### Using Benefit-Cost Analysis to Inform Public Policy: Washington State's (Evolving) Approach

Project LAUNCH Spring 2012 Training Institute May 15, 2012 Rockville, MD

#### Stephanie Lee

Senior Research Associate Washington State Institute for Public Policy E-mail: <u>slee@wsipp.wa.gov</u> Institute Publications: www.wsipp.wa.gov

#### Washington State Institute for Public Policy

#### Nature of the Institute

- ✓ Non-partisan, created by 1983 Legislature
- ✓ General purpose, "real-time" legislative research unit
- ✓ Projects assigned by legislative bills
- ✓ Legislative & executive Board



Recent Specific Directions to WSIPP from the WA Legislature What works?

## What are the costs & benefits of policies to improve these outcomes?

- ✓ Crime (1994, 1999, 2003, 2005, 2009),
- Education, Early Ed. (2003, 2006, 2009),
- ✓ Child Abuse & Neglect (2003, 2007, 2009),
- ✓ Substance Abuse (2003, 2005, 2009),
- Mental Health (2005, 2009),
- Developmental Disabilities (2008),
- ✓ **Teen Births** (1994),
- ✓ Employment (2009),
- Public Assistance (2009),
- ✓ Public Health (2009), and
- ✓ Housing (2009)

#### **Return on Investment:**

#### Washington State's Public Policy Environment

- Improving outcomes in a economically sound way is politically attractive, no matter one's party affiliation.
- Implementing economically sound programs can help balance a budget:
  - ✓ Avoid criminal justice/victimization costs
  - ✓ Avoid child welfare system/victim costs
  - ✓ Increase taxpayer benefits of education
- Tying findings to budget drivers can improve forecasting of populations and expenditures.

#### Return on Investment: Reporting Results



Washington State Institute for Public Policy

110 Fifth Avenue Southeast, Suite 214 • PO Box 40999 • Olympia, WA 98504-0999 • (360) 586-2677 • www.wsipp.wa.gov

Return on Investment:

April 2012

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 "evidencebased" 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.

Suggested citation: Lee, S., Aos, S., Drake, E., Pennucci, A., Miller, M., & Anderson, L. (2012). *Return on investment: Evidence-based options to improve statewide outcomes*, *April 2012 (Document* No. 12-04-1201). O/Jmpia: Washington State Institute for Public Policy.

#### 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 statewida.<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.

- We systematically assess evidence on "what works" (and what does not) to improve outcomes.
- We calculate costs and benefits for Washington State and produce a ranking of public policy options.
- 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

Reducing Crime With Evidence	Exhibit 4 Based Options: V	What Works	and Bene	efits & Costs	
Washington State Institute for Public Policy Estimates as of October, 2006	Effect on Crime		Benefits	and Costs	
Estimates as or Occoper, cuos Notes: "Ne" means not estimated at this time. Prevention program costs are partial program costs, pro-rated to match crime outcomes.	Outcomes Percent change in crime outcomes, & the number of evidence-based studies on which the estimate is based (in parentheses) (1)	Benefits to Crime Victims	articipant, Net P Benefits to Taxpayers (of the reduction in crime) (3)	resent Value, 2006 Costs (marginal program cost, compared to the cost of alternative) (4)	Dollars) Benefits (total) Minus Costs (per participant) (5)
Programs for People in the Adult Offender System Vicational devication in prices Intensive supervision: treatment-oriented programs General education in prison (basic devication or posts-econdary) Cognitive behavioral threary in prison or community Drug treatment in community Drug treatment in prison (fiberapeutic communities or outpatient) Adult drug courts Employment and job training in the community Employment and job training in the community Employment and job training in the community Mashington's Dangerously Mentally III Offender program Drug treatment in jail Adult bod common stational cognitive behavioral treatment Adult bod common stational cognitive behavioral treatment Adult bod common programs for adults	-0.0% (4) -16.7% (1) -7.0% (17) -6.3% (25) -3.3% (25) -3.3% (26) -3.5% (20) -3.5% (27) -3.5% (27) -	(2) \$8,114 \$3,318 \$6,325 \$5,658 \$5,133 \$4,395 \$2,373 \$4,395 \$2,373 \$4,4395 \$0 \$18,020 \$18,020 \$18,020 \$2,481 \$0 \$2,481 \$0 \$0 \$0 \$2,861 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$6,806 \$9,369 \$5,306 \$5,495 \$4,496 \$4,306 \$4,705 \$2,386 \$2,386 \$2,285 \$2,386 \$2,855 \$2,656 \$2,656 \$2,656 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,182 \$7,124 \$962 \$105 \$574 \$4,8417 \$1,804 \$4,333 \$400 \$12,585 \$3,747 n/e n/e n/e n/e	() \$13,738 \$11,663 \$10,059 \$10,054 \$9,439 \$7,835 \$4,767 \$4,359 \$870 -\$3,268 -\$3,747 n/e n/e n/e n/e
Programs for Youth in the Juvenile Offender System Multidimenional Teeriment Foed Carl (v. regular group care) Adolescent Diversion Frigot (for Iower risk offenders) Functional Family Therapy on probation Multisystemic Therapy Aggression Regularization the Sex offender complex offenders Juvenile boot camp to offender Institution time Restorative justice for low-risk offenders Juvenile to contrate probation supervision Audies probation supervision Regular surveillance-oriented parole (v. no parole supervision) Juvenile intensive products augenosis programs Juvenile intensive products supervision Counseling/specthotherapy for juvenile offenders Uvenile intensive products supervision Stared Straight Voet (for the supervision for the supervision Team Child Juvenile Intensive behavior and restored the and Team Child Diversion progs, with services (v. regular juvenile cont Juvenile otherse products supervision Team Child Juvenile otherse products supervision Counsed therapy programs Team Child Juvenile behavior modification Count supervision vs. simple release without services Uvenile to there products our supervision Count supervision vs. simple release without services Uvenile to there products our supervision Count supervision vs. simple release without services	$\begin{array}{c} -22.0\% & (3) \\ -14.9.0\% & (1) \\ -14.5.0\% & (10) \\ -15.5\% & (10) \\ -7.5\% & (10) \\ -7.5\% & (46) \\ -10.2\% & (46) \\ -10.2\% & (46) \\ -3.5\% & (16) \\ -3.5\% $	\$51,828 \$24,328 \$30,708 \$12,855 \$12,855 \$4,8977 \$5,907 \$3,21,285 \$4,997 \$5,907 \$3,24,18 \$4,232 \$0 \$0 \$23,126 \$4,332 \$0 \$0 \$23,126 \$4,1,181 \$15,009 \$5,23,126 \$4,411 \$14,441 \$14,441 \$14,441 \$14,441 \$14,441 \$14,441 \$14,441 \$14,441 \$14,441 \$14,441 \$15,009 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$12,915 \$18,208 \$14,617 \$5,622 \$6,655 \$4,230 \$5,377 \$3,370 \$3,377 \$3,370 \$3,377 \$3,370 \$3,377 \$3,370 \$3,377 \$3,377 \$3,370 \$5,377 \$3,377 \$3,377 \$5,377 \$5,0000\$\$5,00	\$6,945 \$1,913 \$2,965 \$2,224 \$3,224 \$3,069 \$8,077 \$3,3068 \$3,067 \$2,077 \$1,201 \$1,968 \$3,6400 \$4,6400\$\$4,6400\$\$	\$77,798 \$40,623 \$40,645 \$18,213 \$18,213 \$18,213 \$18,213 \$18,213 \$17,027 \$7,027
Guided Group Interaction Prevention Programs (crime reduction effects only) Nurse Family Partnership-Children Nurse Family Partnership-Children Sentite Social Development Project High school graduation Guiding Good Choices Parent-Child Interaction Therpy	0% (4) -56.2% (1) -16.4% (1) -18.6% (1) -18.6% (1) -10.4% (1) -9.1% (1) -3.7% (1)	\$0 \$11,531 \$8,632 \$8,145 \$1,605 \$1,738 \$570 \$268	\$0 \$8,161 \$4,922 \$4,644 \$4,341 \$2,851 \$2,092 \$784	n/e \$5,409 \$733 \$593 n/e n/e n/e n/e	n/e \$14,283 \$12,822 \$12,196 n/e n/e n/e n/e
Program types in need of additional research & development bref Programs needing more research for people in the datul offender Case management in the community for drug offenders Day frees (compared to standard scheduler) Domestic volence courts Faith-based organis Medical hearment of sax offenders in the community Medical hearment of sax offenders in the community Resplay parole supervision vs. no parole supervision Prostophie subcer programs for foreir ska adu offenders Work release programs (from prison) Pergaram sceduler (norm prison) Pergaram sceduler (norm prison) Pergaram sceduler (nor prison) Pergaram sceduler (nor prison) Pergaram sceduler (nor prison) Juveniel odive programs Juveniel brag programs Juveniel brag programs Juveniel brag programs Juveniel brag programs Juveniel brag prodice communities Benormy in younite justice	<u>system</u> 0% (13) -22.3% (1) 0% (2) 0% (5) 0% (4) -21.4% (1) 0% (2) 0% (1) 0% (6) -20.8% (2) -4.3% (4)	do or do not redue Comment Findings are mixed Too few evaluations Too few evaluations Too few evaluations Findings are mixed Too few evaluations Findings are mixed Findings are mixed Findings are mixed Findings are mixed Too few evaluations Too few evaluations	or this broad groupi to date. to date.	ng of programs. ng of programs.	

#### Benefit-Cost Analysis: The Basics

- Key features of benefit-cost analysis:
  - ✓ Lifespan time horizon
  - ✓ Societal perspective
  - ✓ Net present value
- What it can't do:
  - ✓ Evaluate all outcomes
  - ✓ Answer all policy questions

Benefit-Cost Analysis: The WSIPP Approach

"Are there evidence-based policy options that improve outcomes, at less cost?"

1. What works (to improve outcomes); what doesn't? We analyze <u>ALL</u>, <u>RIGOROUS</u> evaluations of <u>REAL WORLD</u> ways to improve the key public outcomes.

#### 2. What are the economics?

We compute the benefits and costs to the people of Washington (participants, taxpayers, and others) for each policy option.

3. How much risk of failure?

#### Individual Policy Option: Nurse Family Partnership

Total Cost Per Family	Total Benefits	Benefits Minus Cost	Benefit-Co Ratio		turn on estment	Probability of Positive Return
(\$9,600)	\$22,781	\$13,181	\$2.37		6%	80%
			Benefits	to:		
					Other	Total
Source of Benef	its	Participants	Taxpayers	Other	Indirect	Benefits
For Child						
Crime		\$0	\$939	\$2,634	\$476	\$4,049
Earnings via ed	ucation	\$3,205	\$1,180	\$0	\$587	\$4,972
Child abuse and	d neglect	\$696	\$113	\$0	\$56	\$865
K-12 grade repo	etition	\$0	-\$108	\$0	-\$54	-\$162
K-12 special ed	ucation	\$0	-\$1,047	\$0	-\$526	-\$1,573
Health care (dis	sruptive behavior)	\$20	\$59	\$58	\$30	\$166
Health care cos	ts via education	-\$3	\$26	-\$19	\$13	\$17
For Mother						
Crime		\$0	\$341	\$1,269	\$163	\$1,773
Earnings via ed	ucation	\$7,378	\$2,715	\$0	\$1,360	\$11,453
Public assistant		-\$869	\$956	\$0	\$485	\$572
Health care cos	ts via education	-\$135	\$1,046	-\$785	\$523	\$649
Total		\$10,291	\$6,219	\$3,158	\$3,112	\$22,781

#### Summarizing Across Policy Options: Reporting Results

			e-Rase	d Public	: Policie	5		
Summary of policy topics assigned to the Washing	ton State Ins	titute for	Public P	olicy by the			Legislati	ine .
Estimates for	Washington				Conte		mary Stat	lation
Topic Area/Program Senefits and costs are life-cycle present-values per participant. In 2011	Undated	Total	netary Ber Taspayer	Non-	Costs	Benefits I	Senelit to	Measured
Sanafita and costa are lite-cucle creaent-values per participant. In 2011 dollars. The programs are liated by major topic area, atthough some programs achieve benefits in multiple areas. Also, some programs achieve benefits that we cannot morelize, see linked documents for program-		Denefits		Taxpayer		Minus	Cost	Risk (odds of a
tenells that we cannot morelize; see linked documents for program-						(net present		positive ne
specific details.						value)		resert valu
Juvenile Justice								
Functional Family Therapy (Institutions <sup>2</sup> )	April 2012	\$70,370	\$14,470	\$55,095	(\$3,262)	\$67,100	\$21.57	100%
Accreasion Replacement Training (Institutions)	April 2012	\$62,947	\$12,973	\$49,970	(\$1,500)	\$61,440	\$41.75	94%
Muticimensional Treatment Foster Care	April 2012	\$39,197	\$0,102	\$31,032	(\$7,922)	\$31,276	\$4.95	05%
Functional Family Therapy (Probation)	April 2012	\$33,967	\$8,050	\$25,910	(\$3,261)	\$30,706	\$10.42	100%
Aggression Replacement Training (Probation)	April 2012	\$31,246	\$7,423	\$23,026	(\$1,510)	\$29,740	\$20.70	90%
Mutlevelenik Therapy (MST)	April 2012	\$32,121	\$7,130	\$24,903	(\$7,370)	\$24,751	\$4.30	90%
Family integrated Transitions (Institutions)	April 2012	\$28,137	\$5,751	\$22,300	(\$11,219)	\$16,910	\$2.51	91%
Drug Court	April 2012	\$13,667	\$3,004	\$10,503	(\$3,091)	\$10,576	\$4.42	94%
Coordination of Services	April 2012	\$5,501	\$1,412	\$4,005	(\$395)	\$5,100	\$13.94	02%
Victim Offender Mediation	April 2012	\$4,205	\$1,000	\$3,125	(\$579)	\$3,626	\$7.27	95%
Scared Straight	April 2012	(\$4,949)	(\$1,271)	(\$3,676)	(\$05)	(\$5,014)	(\$76.35)	0%
Juvenile lustice programs for which we have not calculated benefits	and costs (at )							
Cognitive Behavioral Therapy (general)	October 2006	1	iee previous W	SIPP <u>a block</u>	for peat find	inge.		
Diversion Programs Juvenile Root Campa	Ontober 2008 Ontober 2008		lee orevious V	NIPP OLDICATI	in for cast find	nos.		
Supervision for Juvenile Offenders	October 2008		ine previous W	SIPP outleast	for peet find	nge.		
Sex Offender Treatment for Juvenile Offenders	Ontober 2006	5	iee orevious V	SIPP D. Block	on for peat find	inge.		
Team Child Team Courte	October 2006 October 2006	1	iee previous W	(SIPP publication)	in for peat find	nga.		
Widemess Challence Process	Colober 2006		iee previous W	GIPP D. Block	tor past find	inge.		
Adult Criminal Justice Offender Re-entry Community Safety Program (dangerously mentally II offenders)	April 2012	\$70,538	\$10,120	\$52,415	(\$32,247)	\$30,200	\$2.19	100%
Drug Offender Sentencing Alternative (drug offenders)	April 2012	\$22,305	\$5,310	\$17,047				100%
Supervision with Risk Need and Responsivity Principles (Nich and moderate risk)			\$0,316		(\$1,542)	\$20,823	\$14.51	100%
	April 2012	\$24,203	\$5,017	\$10,300	(\$1,542) (\$3,543)	\$20,023 \$20,000	\$14.51 \$6.63	
Correctional Education in Prison	April 2012 April 2012	\$24,201 \$21,420						100%
Correctional Education in Prison	April 2012		\$5,017 \$5,230	\$10,300	(\$3,543) (\$1,128)	\$20,000	\$6.63	100%
		\$21,425	\$5,017	\$10,300	(\$3,543)	\$20,000 \$20,290	\$6.63 \$19.00	100% 100% 100%
Correctional Education in Prison Electronic Monitoring (radio frequency or global positioning systems)	April 2012 April 2012 April 2012	\$21,428 \$10,745	\$5,017 \$5,230 \$4,430	\$15,300 \$15,100 \$14,307	(\$3,543) (\$1,128) \$1,067 (\$1,571)	\$20,000 \$20,290 \$19,012	\$6.83 \$19.00 p/s	100% 100% 100%
Correctional Education in Prison Electronic Monitoring (radio frequency or global positioning systems) Viscational Education in Prison	April 2012 April 2012	\$21,425 \$10,745 \$20,446	\$5,017 \$5,250 \$4,450 \$5,017	\$10,000 \$15,100 \$14,000 \$15,425	(\$3,543) (\$1,128) \$1,067	\$20,000 \$20,290 \$19,012 \$10,075	\$0.03 \$19.00 t/s \$13.01	100% 100% 100% 100%
Connectional Education in Prison Electronic Monitoring (radio thequency or global positioning systems) Vecational Education in Prison Martial Health Caude	April 2012 April 2012 April 2012 April 2012 April 2012	\$21,42X \$10,742 \$20,44X \$20,424	\$5,017 \$5,234 \$4,436 \$5,017 \$4,996	\$10,300 \$10,100 \$14,307 \$15,425 \$15,425	(\$3,543) (\$1,120) \$1,067 (\$1,571) (\$2,935)	\$20,000 \$20,290 \$19,012 \$19,075 \$17,400	\$0.03 \$19.00 n/a \$13.01 \$0.90	100% 100% 100% 100% 100%
Consideral Education in Princip Electronic Monitoring (suffic frequency or global positioning systems) Monitorial Education of Princip Mantel Hashin County Disa Teachment in the Community	April 2012 April 2012 April 2012 April 2012 April 2012 April 2012	\$21,425 \$10,742 \$20,446 \$20,424 \$17,711	\$5,017 \$5,230 \$4,430 \$5,017 \$4,950 \$4,950	\$10,300 \$16,100 \$14,307 \$15,425 \$15,425 \$15,425	(\$3,543) (\$1,128) \$1,067 (\$1,571) (\$2,935) (\$1,602)	\$20,000 \$20,290 \$19,012 \$10,075 \$17,400 \$16,100	\$6.03 \$19.00 n/s \$13.01 \$6.90 \$11.05	100% 100% 100% 100% 100% 100%
Consideral Education in Prince Electronic Monitoring (radio Repuestor or global positioning systems) Visational Education in Enforce Mandal Talatha Counts Data Talatha Counts Data Counts	April 2012 April 2012 April 2012 April 2012 April 2012 April 2012	\$21,424 \$10,745 \$20,446 \$20,424 \$17,711 \$15,432	\$5,017 \$5,238 \$4,432 \$5,017 \$4,998 \$4,208 \$4,208 \$3,378	\$10,300 \$10,100 \$14,307 \$15,425 \$15,425 \$13,504 \$12,057	(\$3,543) (\$1,128) \$1,007 (\$1,571) (\$2,905) (\$1,002) (\$4,178)	\$20,000 \$20,200 \$19,012 \$10,075 \$17,400 \$16,100 \$11,255	\$6.63 \$19.00 n/s \$13.01 \$6.90 \$11.05 \$3.09	100% 100% 100% 100% 100% 100% 100%
Consistent Education in Prince Executive Monitoring (redic Requercy or global positioning systems) Volational Education in Education Monitor Hawth Counte Data Transmitti in the Community Data Transmitti in Education Data Transmitti in Education	April 2012 April 2012 April 2012 April 2012 April 2012 April 2012 April 2012	\$21,428 \$10,748 \$20,446 \$20,424 \$17,711 \$15,433 \$15,577	\$5,017 \$5,230 \$4,430 \$5,017 \$4,996 \$4,200 \$3,370 \$3,034	\$10,300 \$10,100 \$14,307 \$15,425 \$13,504 \$12,057 \$11,742	(\$3,543) (\$1,128) \$1,007 (\$1,571) (\$2,905) (\$1,502) (\$4,178) (\$4,003)	\$20,000 \$20,290 \$19,912 \$19,075 \$17,400 \$16,100 \$11,255 \$10,974	\$6.03 \$19.00 n/s \$13.01 \$0.90 \$11.05 \$3.09 \$3.09	100% 100% 100% 100% 100% 100% 100% 100%
Constituted Education in Private Executive Manifering (mails the party or global positioning systems) Martal Institu Caute Data Tanatana in the Constructly Data Counter Data Counte Data Counter Data Counter Data Counter Data Counter Data Counter	April 2012 April 2012 April 2012 April 2012 April 2012 April 2012 April 2012 April 2012	\$21,428 \$10,748 \$20,446 \$20,424 \$17,711 \$15,432 \$15,577 \$11,272	\$5,017 \$5,236 \$4,436 \$5,017 \$4,986 \$4,206 \$3,376 \$3,034 \$2,666	\$10,300 \$16,100 \$14,307 \$15,425 \$15,426 \$13,504 \$12,057 \$11,742 \$0,607	(\$3,543) (\$1,128) \$1,007 (\$1,571) (\$2,935) (\$1,602) (\$4,178) (\$4,603) (\$1,540)	\$20,660 \$20,290 \$19,012 \$10,075 \$17,400 \$16,100 \$11,255 \$10,974 \$9,733	\$6.03 \$19.00 n/s \$13.01 \$6.90 \$11.05 \$3.09 \$3.30 \$7.32	100% 100% 100% 100% 100% 100% 100% 100%
Consideral Education in Prince Executive Monitoring (mich Inspanse) or global positioning systems) Marini Hastin Courts Des Testiment in the Community Princ Courts Des Testiment in Prince Des Testiment in Prince Des Testiment in Prince Des Testiment Description (prince and high risk)	April 2012 April 2012 April 2012 April 2012 April 2012 April 2012 April 2012 April 2012 April 2012 April 2012	\$21,428 \$10,748 \$20,448 \$20,424 \$17,711 \$15,432 \$15,577 \$11,272 \$9,688	\$5,017 \$5,236 \$4,436 \$5,017 \$4,986 \$4,206 \$3,376 \$3,034 \$2,066 \$2,306	\$18,300 \$16,100 \$14,307 \$15,425 \$13,504 \$12,057 \$11,742 \$8,607 \$7,307	(\$3,543) (\$1,126) \$1,067 (\$1,571) (\$2,935) (\$1,602) (\$4,175) (\$4,003) (\$4,003) (\$1,540) (\$1,540)	\$20,000 \$20,200 \$19,012 \$10,075 \$17,400 \$16,100 \$11,255 \$10,974 \$9,733 \$9,203	\$6.63 \$19.00 n/s \$13.01 \$6.90 \$11.05 \$3.69 \$3.30 \$7.32 \$23.55	100% 100% 100% 100% 100% 100% 100% 100%
Consideral Education in Prince Electronic Monitoring (ratio Inspanso) or global positioning systems) Marcel Insult Courts Data Teatmonic Into Community Data Teatmonic Into Community Data Teatmonic InStanc Data Ordinater Electronicg Alternative (property effection) Cognities Electronic Teatrany (motivate and high ratio) Interioris Electronics (VMT Teatman)	April 2012 April 2012	\$21,42% \$10,742 \$20,446 \$20,424 \$17,711 \$15,432 \$15,577 \$11,272 \$9,696 \$15,105	\$5,017 \$5,236 \$4,436 \$5,017 \$4,986 \$4,206 \$3,376 \$3,034 \$2,066 \$2,306 \$3,010	\$18,300 \$16,100 \$14,307 \$15,425 \$13,504 \$12,057 \$11,742 \$8,607 \$7,307 \$11,555	(\$3,543) (\$1,126) \$1,007 (\$1,571) (\$2,935) (\$1,602) (\$4,176) (\$4,003) (\$4,003) (\$1,540) (\$1,540) (\$4,12) (\$7,874)	\$20,000 \$20,200 \$19,012 \$10,075 \$17,400 \$16,100 \$11,255 \$10,974 \$9,733 \$9,293 \$7,295	\$6.03 \$19.00 n/s \$13.01 \$6.90 \$11.05 \$3.05 \$3.30 \$7.32 \$23.55 \$1.93	100% 100% 100% 100% 100% 100% 100% 100%
Consideral Education in Prince Electronic Maniformia (mails Requestory or global positioning systems) Marchi Isath Courts Data Totationet in the Community Data Totationet in Prince Data Totationet Thereagy (moderate and high mid) Intenties Educations Thereagy (moderate and high mid) Intenties Educations Thereagy (moderate and high mid) Intenties Educations With Totationet Work Tablana	April 2012 April 2012	\$21,42% \$10,742 \$20,44% \$20,424 \$17,711 \$15,432 \$15,577 \$11,272 \$9,632 \$15,165 \$7,117	\$5,017 \$5,236 \$4,436 \$5,017 \$4,986 \$4,206 \$3,376 \$3,034 \$2,066 \$2,306 \$2,306 \$3,010 \$1,745	\$18,300 \$16,100 \$14,301 \$15,425 \$15,425 \$15,425 \$11,504 \$12,051 \$11,742 \$3,001 \$7,301 \$11,555 \$5,300	(\$3,543) (\$1,128) \$1,057 (\$1,571) (\$2,935) (\$1,602) (\$4,178) (\$4,178) (\$4,178) (\$4,178) (\$4,178) (\$4,178) (\$4,178) (\$4,178) (\$4,178) (\$4,178) (\$4,178) (\$4,178)	\$20,000 \$20,290 \$18,012 \$18,075 \$17,400 \$11,255 \$10,974 \$0,735 \$0,203 \$7,295 \$0,456	\$6.03 \$19.00 n/s \$13.01 \$6.96 \$11.05 \$3.09 \$3.36 \$7.32 \$23.55 \$1.92 \$10.77	100% 100% 100% 100% 100% 100% 100% 100%
Consideral Education in Prince Executive Mantening (matter Requestory or global positioning systems) Martial Hastin Courts Data Teatranet in the Community Princ Courts Data Teatranet in Prince Data Teatranet in Data (Data Teatranet Under Basedon Unity Transform) Computing Industries in Prince	April 2012 April 2012	\$21,424 \$18,742 \$20,446 \$20,424 \$17,711 \$15,432 \$15,577 \$11,277 \$9,082 \$15,166 \$7,117 \$7,042	\$5,017 \$5,230 \$4,430 \$4,960 \$3,377 \$3,377 \$3,375 \$3,377 \$3,059 \$2,300 \$2,300 \$1,745 \$1,712	\$10,300 \$16,100 \$14,307 \$15,425 \$13,504 \$12,057 \$11,742 \$13,504 \$12,057 \$11,742 \$3,007 \$11,555 \$5,300 \$5,325	(\$3,543) (\$1,528) (\$1,571) (\$2,935) (\$1,602) (\$4,602) (\$4,602) (\$4,602) (\$4,602) (\$4,540) (\$1,540) (\$1,540) (\$1,674) (\$1,674)	\$20,000 \$20,290 \$18,012 \$18,075 \$17,400 \$11,075 \$10,075 \$10,075 \$10,075 \$10,075 \$10,075 \$10,075 \$10,075 \$10,075 \$10,075 \$10,000 \$10,075 \$10,000 \$10,010 \$10,00	\$6.03 \$19.00 n/a \$13.01 \$6.96 \$11.05 \$3.06 \$3.06 \$7.32 \$23.55 \$1.93 \$10.77 \$4.97	100% 100% 100% 100% 100% 100% 100% 100%
Consideral Education in Prince Electronic Mandering (settis frequency or global positioning systems) Marcal Isath Courts Data Tautanoi In Education Data Tautanoi In Balan Data Tautanoi In Balan Data Statutoni Theory (modernic and high risk) Education Education With Transmets Handra Balana March Internet March Internet March Internet	April 2012 April 2012	\$21,424 \$18,742 \$20,446 \$20,424 \$17,711 \$15,432 \$15,577 \$11,272 \$9,692 \$15,165 \$7,117 \$7,042 \$5,501	\$5,017 \$5,231 \$4,431 \$4,501 \$4,501 \$4,501 \$4,200 \$3,370 \$3,050 \$3,370 \$3,050 \$3,050 \$3,050 \$3,050 \$3,050 \$3,050 \$3,050 \$3,050 \$3,050 \$4,050 \$5,050\$5,050 \$5,050\$\$\$5,050\$\$\$5,050\$\$\$5,050\$\$\$5,050\$\$\$5,050\$\$\$5,050\$\$\$5,050\$\$\$5,050\$\$\$5,050\$\$\$5,050\$\$\$\$5,050\$\$\$\$5,050\$\$\$\$\$5,050\$\$\$\$\$5,050\$\$\$\$\$\$\$\$	\$10,300 \$16,100 \$14,207 \$15,425 \$13,504 \$12,057 \$11,742 \$0,007 \$11,742 \$0,007 \$11,504 \$11,505\$1,505 \$1	(\$3,543) (\$1,128) (\$1,571) (\$2,925) (\$4,922) (\$4,923) (\$4,923) (\$4,923) (\$4,923) (\$4,923) (\$4,923) (\$1,540) (\$1,540) (\$1,542) (\$1,543)	\$20,000 \$20,290 \$19,012 \$18,075 \$17,400 \$11,255 \$10,974 \$9,733 \$9,203 \$7,206 \$4,456 \$5,625 \$5,300	\$6.03 \$19.00 n/a \$13.01 \$6.96 \$11.05 \$3.06 \$3.06 \$7.32 \$23.55 \$1.93 \$10.77 \$4.97 \$40.76	100% 100% 100% 100% 100% 100% 100% 100%
Consideral Education in Prince Excitence Maniformia (main Requiring or global positioning systems) Variational Education in Enform Variational Institutions Data Statution in the Community Data Statution In Prince Data Statution In Prince Data Statution Internet (property offenders) Data Statution Internet (property offenders) Environment Technol. Data Statutions Drug Environment Technol. Statutions Drug	April 2012 April 2012	\$21,424 \$10,745 \$20,446 \$7,711 \$15,432 \$15,577 \$11,272 \$9,685 \$15,165 \$7,117 \$7,042 \$5,501 (\$5,501 (\$5,501) (\$5,501)	\$5,017 \$5,232 \$4,432 \$5,017 \$4,986 \$3,057 \$3,054 \$2,066 \$3,054 \$2,066 \$3,051 \$1,712 \$1,311 (\$1,315]	\$10,300 \$16,100 \$14,400 \$15,425 \$15,425 \$13,504 \$12,551 \$11,555 \$5,100 \$7,301 \$11,555 \$5,300 \$5,300 \$5,300 \$5,410 \$4,450 \$4,450 \$4,450 \$4,450 \$4,450 \$4,450 \$4,450 \$4,450 \$4,450 \$4,450 \$4,450 \$4,450 \$4,450 \$4,5500\$400\$400\$400\$400\$400\$400\$400\$400\$400	(\$3,543) (\$1,128) (\$1,571) (\$1,571) (\$4,602) (\$4,178) (\$4,602) (\$4,178) (\$4,602) (\$4,178) (\$4,602) (\$4,178) (\$4,178) (\$1,417) (\$1,417) (\$1,417) (\$1,417)	\$20,000 \$20,290 \$18,075 \$17,400 \$11,255 \$10,733 \$9,203 \$7,285 \$6,456 \$5,506 (\$4,710)	\$6.83 \$19.00 n/s \$13.04 \$11.05 \$3.06 \$3.36 \$7.32 \$23.55 \$19.75 \$40.76 \$40.76 (\$0.14)	100% 100% 100% 100% 100% 100% 100% 100%
Constituted Education in Prince Eductorial Maniformia (mails Requesting or global positioning systems) Variational Education in Prince Data Transformia in Biogenerative Data Counter Data Data Internation Data	April 2012 April 2012	\$21,424 \$10,742 \$20,444 \$17,711 \$15,432 \$45,577 \$11,272 \$9,636 \$7,117 \$7,642 \$15,166 \$7,117 \$7,042 \$5,501 (\$5,501 (\$5,501) (\$5,501)	\$5,017 \$5,232 \$4,432 \$5,017 \$4,992 \$1,017 \$1,027 \$1,745 \$1,712 \$1,712 \$1,712 \$1,712 \$1,712 \$1,712 \$1,211 \$1,212 \$1	\$10,300 \$14,301 \$15,425 \$13,625 \$13,642 \$12,651 \$11,742 \$3,001 \$7,305 \$11,742 \$5,300 \$6,325 \$4,195 \$5,300 \$6,325 \$4,195 \$5,300 \$5,300 \$5,300 \$5,300 \$5,300 \$5,300 \$5,300 \$5,300 \$5,300 \$5,300 \$5,300 \$5,400\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$5,400\$\$\$\$5,400\$\$\$\$5,400\$\$\$\$5,400\$\$\$\$5,400\$\$\$\$5,400\$\$\$\$\$5,400\$\$\$\$\$\$\$\$\$5,400\$\$\$\$\$\$\$\$\$\$	(\$3,543) (\$1,25) (\$1,571) (\$2,525) (\$1,571) (\$4,571) (\$4,571) (\$4,571) (\$4,571) (\$4,571) (\$4,571) (\$4,571) (\$4,540) (\$4,540) (\$4,540) (\$1,417) (\$1,256) (\$4,140) (\$1,256)	\$20,000 \$20,200 \$18,012 \$18,012 \$10,075 \$17,400 \$11,205 \$10,974 \$9,733 \$10,974 \$1,205 \$10,974 \$1,205 \$10,974 \$1,205 \$10,974 \$1,205 \$10,075 \$10	\$6.83 \$19.00 n/s \$13.04 \$11.05 \$3.06 \$3.36 \$7.32 \$23.55 \$19.75 \$40.76 \$40.76 (\$0.14)	100% 100% 100% 100% 100% 100% 100% 100%
Consideral Education in Prison Electronic Mankering (and a heap may or global positioning systems) Markell Isath Courts Markell Isath Courts Data Teastronic Into Community Price Courts Data Teastronic Into Community Data Teastronic Into Courts Data Teastronic Into Courts Considered Into Into Courts Data State State Into Courts Considered Into Into Courts Data State State Into Courts Data State State Into Courts Data State State Into Courts Data Teastronic Into Programs Adult or Into Courts Data Teastronic Into Court	April 2012 April 2012	\$21,424 \$10,742 \$20,444 \$20,424 \$17,711 \$15,577 \$11,27 \$11,277 \$11,27 \$11,2777 \$11,2777 \$11,2777 \$11,2777\$1177\$11077\$100\$100\$100\$100\$100\$100\$1	\$5,017 \$5,220 \$4,430 \$5,250 \$4,260 \$4,260 \$4,260 \$3,370 \$3,354 \$2,560 \$3,560 \$1,746 \$1,746 \$1,741 \$1,311 (\$123) (\$1,165) \$1,961 \$1,965	\$10,300 \$10,100 \$14,400 \$15,425 \$13,500 \$12,650 \$11,550 \$11,550 \$11,555 \$5,300 \$5,300 \$5,300 \$5,300 \$41,555 \$4,100 (\$445) (\$3,742)	(33,543) (31,261) (31,271) (31,271) (34,272) (34,272) (34,272) (34,272) (34,272) (34,272) (34,272) (34,172) (34,142) (34,142) (34,142) (34,142) (34,142) (34,142) (34,142) (34,142) (34,142)	\$20,000 \$20,200 \$19,812 \$18,812 \$18,812 \$148,075 \$148,075 \$140,074 \$9,203 \$7,295 \$6,456 \$5,506 \$6,456 \$6,456 \$6,256 \$6,456 \$6,256 \$6,456 \$6,256 \$1,712 \$1,000\$1,000 \$1,000	\$6.83 \$19.00 n/s \$13.04 \$11.05 \$3.06 \$3.36 \$7.32 \$23.55 \$19.75 \$40.76 \$40.76 (\$0.14)	100% 100% 100% 100% 100% 100% 100% 100%
Consideral Education in Prison Electronic Monitoring (mails Requestory or global positioning systems) Variational Education in Prison Marchi Hashin Courte Dira Transmort in the Community Dira Transmort in Prison Dirag Official Contracting A Remarkss (property offenders) Dirgo Official Contracting A Remarkss (property offenders) Diractional Industries In Prison Encodermant Transmol Directions Official Directorial Contraction Encodermics Official Directorial Directorial Encoderman Directorial Adult Continues International Directorian Directorial Industries In Prison Directorial Industries Internations Official Directorial International Directorians Directorian Directorial International Directorians Directorians Directorial International Directorians Directorians Directorial International Directorians Directo	April 2012 April 2012	\$21,426 \$10,742 \$20,446 \$20,424 \$17,711 \$15,432 \$15,432 \$15,432 \$15,432 \$15,432 \$15,166 \$7,115 \$7,042 \$5,501 (\$4,900) (\$4,900) (\$4,900)	\$5,017 \$5,222 \$4,432 \$5,017 \$4,962 \$4,202 \$3,377 \$3,334 \$2,562 \$3,517 \$1,511 (\$123) (\$1,165) \$1,511 (\$123) (\$1,165) \$1,511 (\$123) (\$1,165)	\$10,300 \$16,100 \$14,207 \$15,425 \$15,425 \$15,425 \$13,504 \$12,557 \$13,504 \$12,557 \$13,504 \$13,504 \$142,557 \$14,555 \$1,556 \$5,305\$5,305 \$5	(33,543) (31,284) (31,271) (31,271) (31,271) (31,271) (31,271) (34,272) (34,173) (34,173) (34,173) (37,574) (37,574) (31,259) (34,140) (31,259) (34,140) (31,259) (34,140) (31,259)	\$20,000 \$20,200 \$19,812 \$18,812 \$18,812 \$148,100 \$11,255 \$10,974 \$9,203 \$7,295 \$6,466 \$6,925 \$6,946 (\$4,710) (\$6,206)	\$6.83 \$19.00 n/s \$13.04 \$11.05 \$3.06 \$3.36 \$7.32 \$23.55 \$19.75 \$40.76 \$40.76 (\$0.14)	100% 100% 100% 100% 100% 100% 100% 100%
Consideral Education in Prince Endersite Medical Education in Prince Metaboli Insulto Courte Metaboli Insulto Courte Metaboli Insulto Courte Disa Transmoto In the Construction Disa Construction Indiano Disa Officiale Educational Alemantes (property effective) Disa Courte Disa Courte Disa Courte Disa Courte Disa Courte Cognitive Educational Therapy (Inserting Mont Educational Educational Inter Compational Industries In Prince Environment Therapy (Inserting Adult Foot Courte Educational Educational Educational Educational Adult Foot Courte Educational Educational Education Educational Educational Education Educational Education Education Educational Educational Education Educational Educational Education Educational Educational Education Educational Educational Education Educational Educational Educational Education Educational Education Education Educational Education E	April 2012 April 2012 Catabar 2008 Catabar 2008 Catabar 2008	\$21,426 \$18,742 \$20,446 \$20,424 \$15,431 \$15,431 \$15,431 \$11,271 \$9,022 \$15,165 \$7,147 \$7,040 (\$5,501 (\$5,501 (\$5,501 (\$5,501)	55,017 55,224 54,432 54,955 54,956 54,202 53,377 53,054 52,502 53,074 51,712 51,311 (\$133) (\$1,165] (\$1,165] (\$1,165] (\$1,165] (\$1,165] (\$1,165] (\$1,165] (\$1,265] (\$	\$18,300 \$19,100 \$14,201 \$15,425 \$13,504 \$12,051 \$11,504 \$12,051 \$11,505 \$5,305 \$7,301 \$7,301 \$7,301 \$7,301 \$7,301 \$7,301 \$7,305 \$7,405\$7,405\$7,405\$\$7,405\$\$7,405\$\$7	(\$3,543) (\$1,128) \$1,067 (\$1,571) (\$1,902) (\$4,73) (\$4,73) (\$4,73) (\$4,903) (\$4,903) (\$4,903) (\$4,903) (\$4,903) (\$4,903) (\$1,574) (\$1,576)\\(\$1,576)	\$20,000 \$20,200 \$19,012 \$19,012 \$19,100 \$11,205 \$11,205 \$11,205 \$11,205 \$11,205 \$11,205 \$11,205 \$11,205 \$11,205 \$11,205 \$11,205 \$11,205 \$11,205 \$12,206 \$11,017 \$11,205 \$11,017 \$11,205 \$11,017 \$11,205 \$11,017 \$11,205 \$11,017 \$11,205 \$11,017\$\$11,017\$\$11,017\$\$11,017\$\$11,017\$\$11,017\$\$11,017\$\$11,017\$\$11,017\$\$11,017\$\$11,017\$\$11,01	\$6.83 \$19.00 n/s \$13.04 \$11.05 \$3.06 \$3.36 \$7.32 \$23.55 \$19.75 \$40.76 \$40.76 (\$0.14)	100% 100% 100% 100% 100% 100% 100% 100%
Consideral Education in Privan Electronic Mankering (settis Inspecting or global positioning systems) Martial Ileath Courts Data Tearlandon In Bears Data Tearlandon Iba Comunity Data Tearlandon Iba Comunity Data Courts Data Courts Data Courts Data Courts Data Courts Data Courts Data Courts Data Courts Data Courts Cognition Educationing Alematics (property offendes) Data Courts Data Court	April 2012 April 2012	\$11,427 \$20,447 \$20,447 \$17,711 \$15,577 \$15,577 \$11,277 \$15,577 \$11,277 \$15,577 \$11,277 \$15,577 \$11,277 \$15,165 \$7,117 \$7,042 \$5,501 (\$5,501 (\$5,501) (\$5,501)	55,017 55,226 54,426 54,202 54,202 53,057 53,056 54,056	\$10,300 \$16,100 \$14,207 \$15,425 \$15,425 \$15,425 \$13,504 \$12,557 \$13,504 \$12,557 \$13,504 \$13,504 \$142,557 \$14,555 \$1,556 \$5,305\$5,305 \$5	(\$3,543) (\$1,128) (\$1,271) (\$1,077) (\$1,022) (\$1	\$20,000 \$20,290 \$18,012 \$18,075 \$16,100 \$11,025 \$10,374 \$9,733 \$7,285 \$6,456 \$6,525 \$6,456 \$6,525 \$6,456 \$6,526 \$10,710 (\$6,296) \$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,526\$10,5	\$6.83 \$19.00 n/s \$13.04 \$11.05 \$3.06 \$3.36 \$7.32 \$23.55 \$19.75 \$40.76 \$40.76 (\$0.14)	100% 100% 100% 100% 100% 100% 100% 100%

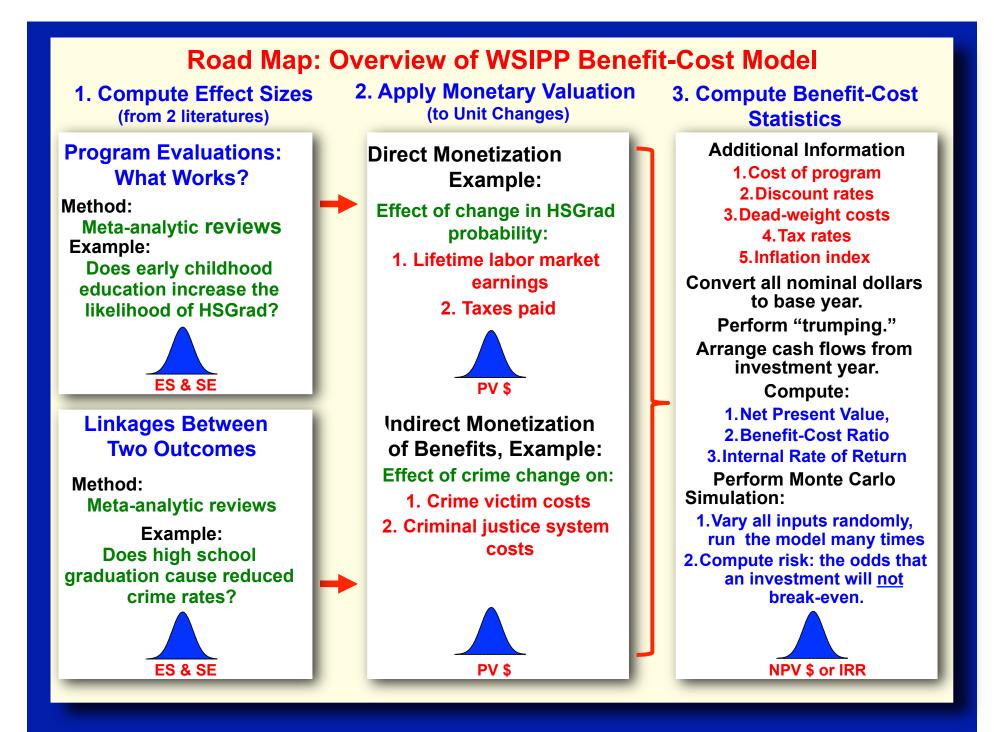
#### Our "Consumer Reports" Lists:

What Works?

What Doesn't?

What Can Give Washington Taxpayers a Good Return on Their Money?

Given the Current Level of Rigorous Research, What Don't We Know?



#### Step 1: What Works?



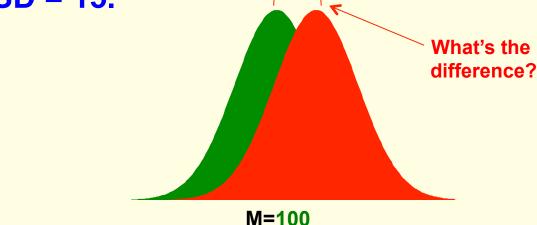
- Gather <u>all</u> the studies we can locate on a topic
- Apply "standards of evidence" to identify the high quality studies



 Analyze all of the higher quality studies to estimate an <u>average effect</u>

#### Step 1: Computing an Effect Size

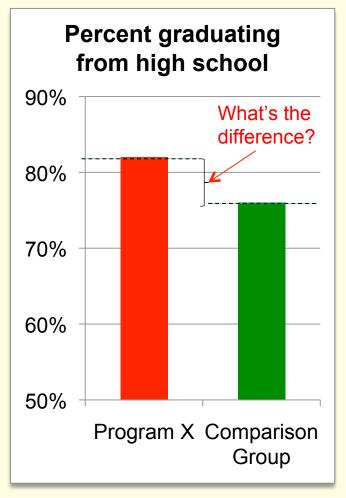
- Students who participated in Program X had mean test scores of 107.5, SD = 15;
- A comparison group had mean scores of 100,
  SD = 15.



=100 M=<mark>107.5</mark>

- ES = (M<sub>tx</sub>-M<sub>cn</sub>) / Pooled SD
- ES = 0.5

#### Step 1: Computing an Effect Size

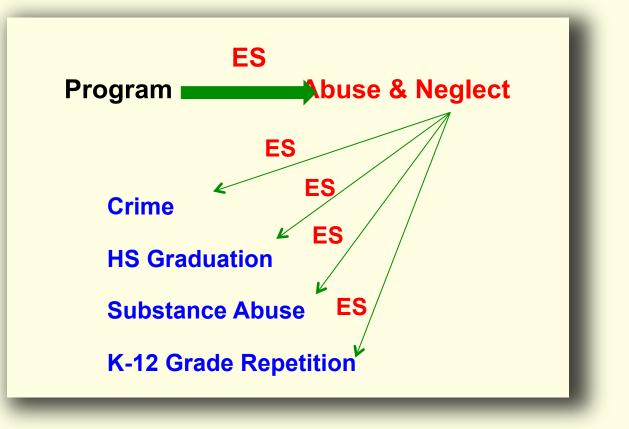


- Students who participated in Program X had a high school graduation rate of 82%;
- A comparison group had a rate of 76%.
- ES = LN((Tx%\*(1-Cn%)) / (Cn%\*(1-Tx%)))/1.65
- ES = 0.22



#### Step 1: Computing "Linked" Effect Sizes

 Are there long-term effects of program outcomes on other outcomes?





#### Step 1 Example: Functional Family Therapy Effect on Crime (Meta-Analytic Results)

1. Identify and Code Credible Studies	Effect	Number in treatment	Number in control	Inverse variance	Inverse variance weight	Specific	Adj Effect	
Study with Acceptable Rigor	Size	group	group	weight	(RE)	Outcome	Size	
Alexander & Parsons, 1973	-0.26	46	40	9.4	5.0	Convictions	-0.09	
Barnoski, 2004	-0.13	181	313	77.4	9.5	Convictions	-0.13	
Barton et al., 1985	-1.31	30	44	5.6	3.7	Arrests	-0.47	
Gordon et al., 1995	-1.18	23	22	3.7	2.8	Convictions	-0.59	
Hannson, 1998	-0.96	45	50	12.1	5.7	Arrests	-0.95	
Klein et al., 1977	-0.96	46	40	11.5	5.6	Convictions	-0.35	
Gordon, 1995	-0.76	27	25	8.0	4.6	Incarceration	-0.38	
Sexton & Turner, 2010	-0.25	283	325	150.1	10.1	Convictions	-0.09	

0.309 -0.323

8

681

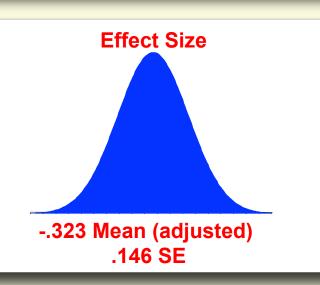
2. Compute Meta-Analytic Statistics	Random Effects Model
Weighted Mean ES:	-0.585
Standard Error:	0.146
p Value:	0.000
Lower 95% Confidence Interval:	-0.870
Upper 95% Confidence Interval:	-0.299
Q Statistic:	8.279

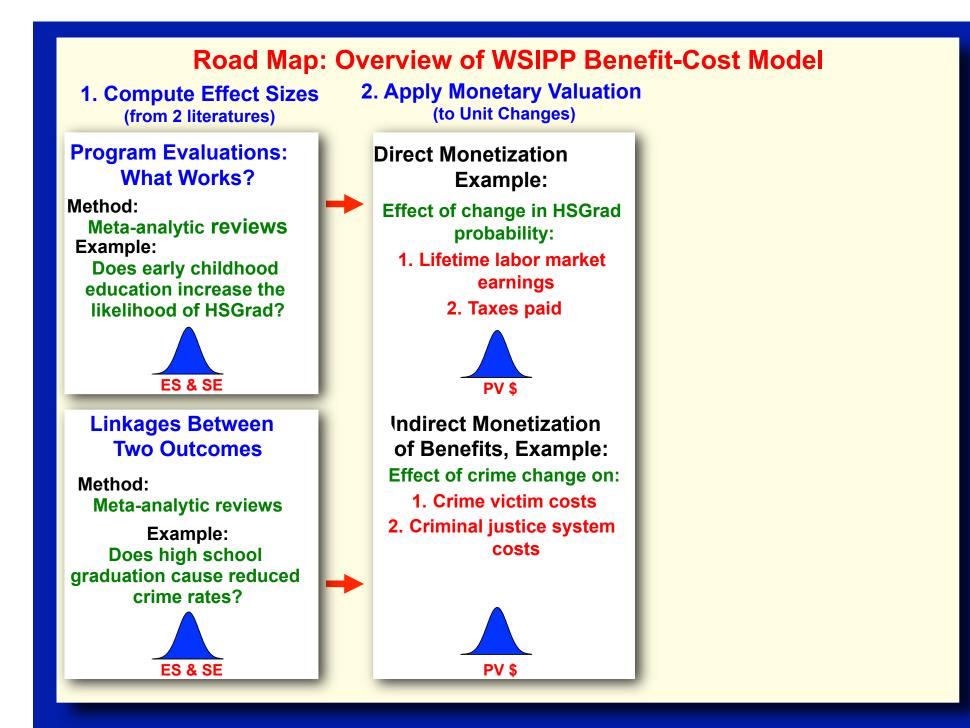
p-value on Q:

Adjusted Weighted Mean ES

Number of studies in the analysis:

# of subjects in treatment groups:





#### Step 2: Establishing a Baseline

- Who does the program target?
- What are the characteristics of that population, relative to the measured outcomes?
  - Substance abuse
    - ✓ Treatment for those with abuse/dependence
    - ✓ Prevention
  - Crime
    - Low-risk, community supervision
    - ✓ High-risk, exiting prison
- Do the costs of resources differ among populations?
- Are certain populations more likely to use resources than others?

### Step 2:

#### **Estimating Benefits and Costs**

- What are the costs of the program? Compared to what?
- What are the long-term effects of program outcomes on:
  - 1. The participant
    - ✓ Increased education
    - ✓ Reduced abuse/neglect

#### 2. The taxpayer

- ✓ Avoided incarceration costs
- ✓ Avoided child welfare system costs

15 of 23

#### 3. Other people in society

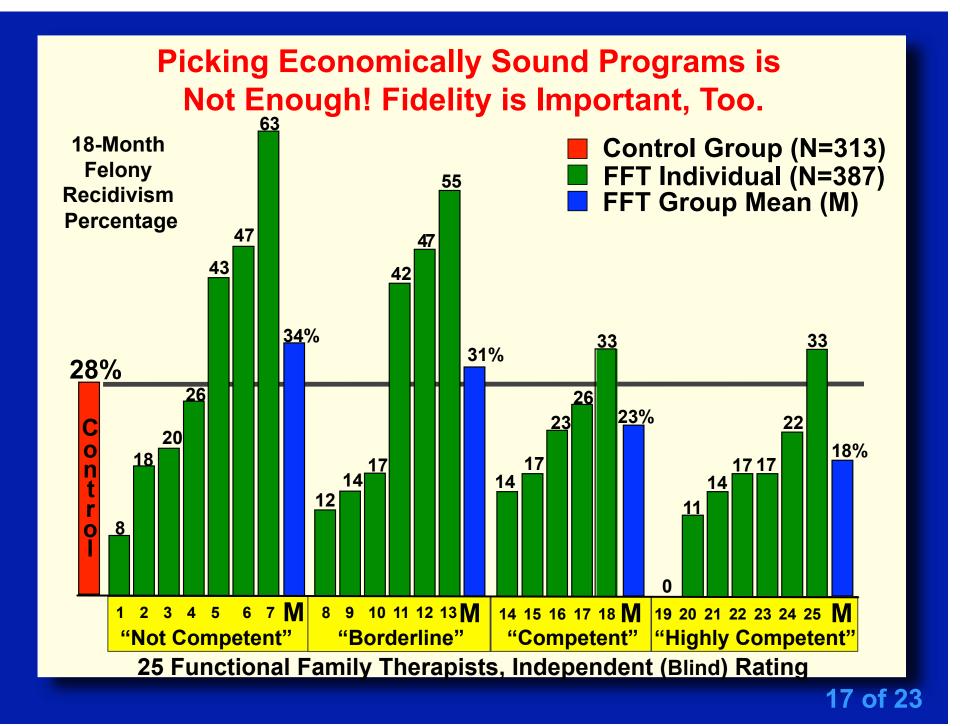
Reduced victimization

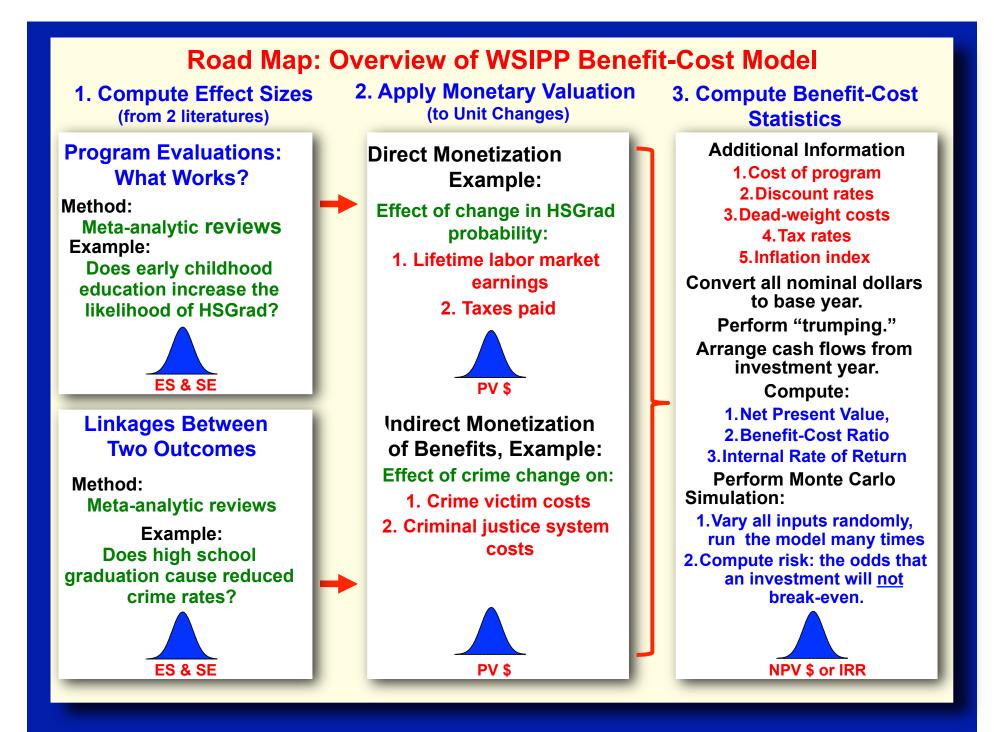
#### **Step 2 Example:**

#### Early Childhood Education for Low-Income Children

Total Cost Per Family Total Benefi	Benefits Minus ts Cost	Benefit-Co Ratio		eturn on estment	Probability of Positive Return
<b>(\$7,523)</b> \$22,457	\$14,934	\$2.99		6%	100%
		Benefits	to:		
Source of Benefits	Participants	Taxpayers	Other	Other Indirect	Total Benefits
For Child	i antoipanto	τακράγοτο	Cthor	indiroot	Denoine
Crime	\$0	\$1,371	\$4,075	\$686	\$6,132
Earnings via education	\$8,241	\$3,033	\$0	\$1,517	\$12,791
Child abuse and neglect	\$878	\$132	\$0	\$66	\$1,077
Out-of-home placement	\$0	\$251	\$0	\$126	\$376
K-12 grade repetition	\$0	\$217	\$0	\$108	\$325
K-12 special education	\$0	\$723	\$0	\$363	\$1,087
Property loss (via disordered dr	ug use) \$1	\$0	\$1	\$0	\$2
Health care costs via education	-\$138	\$1,076	-\$804	\$535	\$668
Total	\$8,982	\$6,802	\$3,272	\$3,401	\$22,457

A Brief Sidebar . . .



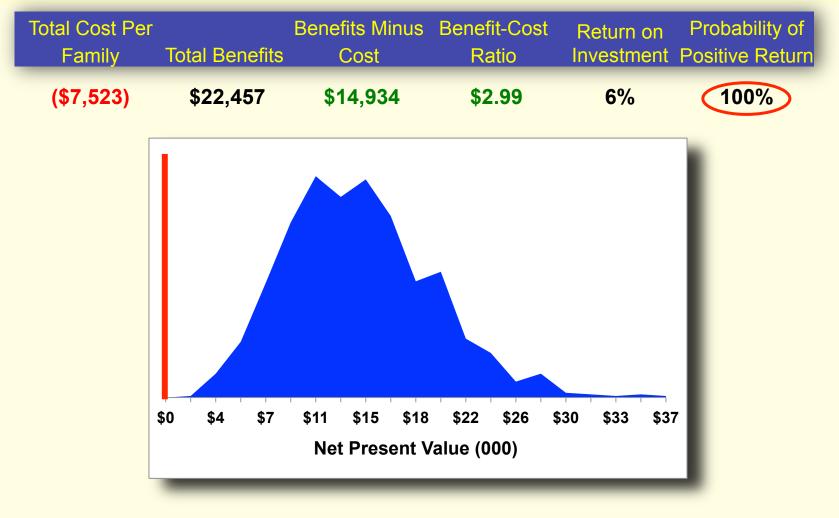


#### Step 3: Assessing Risk

- How risky is an investment?
- Measurement error, e.g.,
  - ✓ Effect size
  - ✓ Program cost
- Incorrect assumptions, e.g.,
  - ✓ Discount rate
  - Rate of deadweight cost
- Monte Carlo analysis
  - ✓ Randomly vary inputs
  - ✓ 500 to 10,000 iterations

#### **Step 3 Example:**

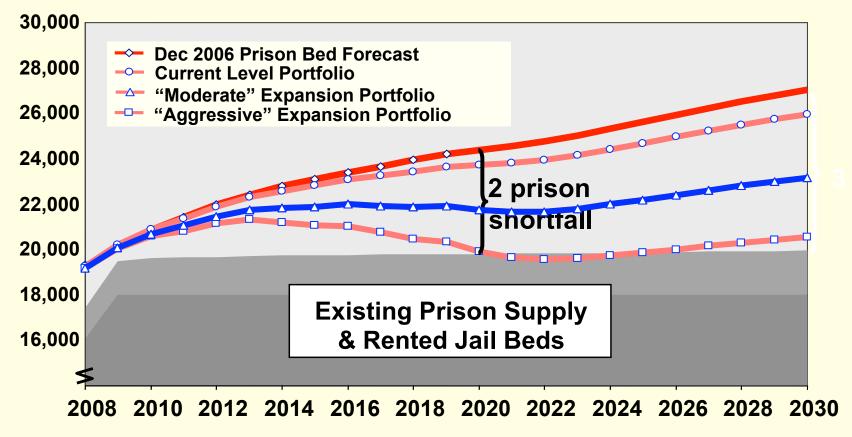
#### Early Childhood Education for Low-Income Children



#### Individual Policy Option: Nurse Family Partnership

Total Cost Per Family	Total Benefits	Benefits Minus Cost	Benefit-Cost Ratio	Return on Investment	Probability of Positive Return
(\$9,600)	\$22,781	\$13,181	\$2.37	6%	80%

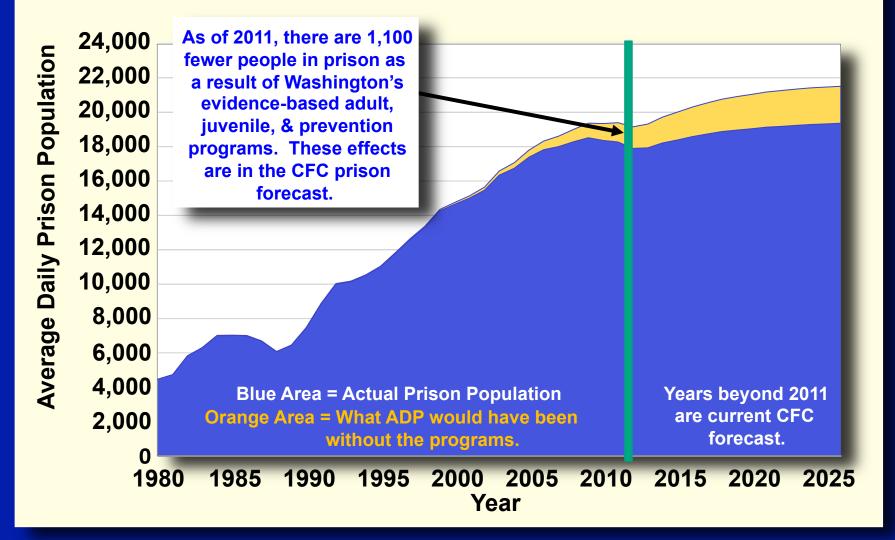
#### Example from the Washington Legislature: How Information is Used



#### Prison Supply & Demand in Washington: 2008 to 2030

#### Keeping Track of Results: Prison Beds Avoided

**Cumulative Effect of Washington's History of Evidence-based Programming** 



What Washington State has Learned

It is increasingly possible to...

- Use rigorous evidence to identify what works and what doesn't.
- Calculate return on investment information routinely, and consistently.
- ✓ Have the information actually used in policy making.

It is also important to...

 Be patient. Policy making is a "people-oriented" enterprise. Policy makers are not benefit-cost robots.

# Thank You

## **Mount Rainier, Washington State**