Diversion	P	felony re-convictions by age 25	0.27	0.19	-29%	\$136	\$2,900	\$2,764	1	-1%	\$3,672	\$6,436
Treatment Foster Care (Oregon)	P	felony re-convictions by age 25	0.68	0.43	-37%	\$3,941	\$9,757	\$5,815	2	-15%	\$11,760	\$17,575

Summary We estimate that some of the 16 interventions—if they were well implemented—would have positive economic results for Washington as measured by avoided crime costs. The following are three examples of cost-effective programs from Table 2.

Example 1. Multi-Systemic Therapy is an intervention for high-risk juvenile offenders that could be implemented through Washington’s juvenile courts. The program costs about \$4,500 per participant, and we estimate that it could lower the subsequent level of felony offending in Washington for this group by 44 percent. Our analysis shows that this reduction in crime would save taxpayers \$12,381 per participant in future criminal justice system costs. Therefore, MST’s bottom line for taxpayers is, on average, a net gain of \$7,881 for every high-risk juvenile offender placed on the program. We also estimate that an additional \$13,982 in future out-of-pocket costs paid by crime victims can be avoided with the MST program. Thus, taxpayer and crime victim benefits combined produce a net gain of \$21,863 per participant.

Example 2. Thurston County FastTrack Diversion, a program for first-time minor juvenile offenders, speeds up the time between when a youth commits an offense and when he or she appears before a Community Accountability Board. Based on our preliminary evaluation, we estimate that it will lower the level of subsequent felony offending in Washington for this group by 29 percent. The program costs taxpayers an estimated \$136 per participant and reduces subsequent taxpayer criminal justice costs by \$2,900. The bottom line for taxpayers is thus a positive net benefit of \$2,764 per program youth. Adding the victim-related benefits brings the total net benefits of the program to \$6,436 per youth.

Example 3. The Seattle Social Development Project uses classroom management techniques and an instructional curriculum designed to prevent later delinquency and substance abuse for first through sixth grades. The five-year program costs a total of \$2,991 per student. Based on evaluation results to date, the Institute estimates that the program saves taxpayers \$3,068 in avoided criminal justice costs and saves crime victims \$3,191. With respect to criminal justice costs, the program breaks even for taxpayers and produces a positive \$3,268 return per student from a combined taxpayer and crime victim perspective.

CONCLUSION: The Institute’s economic analysis of the existing evaluation literature indicates that there are some interventions, if well implemented, that can lower crime rates **and** lower total costs. Some economically attractive programs are designed to reduce the odds that young children will ever begin committing crimes, and some are designed for juvenile offenders already in the criminal justice system. The legislature, in passing 1997’s E3SHB 3900, set up a process to implement some of these cost-effective interventions through the juvenile courts, and the Institute will evaluate their performance in Washington over the next several years.

Most existing state-funded programs that attempt to reduce crime, however, have never been rigorously evaluated. Thus, it is not possible to calculate their cost-effectiveness with any precision. If this knowledge gap is filled with targeted evaluation studies, the state can become more strategic in its criminal justice funding decisions.

For information call: Steve Aos, Robert Barnoski, or Roxanne Lieb at (360) 866-6000, ext. 6380.



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