



States' Use of Cost-Benefit Analysis

Improving Results for Taxpayers

JULY 2013

The Pew-MacArthur Results First Initiative, a project of The Pew Charitable Trusts and the John D. and Catherine T. MacArthur Foundation, works with states to implement an innovative cost-benefit analysis approach that helps them invest in policies and programs that are proven to work.

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For additional information, visit www.pewstates.org.

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Overview

In this age of fiscal stress for state governments, it is more important than ever that policy leaders direct public resources to the most cost-effective programs and policies while curbing spending on those programs that have proved ineffective. But to do this well, policymakers need reliable approaches that can help them assess budget choices and identify the best investments for taxpayers. Results First, a joint initiative of The Pew Charitable Trusts and the John D. and Catherine T. MacArthur Foundation, conducted a first-of-its-kind study to measure states' use of one proven method to achieving this goal. Cost-benefit analysis is an approach that compares the expense of public programs to the returns they deliver, enabling policymakers to direct public funds to activities that deliver high returns and to eliminate or restructure programs found wanting.

While states are increasingly using costbenefit analysis, this report found that they vary greatly in how often they conduct them, the breadth of those assessments, and how they use the results to improve government performance. The bottom line is that there is strong growth in the application of cost-benefit analyses, yet states could be making wider and better use of them.

Results First's research answers three critical questions: Are states conducting cost-benefit analyses? Do they use the results when making policy and budget decisions? And what challenges do states face in conducting and using these studies? The analysis includes a systematic search and assessment of state costbenefit studies released between January 2008 and December 2011. Results First's researchers also conducted interviews with legislative and program evaluation staff, executive officials, report authors, and agency personnel to better understand the use and influence of cost-benefit analysis in the states.

OVERVIEW

To derive this report's findings, researchers evaluated states on three criteria (see Page 10 for more detail):

- 1. Production: the number of costbenefit studies released per year during the four-year study period.
- 2. Scope: whether these studies assessed multiple program alternatives—that is, different service models intended to achieve the same outcomes—to compare policy solutions.
- 3. Use: whether and the extent to which study findings influenced budget and policy decisions.

The research did not include a comprehensive examination of the quality of the cost-benefit analyses, which varies substantially. A minimum standard, particularly the inclusion of specific cost and outcome data, was applied, however, for determining whether to include each analysis in the overall count of studies conducted. But the three criteria did yield a baseline assessment of states' commitment to conducting and using cost-benefit analyses. For each criterion, as well as the overall aggregate of all three, states were ranked as leading the way, having mixed results, or trailing behind.

The Results First study finds:

- **Overall**: Ten states were leading the way when aggregating their performance on all three criteria. These states reliably conducted costbenefit analyses to generate answers about the return on investment of programs and to drive policy decisions, particularly in their largest budget areas. Twenty-nine states and the District of Columbia had mixed results, using cost-benefit analyses but less effectively or consistently than those leading the way. Eleven states were trailing behind. Nationally, the production, scope, and use of cost-benefit analyses are inconsistent across both states and policy areas.
- **Production**: All states and the district produced at least one costbenefit study between 2008 and 2011, but their level of activity varied widely.
- **Scope**: Twenty-nine states and the district conducted at least some studies that evaluated multiple program or policy options for making smarter investments of public dollars.
- **Use**: Thirty-six states reported that at least one of their cost-benefit analyses influenced policy decisions or debate. This included either having a direct impact on budget and policy actions—such as increasing funding for effective programs and cutting or eliminating low-return ones—or

OVERVIEW

more generally initiating and informing public and political discourse about issues—specifically if it received media attention or was presented to and/or discussed by key executive or legislative officials. In general, states are not yet utilizing cost-benefit analyses regularly or reliably enough to broadly inform their policy and funding choices.

 Many states face significant challenges both to undertaking studies and to ensuring the appropriate effect on policy and budget choices, but strategies are available to help them use cost-benefit analysis to better ensure that taxpayer funds are used wisely.

This report examines the findings in depth, documents the contributions that costbenefit analyses provide to effective state policymaking, and identifies both the barriers states face in using these results and strategies to overcome those obstacles. It is intended to serve as a resource for policy leaders seeking to expand their use of costbenefit analysis and as a baseline for future studies of states' progress in using rigorous evidence to better inform tough budget and policy choices.

THE PEW-MACARTHUR RESULTS FIRST INITIATIVE

The Pew-MacArthur Results First Initiative, a joint project of The Pew Charitable Trusts and the John D. and Catherine T. MacArthur Foundation, works with states to implement an innovative cost-benefit analysis approach that helps them invest in policies and programs that are proved to work. Launched in 2010, the initiative offers tailored cost-benefit analyses to states and helps them use the findings to inform policy decisions.

The Results First cost-benefit model is based upon a widely recognized analytical approach developed by the Washington State Institute for Public Policy that evaluates a broad range of programs and policies using the latest research to predict costs and benefits as completely and accurately as possible.

Currently, a good deal of work that is called cost-benefit analysis is informal and "ragged around the edges," in the words of Lynn Muchmore, retired director of the Fiscal Research Division in North Carolina. "I think there is a lot to be done in terms of formalizing and refining the [analytical] process so that it can be consistently applied and so that it produces outcomes one can have faith in."

To address these challenges, Results First provides, in addition to the model itself, a range of services to help participating states develop a strong capacity to conduct cost-benefit analysis using customized versions of the model:

(continues on Page 5)

THE PEW-MACARTHUR RESULTS FIRST INITIATIVE

continued

- Training and assistance. Results First provides ongoing technical assistance to states as they develop their own cost-benefit analysis model based on the Washington state model. This help is provided through a series of site visits as well as remote assistance via webinars and conference calls.
- Information sharing. Results First creates opportunities for participating states to share information and lessons learned. This includes hosting several meetings each year that bring together staff and policymakers from participating states as well as developing listservs and Web resources that enable states to quickly access reports and other products developed throughout the Results First community of practice.
- Standardized approach for valuing benefits and costs. The Results First model uses a well-established process for estimating the costs and benefits of a wide range of programs that enables states to compare results across programs and to incorporate in-state research to further customize the results. National panels of experts have validated this approach, providing greater assurance that the results will be reliable.

i Pew-MacArthur Results First Initiative interview with Lynn Muchmore, former director, Fiscal Research Division of North Carolina, March 13, 2012. Quality assurance. Results First conducts in-depth reviews of the costbenefit analysis models developed by participating states to ensure that they have appropriately customized Washington state's model, have correctly entered state-specific data, and have produced results that meet best practices.

These services can help make costbenefit analysis even more useful to policymakers as they strive to provide the most effective public services for the least cost.

With the support of the Pew-MacArthur Results First Initiative, 14 states are implementing and customizing the model to analyze their own policies and programs and applying those findings to policymaking.

Pew and MacArthur are committed to advancing the use of this vital approach and to transforming the way that states budget for results through the broader adoption of evidence-based policymaking.

To learn more, visit www.pewstates.org/resultsfirst.

Key findings

Results First researchers evaluated states on their use of cost-benefit analyses using three criteria: the number of studies they conducted, the breadth of these studies in terms of assessing program options, and how states used the results to inform their budget and policy decisions. For each criterion, the states were rated using three categories: leading the way, having mixed results, and trailing behind. The ratings from each category were then combined to give each state an overall rating on their use of cost-benefit analyses.

Overall: Ten states led the way nationally in the production, scope, and use of cost-benefit analysis to support data-driven policymaking.

These states were among the leaders in at least two of the three study criteria and trailed in none.

The top states—Florida, Kansas, Minnesota, Missouri, New York, North Carolina, Utah, Virginia, Washington, and Wisconsin—each generally released more studies than mixed or trailing states, systematically assessed the costs and benefits of multiple program alternatives, and used results to inform policy or budget decisions. Two of these states, New York and Washington, were leaders on all three criteria.

Twenty-nine states and the district had mixed results—each generally releasing fewer studies than the leaders and making less effort than leading states to assess program alternatives and/or embed the results in decision-making.

Eleven states trailed behind—each releasing very few studies over the four-year period and making little or no effort to assess program alternatives or use the results in policy and budget debates.

Production: All states and the district conducted at least one cost-benefit study over the four-year period. The 50 states and the district conducted at least 348 cost-benefit analyses between 2008 and 2011, with the majority concentrated in just 12 states and nearly all focused on major budget priorities. The number of states conducting cost-benefit analyses and the number of studies themselves increased significantly between 2008 and 2011:

- 11 states—California, Florida, Kansas, Minnesota, Missouri, New York, North Carolina, Ohio, Utah, Virginia, and Washington—led the way in the production of cost-benefit analyses, releasing at least 11 studies each, or an average of three or more per year.
- 27 states and the district had mixed results, releasing between three and 10 studies over the four-year study period.
- 12 states trailed behind, releasing fewer than three studies over the four years. Four states—Alabama, Arizona, Kentucky, and North Dakota—released only one cost-benefit report during the study period.
- The number of states that produced reports increased 48 percent over the four-year study period.
- The number of reports nationwide increased 79 percent over the fouryear study period.

Scope: Twenty-nine states and the district used cost-benefit analyses to assess multiple program or policy options for making smarter investments of taxpayer dollars.

Overall, however, only 18 percent of cost-benefit studies assessed at least two program alternatives.

- 5 states—Alaska, New York, Pennsylvania, Washington, and Wisconsin—led the way in systematically assessing the combined costs and benefits of a portfolio of policy options.
- 24 states and the district had mixed results, releasing reports that assessed program alternatives separately rather than combined as a packaged investment.
- 21 states trailed behind, conducting studies that assessed only one program.

Use: Twenty-nine states reported that cost-benefit studies had directly influenced legislative or executive action, including decisions to fund or eliminate programs. Overall, 52 percent—or 99 of 190—of the cost-benefit reports assessed through interviews had some recognized effect on policymaking:

 29 states led the way in using costbenefit analysis to drive specific budget and policy action.



- 7 states had mixed results—reporting their studies did not directly influence policy, but provided critical information for legislatures, executive offices, and the public to consider in discussions and deliberations.
- 14 states and the district trailed behind, reporting that their costbenefit studies did not have any effect on discourse or decision-making.

State officials reported political and practical obstacles in conducting cost-benefit analysis and applying it to policymaking. Comprehensive cost-benefit analyses require technical skill, solid data, time, money, and staff. A lack of some or all of the needed expertise and resources can prevent a state from undertaking an analysis, lower a study's quality, or reduce the effect on policy. Further, examining the long-term costs and benefits of programs can conflict with the political

process, which often focuses on short-term outcomes. Policymakers may overlook proven programs that do not provide an immediate return on investment.

Extensive interviews showed that strategies are available to improve the feasibility and quality of state costbenefit studies as well as their effect on policymaking. To ensure that costbenefit analyses are reliable and influential, researchers should:

- Engage with policymakers to help them better understand costbenefit analysis.
- Ensure transparency in the analytic process to build trust and avoid the appearance of bias.
- Communicate results in clear, accessible, and readily understandable ways.

What is cost-benefit analysis, and why is it important?

Cost-benefit analysis is an analytical approach that evaluates the costs of public programs relative to the benefits they achieve for taxpayers. By projecting and assigning current dollar values to predicted outcomes, ideally including all direct and indirect effects, and comparing those with the costs, cost-benefit analyses determine whether each program would generate a net positive benefit to society. The results are usually reported as a benefit-cost ratio. For example, a 5.4-1 ratio indicates \$5.40 of net value for taxpayers for every \$1 in funding.

Cost-benefit analysis enables states to know before expending tax dollars whether proposed investments will likely generate beneficial results that outweigh their costs. These studies can also identify programs that are not producing enough benefits to justify continued funding, allowing policymakers to eliminate those activities and use the money for other purposes. When cost-benefit analyses examine multiple programs—such as alternative drug treatment programs for

adult criminal offenders—they can help state leaders direct funding to the highest-return options, improving outcomes for citizens.

Performing cost-benefit analysis is not easy. It requires technical skill, solid data, and a willingness to invest time and financial resources in the research. But employing this rigorous approach provides a much more comprehensive assessment of options than do simpler analyses. For example, if a state takes a narrow approach to assessing whether it is cost-effective to reduce the number of school dropouts, looking only at current education spending, it may seem that lowering the dropout rate is not costeffective because annual costs for teachers and materials go up when enrollment is higher. But a cost-benefit analysis provides a more complete perspective, showing that high school graduates generally pay more taxes, use fewer social services, and tend to be healthier. Long term, then, effective dropout prevention generates benefits that greatly reduce overall taxpayer costs.1

METHODOLOGY

This investigation began with a comprehensive search for cost-benefit reports released by states between January 2008 and December 2011. We identified reports by sending an electronic survey to state offices considered likely sponsors of costbenefit studies and by examining their websites. Our interviews with state officials (described below) uncovered additional reports. Through this process, we identified and reviewed over 1,000 reports. We also conducted Westlaw and CQ StateTrack searches to identify statutory mandates and legislative bills related to the production and use of cost-benefit studies.

We narrowed this list of identified reports by excluding studies that did not examine state programs or failed to meet a minimum technical standard for cost-benefit analysis, particularly those that lacked any form of cost and outcome assessment (see Appendix A on Page 40 for a complete list of technical standards). A total of 348 reports met our criteria.

We interviewed approximately 360 state policymakers, agency officials, and researchers to discuss the reports, their impact, how long they took to conduct, how much they cost, and obstacles that states face in completing and using cost-benefit analyses. We conducted between six and 10 interviews in nearly all states and attempted to discuss each of the 348 reports, but the state

officials we talked with could speak knowledgably about only 55 percent—190—of the reports.²

With the data collected, we assessed how the 50 states and the district are using cost-benefit analysis by examining three key factors and then ranked states as leading the way, having mixed results, or trailing behind on each factor and overall (Figure 1):

Production: The number of costbenefit reports that each state and the district produced over the four-year study period.

- Leading the way: Produced at least 11 reports.
- Mixed results: Conducted between three and 10 reports.
- Trailing behind: Produced two or fewer reports.

Scope: the extent to which studies systematically assessed the costs and benefits of alternative program or policy options.

- Leading the way: Assessed the combined costs and benefits of a portfolio of alternatives.
- Mixed results: Assessed alternative policy options separately rather than combined as a packaged investment.
- Trailing behind: Conducted no studies or assessed only one program alternative.

(continues on Page 11)

METHODOLOGY

continued

Use: How states and the district used cost-benefit reports to drive policy and budget decisions.

- Leading the way: Reported a study directly influenced legislative or executive action, including decisions to fund or eliminate programs.
- Mixed results: Reported studies that did not directly influence policy, such as providing key information that was considered by legislatures and executive offices, but did not lead to budget or law changes.
- Trailing behind: Reported no evidence that studies had direct or indirect influence on decision-making.

Overall rankings: Combining the three ratings yields an overall picture of each state's cost-benefit use.

- Leading the way: Led the way in at least two categories and trailed in none.
- Mixed results: Led the way in two categories but trailed in a third, had mixed ratings in at least two categories, or led in one category, was mixed in a second, and trailed in third.
- Trailing behind: Trailing ratings in at least two categories.

For a full discussion of the methodology, see Appendix A.

FIGURE 1

States could make better use of cost-benefit analysis

3 criteria for ranking the states

	Leading the Way	Mixed Results	Trailing Behind
Rating Cost- Benefit Analysis Production	11+ studies	3-10 studies	0-2 studies
Rating Cost- Benefit Analysis Scope	Portfolio of alternative programs or policies assessed	2+ alternative programs or policies assessed	0-1 alternative programs or policies assessed
Rating Cost-Benefit Analysis Use	Direct impact	Sparked or informed discourse	No reported impact
Overall	Leading in at least two categories, trailing in zero catgories	* Leading in two categories, trailing in one category; * Mixed in at least two categories; or * Leading in one category, mixed in a second, and trailing in a third	Trailing in two or more categories

WHAT IS COST-BENEFIT ANALYSIS, AND WHY IS IT IMPORTANT?

Of course, cost-benefit studies have limits. They typically do not consider questions of fairness and face constraints in putting a price tag on all program outcomes. "A lot of benefits cannot be monetized, and you can miss a lot of them," states Kathryn Newcomer, director of the Trachtenberg School of Public Policy and Public Administration at the George Washington University. She rightly worries that when cost-benefit analyses measure all costs but fail to capture all benefits to society, programs appear less cost-effective than they actually are.

Nonetheless, cost-benefit analysis, which is widely used in the private sector to guide investment choices, is a powerful approach that can help state leaders make much more informed decisions on whether programs are a good use of taxpayer dollars. This discipline can help states move beyond funding allocations based solely on history, anecdotes, or ideology, and toward evidence-based policymaking that uses solid data and analysis to guide budget choices.

Overall rankings

10 states led the nation in production, scope, and use of cost-benefit analysis to support data-driven policymaking

Results First analyzed states' use of costbenefit analysis by focusing on three key factors. By aggregating the states' ratings on those criteria, the researchers developed an overall ranking for each state and the district.

All states and the district conducted at least one study over the four-year period, although the number and frequency varied significantly. Less common was the application of cost-benefit analysis to systematically assess a range of program alternatives and the influence of reports on policy and budget decisions. Figure 2 on Page 14 shows the overall rankings of the 50 states and the district in terms of their effective employment of cost-benefit analysis.

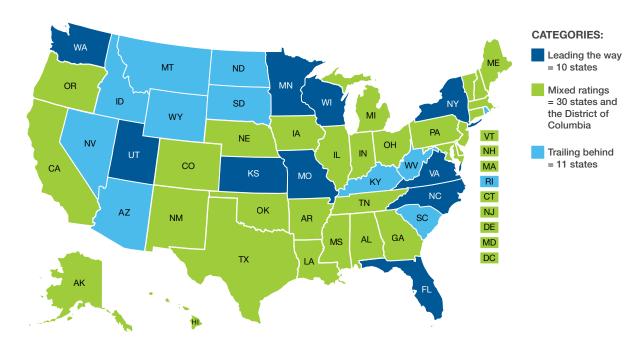
Ten states—Florida, Kansas, Minnesota, Missouri, New York, North Carolina, Utah, Virginia, Washington, and Wisconsin—were among the leaders in at least two of the rating criteria, making them national leaders on the use of cost-benefit analysis in policymaking. These states generally conducted the most studies, had at least one report that included a range of policy alternatives, and reported more frequent direct effects on budget and program decision-making. Two of these states, New York and Washington, led on all three of the study criteria.

A majority of states—29—and the District of Columbia had mixed results, falling in the middle of the pack on at least two criteria. These states tended to conduct

FIGURE 2

10 states led the nation in applying cost-benefit analysis to policymaking

State rankings-overall production, scope, and use of cost-benefit analyses



SOURCE: Pew-MacArthur Results First Initiative

multiple studies, but their use of costbenefit analysis to evaluate portfolios of program choices and the extent to which their reports influenced policy or budget decisions were typically limited.

The remaining 11 states lagged behind their peers, producing few studies, making little effort to evaluate multiple alternatives, and reporting very little meaningful policy or budget impact from their analyses.

Production

All states and the District of Columbia conducted at least 1 study over the 4-year period, but fewer than one-quarter released more than 10

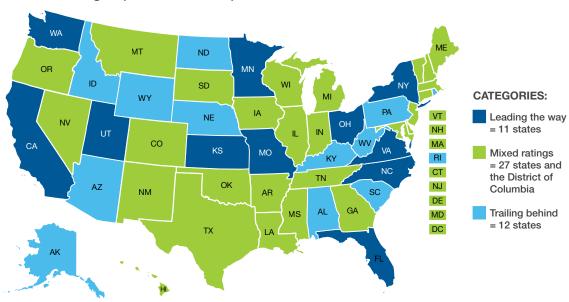
Nationwide, all states and the district conducted cost-benefit studies between 2008 and 2011; collectively they issued 348 reports during this period that met criteria previously described. The level of

activity varied greatly, however, with only 22 percent of these states conducting more than 10 studies. As Figure 3 shows, most states that conducted cost-benefit analyses did so on a very limited basis.

FIGURE 3

All states produced at least 1 cost-benefit analysis between 2008 and 2011

State rankings-production of reports



Eleven states led the way in studying the costs and benefits of policies and programs. California, Florida, Kansas, Minnesota, Missouri, New York, North Carolina, Ohio, Utah, Virginia, and Washington each conducted at least 11 studies. Most states—27 and the district—were mixed, conducting between three and 10 studies during the period.

But 12 states trailed behind, releasing no more than two studies over the four-year study period. Of these, four—Alabama, Arizona, Kentucky, and North Dakota—performed only a single analysis over the period (see Appendix B on Page 47 for a state-by-state breakdown).

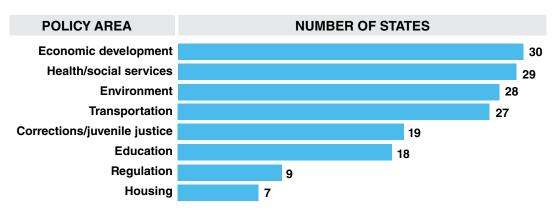
States are focusing costbenefit analysis on major budget areas

- States are most often using costbenefit analysis to examine some of their largest budget areas, including health and social services, criminal justice, economic development, transportation, and the environment and natural resources. A majority of states are producing studies in these major budget areas (see Figure 4).
- 30 states issued studies on economic development programs.
- 29 issued reports that assessed health and social services programs.

FIGURE 4

States use cost-benefit analysis to examine large budget areas

Count of states conducting studies by policy area, 2008-2011



- 28 issued studies on environmental and natural resource programs such as energy and natural gas efficiency programs.
- 27 released analyses of transportation programs.
- 18 states and the district conducted cost-benefit studies on criminal justice.

The prevalence of costbenefit analysis is growing in states

States' production of cost-benefit analysis is growing. The number of states using cost-benefit analyses increased 48 percent between 2008 and 2011 (Figure 5). Further, the number of studies they

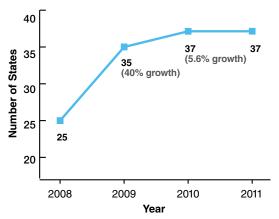
released grew 79 percent during this period, increasing by 26 percent between 2008 and 2009, 24 percent between 2009 and 2010, and 14 percent between 2010 and 2011 (Figure 6),

Many of the officials interviewed noted that budget stresses spurred state interest in studying the relationship between program costs and outcomes. Representative David Linsky, chair of the Massachusetts House Committee on Post Audit and Oversight, said, "We don't have an unlimited budget, and Massachusetts has a constitutional requirement to produce a balanced budget every year, so we need to do cost-benefit analysis."

FIGURE 5

The number of states conducting cost-benefit analyses increased 48% over 4 years

Count of states producing reports, 2008-2011

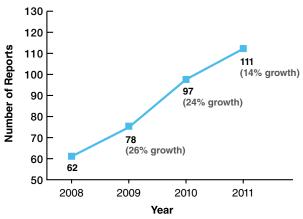


SOURCE: Pew-MacArthur Results First Initiative

FIGURE 6

State costbenefit analysis production increased 79% over 4 years

Studies produced by year, 2008-2011



STATE STATUTES

Results First researchers found 252 statutes mandating cost-benefit analysis in 48 states and the District of Columbia. Over three-quarters of these require studies as part of a periodic evaluation or decision-making process. For example, in California, water districts must prepare a cost-benefit analysis before embarking on a capital improvement project. Florida requires studies of acquisition, building, and consolidation opportunities as part of an annual report on leasing.

These requirements are often aimed at specific topics. Leading the list, with 15 percent of the mandates examined, were statutes covering economic development. The other major policy areas were health and social services (14 percent), procurement (12 percent), and environment/natural resources (8 percent).

About 23 percent of the statutes call for one-time studies. For example, a 2010 law in Vermont directed the Public Service Board to examine whether the state should set new renewable energy standards and to outline its findings in a report by fall 2011. The question was how expensive it would be to increase the share of the state's electricity coming from renewable sources from 20 percent to 75 percent by 2033. The report found that the more ambitious standard would cost an additional \$294 million over 30 years and would generate \$24.7 million in net economic benefits, while reducing carbon-dioxide emissions by an estimated 18.4 million tons. (There was no monetization of benefits for the reduction in carbon-dioxide emissions.) Following the report, the board recommended that Vermont adopt the 75 percent standard.iv

While nearly all statutes created more cost-benefit requirements, in some cases, states sought to repeal previous mandates or block the use of analyses in specific policy areas. For example, a California law passed in July 2011 directed that the state oil-spill-response administrator "shall not use a cost-benefit or cost-effectiveness analysis or any particular method of analysis in determining which measures provide the best achievable protection." A bill in Wisconsin sought to eliminate the requirement that the Department of Transportation "conduct a uniform costbenefit analysis before an engagement of engineering, consulting, surveying, or other specialized services involving an expenditure of more than \$25,000."vi The Wisconsin bill's sponsor asserted that cost-benefit reports were time-consuming, costly, and of questionable value. Opponents argued that the bill weakened public oversight, and it was defeated.vii

- i California Water Code 60231.
- ii Florida statute 255.249.
- iii Vermont Public Act 159, Section 13a, http://www.leg.state.vt.us/docs/2010/Acts/ACT159.pdf.
- iv Vermont Public Service Board, "Study on Renewable Electricity Requirements," Oct. 3, 2011, http://www.leg.state.vt.us/reports/2011ExternalReports/271962.pdf.
- v The bill was California Assembly Bill 120 (2011). After it was passed in July 2011, it became Chapter 133, Statutes of 2011. Phone calls to determine the reasoning behind the statutory requirement were not returned.
- vi The bill was Wisconsin Assembly Bill 522 (2011), http://docs.legis.wisconsin.gov/2011/related/proposals/ab522.
- vii "Proposal Would Curtail DOT Cost Analysis Reports," Channel3000.com, Feb. 7, 2012, http://www.channel3000.com/news/Proposal-Would-Curtail-DOT-Cost-Analysis-Reports/-/1648/10371296/-/12ft2gyz/-/index.html.

Scope

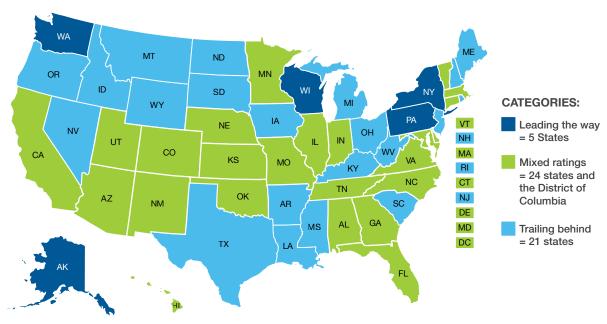
29 states and the District of Columbia used cost-benefit analyses to assess multiple program and policy options

Most of the cost-benefit analyses released by states examined only a single program or policy, such as the costs and benefits of raising the age of juvenile jurisdiction in corrections systems. Such reports are helpful in determining whether the specific program is worthy of continued funding. Some states, however, conducted

FIGURE 7

5 states lead the way in assessing multiple program and policy options through cost-benefit analysis

State rankings—scope of studies



THREE KEY FACTORS: SCOPE

studies that provide broader investment guidance by examining and comparing multiple program and policy alternatives.

For example, the Prevention Research Center for the Promotion of Human Development at Pennsylvania State University examined the return on investment for seven research-based delinquency prevention programs operated by the Pennsylvania Commission on Crime and Delinquency.5 Using the Washington State Institute for Public Policy's model, the study assessed each program's costs and benefits to the state, which ranged from \$1 to \$25 in benefits per \$1 invested, with savings as high as \$130 million in reduced victim and taxpayer costs (criminal processing, incarceration) for a single program.

Overall, just 18 percent of cost-benefit studies assessed at least two options to address a particular policy or budget area. Only five states—Alaska, New York, Pennsylvania, Washington, and Wisconsin—led the way in systematically assessing the combined costs and benefits of a portfolio of programs. Twenty-four states and the district had mixed results, releasing reports that assessed program alternatives separately rather than combined as a packaged investment, and 21 states trailed behind, assessing only one program.

Use

29 states reported that cost-benefit studies had directly influenced legislative or executive action

States reported a high rate of impact of their cost-benefit studies, with 52 percent of the 190 reports discussed in interviews having some recognized effect on state policymaking. In many cases, the studies not only helped determine the best way to spend public dollars, but also showed the need to restructure or eliminate programs, freeing up resources for other, more effective policies. Once again, these studies tended to focus on states' largest or fastest-growing budget areas.

Twenty-nine states led the way in using cost-benefit analysis to drive budget and policy debates and action, including decisions to increase, decrease, or sustain program appropriations. In each of these states, stakeholders indicated that policymakers had used cost-benefit analysis to directly drive policy decisions, such as changing laws and reducing or eliminating program funding. Seven states had mixed results, with stakeholders reporting that studies sparked and informed public and policymaker

discourse by providing critical data about an issue, but did not lead directly to executive or legislative decisions. Fourteen states and the District of Columbia trailed behind, reporting that their costbenefit studies had no impact on debate or policymaking.

Leading states are using cost-benefit analyses to make informed policy and budget decisions

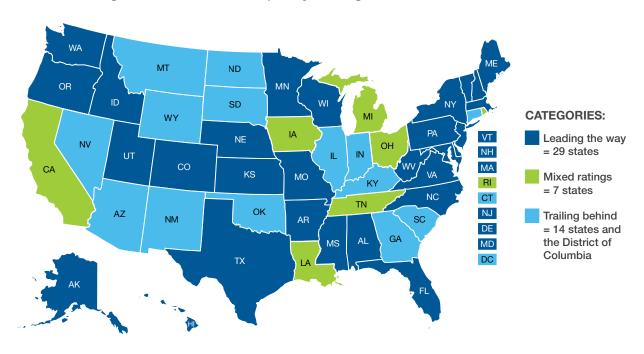
Among the 29 states that led the way on use of cost-benefit studies in decision-making, the majority of those studies examined programs in major budget areas:

Between 1981 and 2007, **Alaska** nearly doubled its criminal justice spending, and its prison population grew nearly 500 percent.⁶ In 2008, state Senate Judiciary Committee member Hollis French, who was familiar with Washington's successful use of costbenefit analysis, sponsored a proposal

FIGURE 8

Cost-benefit analyses drove legislative or executive action in 29 states

State rankings - use of studies in policymaking



SOURCE: Pew-MacArthur Results First Initiative

to use the Washington State Institute for Public Policy cost-benefit analysis model to study Alaska's corrections system and identify effective strategies to reduce crime, shrink the inmate population, and lower spending. The study calculated that a \$4 million annual investment in intervention and preventive programs would cut the prison population by 10 percent over a 30-year period and reduce the need for additional prison construction, averting \$445 million

in spending and saving \$321 million.⁸ In response to the findings, the state Legislature expanded funding for substance abuse treatment and alternative juvenile justice programs and created a new deputy secretary position at the Department of Corrections to focus on inmates' reentry to society.⁹ Senator French noted, "The report was well-received and helped make the case that [intervention and prevention] was a good place to spend money."¹⁰

In 2003, the **Florida** Legislature directed its Office of Program Policy Analysis and Government Accountability to assess whether it would be cost-effective to create an alternative therapy-based program to serve nonviolent juvenile offenders in the community rather than in residential commitment facilities. The office's report concluded that, based on national research on similar programs, implementing two pilots of a program called Redirection would save the state an estimated \$1.7 million in the first year of operation. 11 The legislature established the two pilots and directed the office to conduct a longitudinal assessment of Redirection's effectiveness.¹² The office's 2006 follow-up report found that the pilots had achieved \$2 million in cost savings during their first year of operation while reducing recidivism, concluding that expanding Redirection to additional sites and offender groups could produce additional savings.¹³ The Legislature expanded the program as suggested by the 2006 findings, and subsequent studies in 2007 and 2008 revealed that the larger program had achieved an estimated \$14.4 million in savings.14 The office's final report, issued in 2010, concluded that over five years Redirection had generated \$51.2 million in cost savings while avoiding \$5.2 million in recommitment and prison costs due to better offender outcomes and reduced recidivism. 15

At the **Maryland** Legislature's request, the state Public Service Commission in 2009 conducted a cost-benefit analysis of returning to rate base utility regulation of the state's electricity market. Electricity costs had increased substantially under the deregulated system, spurring proposals to restore regulation, but the study found that this would result in net statewide losses ranging from \$3 million to \$1.82 billion in the first three years.¹⁶ Warren Deschenaux, director of policy analysis at the Maryland Department of Legislative Services, said, "[T]he findings were quite compelling. Legislation for private market providers was tweaked, but this report put reregulation off the table."17

In 2009, a coalition of **Maine** agencies sponsored a cost-benefit analysis of options to reduce homelessness.¹⁸ The study showed that a supportive housing placement program would generate average net savings to the state of \$1,348 per participant over a sixmonth period by reducing the use of mental health services, incarceration, and emergency room visits, among other interventions. Then-Governor John Baldacci worked with the state Legislature to sustain funds for the program. "The state was experiencing an overcrowding issue on homelessness—they were on the floor sleeping on mattresses or going to the hospital for shelter," Baldacci said.

"Even with the added cost of housing, we could demonstrate statistical advantage—it made more sense for taxpayers to invest in a supportive housing program with integrated services instead of a homeless shelter. Individually, it gave participants dignity—they could focus on their education and work skills and not have to worry about where they were going to sleep each night." Baldacci indicated that the study was critical to successfully obtaining funding for the program in the 2009-2010 biennial budget bill.

In 2010, Medicaid consumed 22.3 percent of New York's state expenditures.20 To address the program's growing costs and the state's projected \$10 billion budget gap, Governor Andrew M. Cuomo appointed a Medicaid redesign team to develop and implement efficient, longterm Medicaid reforms.²¹ The team, consisting of legislators, executive officials, and health and insurance industry professionals, invited proposals from a range of sources, including the insurance industry, health care providers, and the public. The state Department of Health calculated cost-benefit information on each workable proposal and posted the results on a publicly accessible website.²² Using the department's costbenefit analysis data, the governor's team developed a plan to reduce the anticipated

Medicaid cost growth rate from 13 percent to less than 1 percent and to save the state a projected \$2.2 billion in the first year.²³ The legislature passed 78 of the final 79 recommendations in the fiscal 2011-2012 budget. These included: transitioning from fee-for-service to managed care, from high-priced specialists to primary care doctors, and from highcost institutions to community care; implementing a Medicaid malpractice solution expected to lower hospital insurance premiums by 20 percent, or \$320 million; and establishing a Medicaid cap.²⁴ These changes enabled the state to spend \$14 million less than its \$15.3 billion targeted global Medicaid cap, even as coverage was extended to an additional 154,000 at-risk and lowincome recipients.²⁵

In many states, cost-benefit analyses are spurring public debate and long-term policy planning

In 19 states, cost-benefit analyses were identified as initiating or informing public or policymaker discourse though no direct link to specific legislative or executive action was identified. As with the directimpact cases, these studies tended to concentrate on high-cost budget areas.

Until 10 years ago, **Ohio** was among those states most dependent on nursing homes for its long-term care population.²⁶ For nearly 20 years, it has conducted a biennial study on long-term care utilization that incorporated cost-benefit analysis. In 2007, then-Governor Ted Strickland implemented an advisory workgroup composed of health industry and executive and legislative officials to advise on cost-effective, long-term care services.²⁷ The biennial reports helped inform the workgroup in proposing a series of budgeting and programming choices, including expanding the use of federal waivers that shift aging individuals into community-based programs.²⁸ According to the 2011 report, the state's Medicaid expenditures for people age 60 and older fell dramatically, with 2009 inflation-adjusted costs estimated to be more than \$100 million lower than those in 1997. "The report does not create policy," notes Bonnie Kantor-Burman, director of the Ohio Department of Aging. "What the report does is substantiate and give us input on policy direction."29 The department will continue to study the costs and outcomes of long-term care services and to work with state partners and stakeholders to offer a costeffective continuum of long-term care service options.30

In **Wisconsin**, a multiagency advisory committee commissioned a cost-benefit study on the state's treatment alternatives and diversion programs for nonviolent drug offenders.31 The report found that every \$1 invested yielded \$1.93 in returns through averted incarceration and reduced crime. The findings are being considered as part of planning for the 2013-2015 state budget cycle, and Governor Scott Walker has issued an executive order directing agencies to provide data for continued research and evaluation of criminal justice programs.³² These follow-up studies will continue through 2014, so results can be available for the next biennial budget planning cycle.33

These examples demonstrate how cost-benefit analysis delivers valuable information that policymakers view as an important resource in making budget and policy choices. In many states, however, there are significant barriers to expanding the use and influence of cost-benefit studies.

ONE STATE'S SUCCESS: A RIGOROUS MODEL, PLUS STRONG RELATIONSHIPS

When it comes to use of cost-benefit analysis, Washington state is the national leader.

Washington issued more of these studies between 2008 and 2011 than any other state. The nonpartisan Washington State Institute for Public Policy, or WSIPP, established in 1983 by the state Legislature and several executive branch departments, such as the Department of Social and Health Services, produced the studies.

The institute's unique, innovative, highquality cost-benefit model drives the significant impact of Washington's reports. In general, when the legislature directs WSIPP to research a topic, the first step is to analyze all available previous studies of similar programs across the country (sometimes around the world) to assess "what works" and how effective programs are in achieving policy goals. Since the late 1990s, this "meta-analysis" process has examined more than 27,000 studies. The institute takes those results, applies them to Washingtonspecific data, and projects the impact different program and policy approaches would have in the state. WSIPP then compares the costs of each program to its projected benefits and produces a report ranking programs by the relative value they would generate for taxpayers. This information enables the legislature to identify the best return on investment of public dollars.

The institute's analyses are trusted for their rigor and objectivity and due to the effective working relationships WSIPP's analysts have built over many years. "WSIPP's research provides objective investment advice, and because they have such high standards, it takes a lot of the politics out of it," said Skip Priest, who served as ranking Republican on the Washington House of Representatives Committee on Education. According to Richard Ramsey, a financial analyst for the Washington Senate Ways and Means Committee, "The work of the institute is really important in helping the Legislature choose investments in criminal justice and other policy areas. Their work is highly regarded. Keep in mind the institute was created by the Legislature. The Legislature and the institute have worked with each other over time. It has been an incremental process in which a trust in the institute's work was established and has grown."i

One case that demonstrated legislative faith in the institute's work and stimulated further use of its cost-benefit model was an October 2006 study on ways to reduce future prison construction, criminal justice costs, and crime rates. The report provided lawmakers with a menu of effective, evidence-based treatment and prevention programs and the comparative costs and benefits of each.

(continues on Page 27)

continued

FIGURE 9

Washington state's cost-benefit model can assess and rank multiple programs in a 'Consumer Reports'-style list

Cost-benefit figures by policy area in 2011 dollars

ADULT PROGRAMS	COST	NET LONG- TERM BENEFITS	COST/BENEFIT RATIO
Alternative drug sentencing	\$ 1,542	\$ 20,823	\$ 14.51
Correctional education in prison	1,128	20,298	19.00
Vocational education in prison	1,571	18,875	13.01
Community drug treatment	1,602	16,108	11.05
Mental health court	2,935	17,488	6.96
Cognitive behavioral therapy	412	9,283	23.55
Work release	661	6,456	10.77
JUVENILE PROGRAMS			
Aggression replacement training	\$ 1,508	\$ 61,440	\$ 41.75
Drug court	3,091	10,576	4.42
Coordination of services	395	5,106	13.94
Scared straight	65	-5,014	-76.35

SOURCE: Washington State Institute for Public Policy

In 2007, the Legislature invested \$48 million in programs, such as functional family therapy for juvenile offenders, and was able to cancel the construction of a planned \$250 million prison." These investments will achieve about \$2.7 billion in benefits over a period of 50 years, starting in 2000, for Washington residents. Many of the benefits are being realized quickly, others will occur over a longer period of time, including higher lifetime earnings for people who participate in the programs.

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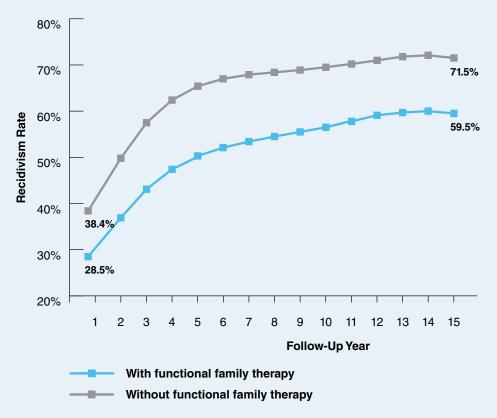
ONE STATE'S SUCCESS: A RIGOROUS MODEL, PLUS STRONG RELATIONSHIPS

continued

FIGURE 10

Functional family therapy evaluations find 22% impact in reducing future criminal activity in Washington

Recidivism rates by follow-up year



SOURCE: Washington State Institute for Public Policy

Washington and the institute have achieved a high level of evidence-based decision-making by insisting on rigor, independence, and transparency in their cost-benefit analyses. This commitment to quality and political objectivity has

built policymaker confidence and helped the state become the nation's leader in the use of cost-benefit analysis to make informed budget and policy choices that produce better outcomes for taxpayers.

(continues on Page 29)

continued

FIGURE 11

Cost-benefit analysis found key benefits of functional family therapy for Washington

Per-family benefits by type in 2010 dollars

BENEFITS PER FAMILY		MAIN SOURCE OF BENEFITS
Reduced crime	\$ 31,745.00	Lower state and victim costs
Increased high school graduation	5,686.00	Increased earnings
Reduced health care costs	\$307.00	Lower public costs
Total Benefits Per Family	37,739.00	
Cost Per Family	3,190.00	
Net Present Value	34,549.00	
Benefits Per Dollar of Cost	11.86	

SOURCE: Washington State Institute for Public Policy

i Pew-MacArthur Results First Initiative interview with Richard Ramsey, financial analyst, Washington State Senate Ways and Means Committee, Nov. 21, 2011.

ii Pew-MacArthur Results First Initiative, "Better Results, Lower Costs: Washington State's Cutting-Edge Policy Analysis Model," January 2012, p. 3, http://www. pewstates.org/uploadedFiles/PCS_Assets/2012/ ResultsFirst_Washington_casestudy.pdf.

iii Pew-MacArthur Results First Initiative, "Better Results, Lower Costs," p 1.

States face political and practical obstacles in conducting cost-benefit analysis and applying it to policymaking

Several challenges can limit states' use of cost-benefit analysis. Among the most common are resource and data limitations, timing problems, and difficulty gaining policymaker attention and trust in studies' methodologies and findings.

Resource limitations

Cost-benefit analyses are major research undertakings that require substantial commitments of time, money, and staff with specific expertise. The studies examined took up to four years to complete and ranged in cost from \$50,000 to \$1 million.³⁴ These resource requirements can limit states' ability to conduct analyses at times when they are most needed—when state budgets are tight. "One of our problems is simple logistics. We don't have a lot of staff, and [we] have very real resource limitations," said Jeff Youtz, director of the Idaho Legislative Services Office. "I have one budget policy analyst for the entire

Department of Health and Welfare, one for public schools and higher education combined, and one for criminal justice. We can't take two months and conduct a comprehensive cost-benefit analysis. It's not a choice, but a reality of the resources I have available."³⁵

Data limitations

Cost-benefit studies require extensive data on program costs and outcomes, which many states have difficulty aggregating and analyzing. State officials noted that state accounting systems often do not track expenditures by program or activity, making it difficult to compute the marginal and total costs. States also frequently lack robust systems to monitor program outcomes, particularly for services that cross organizational lines (such as early childhood programs), which can hinder analysts' ability to identify and monetize benefits. Another common obstacle is the fragmentation of technology systems.

STATES FACE POLITICAL AND PRACTICAL OBSTACLES

In Texas, individual counties maintain their own criminal justice data, and statewide information technology systems are limited. Together, these issues make it difficult to compile state-level data, according to Garron Guszak, manager of the Applied Research and Performance Audit Team for the Texas Legislative Budget Board.³⁶

Timing challenges

State policymaking operates in a highly compressed time period (state legislative sessions are often limited to 60 to 90 days), requiring executives and

legislators to make a large number of critical decisions in a short period of time. To be useful, cost-benefit analyses must be completed in time to inform state leaders' choices. Frederick Church, deputy director of the Office of Budget and Management in Ohio and former state deputy tax commissioner, explained, "Public officials sometimes have an unrealistic expectation of how quickly a cost-benefit study can be produced and how many hours it will take. Good cost-benefit analysis is painstaking [but] their hope is that it is something you can finish in a few weeks."³⁷



A related challenge is that cost-benefit analyses have a long-term focus on program outcomes, but policymakers tend to focus on much shorter time frames. Cost-benefit analyses typically assess benefits that will accrue over several years. This long-term horizon may hinder legislative buy-in because lawmakers can be reluctant to spend money that will not pay off until after their terms expire. Possibly reflecting this, the Kentucky Long-Term Policy Research Center, which evaluated future effects of policy choices, was defunded by the Legislature in 2010. The center's former director, Michael Childress, said that even when its studies showed that a policy would generate clear long-term benefits, it could be difficult for state policymakers to make the multiyear investments needed to achieve the gain. Legislators need to be reelected every two or three years and receive little, if any, credit from voters for results that may materialize years down the road.³⁸

In New York, the Office of Children and Family Services performed a longitudinal study on the cost-effectiveness of home visitation programs designed to prevent child maltreatment. The analysis found that the program returned up to \$3.16 for every \$1 invested over the long term and effectively reduced child maltreatment. The office's commissioner, Gladys Carrión, said that despite the positive findings, the office was unable to retain funding for the program due to policymakers' short-term focus.³⁹

Policymaker inattention

Cost-benefit analyses and the methodologies they use are highly technical, but the results must be communicated effectively and accessibly to policy leaders who do not have time to digest detailed reports. Just getting on a policymaker's radar can be a challenge. If a report never gets policymakers' attention, they cannot consider the findings. According to former New York Assemblyman Richard Brodsky, "Very little is done to insert these [reports] into the member-driven parts of the legislative process. I can count on one hand the times when a report was followed up with a request for discussion or response. There is an enormous disconnect between the excellent work produced by foundations, public interest and private interest groups, academia, and experts and the daily lives of state legislators."40

Policymaker distrust

When cost-benefit studies do not appear to be sufficiently rigorous or seem to represent a specific agenda, particularly reports that make the case for a surprisingly high return on investment, legislators and executive office budget staff may mistrust or lose confidence in the method. New York Assemblyman Robin Schimminger pointed out that among policymakers, "there's recognition that ... a cost-benefit report can be spun in a favorable way." 41

Conflicting political priorities

Further, policymakers must balance many priorities, and, in some instances, political or ideological considerations can overwhelm even rigorously developed evidence. For example, in 2011, a Washington State Institute for Public Policy cost-benefit analysis on sentencing alternative programs propelled legislators to introduce bills proposing sentencing reforms and evidence-based alternative program investments that would reduce future crimes at a lower cost. 42 But other considerations, particularly entrenched sentencing laws and justice policy values that cannot be factored into a costbenefit ratio, blocked the proposals. "The legislature is focused on two things:

reducing crime and atonement for crimes committed. Sometimes our numbers, which center on reducing crime, are persuasive, but cost-benefit analyses cannot capture everything, and there are other goals that the legislature and governor are looking at in sentencing, including the atonement goal," said Steve Aos, director of the institute.⁴³

Officials in most states reported encountering one or more of these problems when trying to conduct costbenefit analyses or to ensure the findings were considered in policymaking. In North Carolina, the General Assembly's Program Evaluation Division assessed the effectiveness and efficiency of state vehicle inspection programs.44 The study found that the programs, which annually cost the state \$40.8 million to administer and residents \$141 million for required inspections, showed no indication of improving transportation safety and lacked oversight. To address these findings, the division proposed a bill on enhanced efficiency measures to the state Senate, but the measures were dismissed due to politics surrounding the issue.⁴⁵

Fortunately, strategies are available to help overcome these challenges and enhance states' use of cost-benefit analysis to guide their policy and budget choices.

Strategies are available to improve the feasibility and quality of state cost-benefit studies as well as their effect on policymaking

States can adopt strategies to help remove barriers to the use and influence of costbenefit analysis and enhance their capacity to conduct quality studies that inform policy and budget decisions. Chief among these are strengthening outreach to policymakers, enhancing research methodologies and transparency, and ensuring effective and timely report presentation. 46

Strengthening outreach to policymakers

Several states reported taking steps to build policymakers' commitment to research findings by proactively briefing agency officials, legislators, and stakeholders. For example:

The 2011 Vermont Legislature directed its Joint Fiscal Office and the Department of Banking, Insurance, Securities, and Health Care Administration to assess and compare the costs and impacts of three options for

providing universal health coverage to Vermont citizens.⁴⁷ The researchers were proactive in briefing legislators on the report, which estimated that a public-private, single-payer system would save the state \$580 million by 2015 and \$1.6 billion by 2024. Legislators passed a bill that sets in motion the establishment of the nation's first universal, public-private, single-payer health care system.⁴⁸

In Ohio, early and ongoing utilization of a broad stakeholder advisory group has been crucial to the success of the state's longitudinal studies of long-term care, which incorporate cost-benefit analysis. The Department of Aging's Kantor-Burman observed, "We are a state that believes very strongly in full stakeholder engagement." The nursing home industry had understandable concerns about the state's move toward community-based care but eventually recognized the importance of the data and wanted to

STRATEGIES ARE AVAILABLE TO IMPROVE THE FEASIBILITY AND QUALITY

be part of the discussion. "It is a matter of first developing the relationships with stakeholders before one would do something like this," advised Kantor-Burman. "If I were consulting with a state, I would say start your stakeholder process from the very beginning and make this something everybody wants and not something you are telling them."⁴⁹

New York officials reported that it is helpful to provide district-specific results for legislators when possible. Carrión, commissioner of the state's Office of Children and Family Services, said her office provided tailored information from cost-benefit studies to connect with legislators individually. "We gathered information district by district, on outcomes such as maternal health, low-birth-weight children, abuse incidents, and calls to the abuse hotline, so they could say they've got X number of kids or X number of calls coming in from the hotline in their district." 50



Ensuring methodological rigor and transparency

States can take steps to enhance the quality and to strengthen the credibility of their cost-benefit analyses. By engaging quantitative experts and ensuring they use only sound analytical practices, fully disclose their methodologies, and are transparent about any uncertainty in their projections, state leaders can build public and policymaker confidence in the reliability of study findings and avoid the appearance of bias.

Employing skilled practitioners is vital not only to ensuring the most accurate and policy-relevant analysis, but also to defending research quality and outcomes. As John Turcotte, director of the North Carolina General Assembly's Program Evaluation Division, noted, "You must have experts who know how to do quantitative analysis. Every single thing that you do in that area, there will always be opponents, and they can get experts to pick apart any kind of analysis that is done. Suddenly you will find the slightest flaw gets blown out of proportion, and then the whole thing is questioned."⁵¹



It is also important for states to ensure that researchers are open about the methodologies they employ and any ambiguity in their findings. Central to such transparency is sharing the assumptions used by researchers when projecting costs and benefits into the future. For example, when a study in Colorado about investing in libraries sparked debate, critics argued the methodology did not provide an accurate projection of libraries' true return on investment. But the authors were able to diffuse much of this concern by explaining their methodology clearly. Library Research Service Director Nicolle Steffen with the Colorado State Library cited the importance of methodological transparency as a key lesson learned. "Ultimately, I think we did a good job with it and won a lot of people over."52

It is also important to acknowledge the uncertainty that exists in all projections. A key way to do this is by conducting and reporting sensitivity analyses—a technique that employs different assumptions from the main analysis to demonstrate how changes in underlying circumstances would affect predicted costs and benefits—and by providing a range of possible outcomes.

For example, when North Carolina's Youth Accountability Planning Task Force asked the Vera Institute of Justice to project the impact of raising the age at which juvenile

offenders would be treated as adults, the institute found a net benefit of \$52.3 million if the policy change resulted in a 10 percent reduction in recidivism rates. Since, however, research findings on the effect of such programs on recidivism rates are mixed, the institute performed a sensitivity analysis that pointed out the various outcomes that could result if different recidivism rates were used. For instance, achieving a 30 percent reduction in recidivism would increase the net benefits to \$66.8 million.⁵³ Damon Jones, research assistant professor at Penn State, similarly suggested that providing a range of estimates helps prevent policymakers from reacting with the thought, "I have a hard time believing that. How could they determine one single dollar figure given the amount of uncertainty involved?"54

Making findings accessible, understandable, and relevant

It is also important for states to ensure that study results—which are based on highly technical analyses—are delivered in accessible, concise, and compelling ways. States reported varying strategies for this:

New York's Carrión, for example, cited providing one- or two-page summaries with highlights of findings, recognizing that long, complex reports may prove too dense and demanding for busy decision-makers.⁵⁵

In other cases, it can make sense to report findings of a complex cost-benefit analysis in a series of releases over time, making the results more accessible and building the audience's trust of and familiarity with the material. Carrie Vibert, director of the Joint Legislative Program Review and Investigations Committee in Connecticut, noted that this approach can help overtaxed legislators tackle the individual segments of a report.⁵⁶

Improving timeliness

Finally, states need to recognize that costbenefit analyses must be in the hands of policymakers and staff in advance of policy and budget decisions so they can be used to inform debate. Often, this creates a challenge for researchers, as the time needed to conduct a study can exceed the time the state legislature is in session. But timing can be addressed through the adoption of a rigorous, replicable methodology, such as the Washington model, that can assess a wide range of investment options. In Washington, the institute uses it during the state's annual legislative sessions to quickly analyze both budget and policy proposals that members are considering.

Adopting these best practices—strong outreach to policymakers, transparent methodologies, providing study findings in accessible, digestible pieces that connect to the real world, clear reporting, and timely report delivery—can enable states to maximize the impact of cost-benefit analyses and help leaders make the tough budget and policy choices that deliver better results at the lowest cost.

Conclusion

Given the ongoing budget challenges facing states, it is important for policymakers to direct limited resources to the most cost-effective programs and policies available. To do this, they need approaches to assess the comparative costs and benefits of programs and to identify those that can produce the best returns on investments of public funds. A proven and reliable approach available to states is cost-benefit analysis.

This report shows that, overall, states are increasingly using this rigorous method to test whether program benefits and costs support their expansion, elimination, or alteration, and then applying those findings to policy and budget decisions. Those states that have most fully embraced this approach are changing the way they make their toughest policy and budget decisions, using hard data to make smart choices.

But too few states have made a full commitment to using cost-benefit analysis. The majority of states still do not consistently use rigorous analysis to inform their decision-making and will require a broader commitment to evidence-based policymaking if they are to achieve better outcomes for taxpayers. While there are challenges to conducting and using cost-benefit studies to drive budget and policy choices, these can be overcome by building analytical rigor and capacity and cultivating public and policymaker confidence in the cost-benefit approach to governance.

State policymakers, the research community, and stakeholders, working together, have the opportunity to advance the use of cost-benefit analysis in government decision-making. Results First will continue to evaluate and support those states that seek to use the best evidence about program costs and benefits when making choices about the services delivered to their citizens. Through future comprehensive assessments of the number, sophistication, and impact of cost-benefit analyses, Results First will evaluate states' progress in these areas and offer further recommendations for improvement.

Appendix A: Methodology

This study is the first comprehensive assessment of the extent to which all 50 states and the District of Columbia conduct studies that analyze the costs and benefits of programs and policies and use the results to help shape their policy and budget choices. It answers three key questions: How frequently are states conducting cost-benefit analyses? Are states using the results when making policy and budget decisions? What challenges do state face in conducting and using these studies?

Our investigation included a comprehensive search for cost-benefit analysis reports released by states between January 2008 and December 2011 and a review of state statutory mandates to conduct cost-benefit analyses. We identified reports that each state had released by sending an electronic survey to their offices of audit, budget/fiscal, corrections, economic development, education, environment/natural resources, evaluation, health, revenue, social services, and transportation; we also examined the websites of these offices to find published reports. In addition, our interviews with state officials (described below) discovered additional reports. We identified and

reviewed over 1,000 reports from this search. We narrowed this list to 507 reports by excluding reports that did not examine state programs, were produced outside the study's timeframe, or lacked any form of cost and outcome assessment.

We then screened these reports against a set of criteria to determine if they met a minimum standard based on eight technical characteristics (see "Defining cost-benefit analysis" below) that academic literature suggests are important to conducting "textbook" cost-benefit analyses. This screening identified 348 state reports that met the definition of cost-benefit analyses.

Defining costbenefit analysis

Cost-benefit analyses are comprehensive studies that seek to identify and compare the full costs of a public program and the benefits that it would generate for society if funded. States, think tanks, and academics issue thousands of studies that analyze public policies, but only a small portion of these studies are cost-benefit

FIGURE 12

50 states and the District of Columbia issued 348 cost-benefit studies, but their output varied widely

Report production by state, 2008-2011

	STATE	2008	2009	2010	2011	Total		STATE	2008	2009	2010	2011	Total
	Alabama	0	0	0	1	1		Montana	0	0	1	2	3
	Alaska	1	1	0	0	2		Nebraska	0	0	2	0	2
	Arizona	1	0	0	0	1		Nevada	0	1	0	2	3
	Arkansas	0	2	1	1	4		New Hampshire	0	0	3	0	3
-	California	4	3	5	7	19	3	New Jersey	0	0	3	2	5
	Colorado	0	4	3	2	9		New Mexico	3	3	0	3	9
	Connecticut	0	0	3	6	9	4	New York	1	4	2	8	15
1	Delaware	3	0	1	0	4	-	North Carolina	4	1	5	6	16
•	District of Columbia	a 0	0	1	2	3		North Dakota	0	1	0	0	1
7	Florida	0	1	7	3	11		Ohio	0	3	2	11	16
-	Georgia	2	0	2	2	6		Oklahoma	0	2	1	2	5
	Hawaii	1	1	0	2	4		Oregon	1	2	0	7	10
	Idaho	0	1	1	0	2		Pennsylvania	1	1	0	0	2
4	Illinois	0	2	1	3	6	•	Rhode Island	1	0	1	0	2
	Indiana	2	0	0	1	3	-	South Carolina	0	1	0	2	3
	Iowa	0	4	0	1	5		South Dakota	1	0	1	0	2
	Kansas	4	6	3	3	16		Tennessee	0	1	2	1	4
	Kentucky	0	1	0	0	1	-	Texas	3	2	3	2	10
	Louisiana	0	1	2	0	3		Utah	0	3	7	3	13
-	Maine	2	1	1	1	5	1	Vermont	0	1	0	3	4
1	Maryland	4	3	2	0	9		Virginia	1	4	5	3	13
	Massachusetts	1	1	2	1	5		Washington	6	4	6	7	23
*	Michigan	0	4	2	2	8		West Virginia	0	0	1	1	2
	Minnesota	5	5	4	1	15		Wisconsin	1	2	4	2	9
1	Mississippi	2	0	1	0	3		Wyoming	0	0	1	1	2
	Missouri	7	1	5	4	17		Total CBAs	62	78	97	111	348
								Total # of States	25	35	37	37	51
								Leading the Way	Mix	ed Resu	lts	Trailing	g Behind

APPENDIX A: METHODOLOGY

analyses. While there are no universally accepted guidelines of the elements that distinguish cost-benefit analysis, our review of literature and discussions with a wide range of academics and practitioners identified eight key elements that we used to define and classify studies as cost-benefit analyses. These eight elements are:

- The study comprehensively measures direct costs.
- The study comprehensively measures indirect costs.
- Tangible benefits are monetized to the extent possible.
- Intangible benefits are monetized to the extent possible.
- Program costs and benefits are measured against alternatives or a baseline.
- Future costs and benefits are discounted to current year values (net present value).
- Key assumptions used in calculations are disclosed.
- Sensitivity analysis is conducted to test how the results would vary if key assumptions were changed.

While many cost-benefit analyses do not include all of these textbook elements, studies had, at a minimum, to assess direct costs and measure outcomes to be included in our study. Only 36 reports contained all eight elements; the remainder often did not measure and monetize all direct and

indirect costs and benefits, did not discount future costs to present values, and/ or did not conduct sensitivity tests of the results. We included these reports in our study because full cost-benefit analyses may not be needed to answer policymakers' questions in many cases. "There are often very good, practical reasons to focus on cost-effectiveness and not go as far as monetizing benefits," commented Harry Hatry, distinguished fellow and director of the Public Management Program for the Urban Institute, who served on a panel of technical and policy experts reviewing Results First's methodology for choosing which reports to include in the study.

We interviewed approximately 360 state policymakers, agency officials, and researchers to discuss the reports, their impact, and obstacles that states face in completing and using cost-benefit analyses. We conducted between six and 10 interviews in almost all states.⁵⁷ We attempted to discuss each of the 348 reports in our interviews, but the state officials we talked with could speak knowledgably about only 55 percent—190—of the reports.

For all 50 states and the district, Results First took a three-phase approach to collect and assess cost-benefit analysis studies. Phase one involved applying a document collection strategy in each state and the district to identify reports. Phase two entailed assessing collected reports to identify which fit our criteria for this study.

APPENDIX A: METHODOLOGY



Phase three entailed conducting interviews in each state and the district to learn more about the role of cost-benefit analysis in policy and budget debates and to gain insights into the strengths and limitations of performing and utilizing studies to help make policy and budget decisions.

Document collection

Document collection involved two parts: dispersing an electronic (email) survey and performing extensive Internet searches. Results First researchers developed a comprehensive list of primary state executive and legislative offices and state policy institutions to survey and investigate in the search for cost-benefit analysis reports (the list of primary units is available at the end of this section). This list included offices of audit, budget/fiscal, corrections, economic development, education, environment/ natural resources, evaluation, health, revenue, social services, and transportation.

We sent an electronic survey to the heads of offices on the primary list requesting electronic copies and/or links to costbenefit and related studies conducted by their office or another state entity. Follow-up electronic surveys were sent four to six weeks after the initial email to entities that did not respond. For each report collected through survey responses, basic information, such as author, report title, and date of report, was entered into a database.

Results First researchers supplemented the electronic survey with a comprehensive scan of websites of primary units to identify and collect reports that contained costbenefit or related analyses. To narrow the scope, we limited our Internet search to reports dated January 2008 to December 2011. Basic information was entered into a database for each report collected.

Report assessment

Through the survey and extensive Internet search, Results First researchers collected and assessed over 1,000 reports. We narrowed the list to 507 studies and screened them against the eight technical characteristics listed above to determine which fit the criteria for a cost-benefit analysis.

An external review panel composed of cost-benefit analysis technical and policy experts evaluated and concurred with these criteria. For quality assurance purposes, a separate person reviewed the classification of a representative selection of reports for each state. Studies that contained all eight technical characteristics were classified as a full cost-benefit analysis. Studies that included most, but not all, technical characteristics were classified as a partial cost-benefit analysis. Studies that did not meet the criteria of a full or partial cost-benefit analysis were classified as a notable analysis.

As the result of this classification process, our final sample included 36 full costbenefit analysis studies, 312 partial costbenefit analysis studies, and 159 notable analyses. In half the states, we identified fewer than five full or partial cost-benefit analyses, and in four states—Alabama, Arizona, Kentucky, and North Dakota—we only identified one. We created an extensive database on the full or partial cost-benefit analysis reports to record their

characteristics, including their cost-benefit components, purpose, sponsor, author, policy area covered, and reported impact. We did not record the characteristics of the notable reports as our study was focused on states' use of cost-benefit analyses.

Interviews

For all 50 states and the District of Columbia, we conducted approximately six to 10 phone interviews with executive and legislative officials, relevant nongovernment public policy experts, and authors of cost-benefit analysis reports. The number of interviews per state was contingent on several factors: the number of cost-benefit analyses found, the number of cost-benefit analysis authors/sponsors, and the willingness and availability of state officials to participate in interviews. For each state, we attempted to interview at least one executive and legislative official and authors/sponsors of at least half of the cost-benefit analysis reports. This effort included multiple emails and phone calls to schedule interviews, inquiries about alternative officials to contact if a potential interviewee declined, and followup interviews or phone calls to fill in information gaps.

Researchers executed semistructured interviews to inquire about the role of cost-benefit analyses in each state, such as if/how the studies were used by policymakers, whether recent budget cuts

had been informed by cost-benefit studies, successes and barriers to performing and utilizing cost-benefit and related analyses, and whether the interviewee knew of other cost-benefit analysis studies in the state (we identified approximately 48 additional full and partial cost-benefit analysis studies through interviews). Due to the semistructured nature of our conversations, not all questions were applicable to every interviewee, and interviewees often raised additional points that they felt were valuable to our study.

To assess how cost-benefit analysis reports had influenced the decision-making process, we asked interviewees whether a report entered the public or legislative discussion—specifically, whether it received media attention or was presented to and/or discussed by key executive or legislative officials—and if the cost-benefit analysis' findings and recommendations were adopted into budget or policy decisions. For 190 reports, we identified whether they entered the public or legislative discussion. From these, we identified the reported influence of 99. For the purposes of this analysis, a report was classified as having a "direct" impact if its analysis or recommendations influenced legislation or budget appropriations. A report was classified as "initiating or informing debate" if it helped spur public or policymaker discussion.

Report analyses

To identify trends and common characteristics of the reports in our sample, we analyzed the following elements for the overall sample, each state, and the subsets of states with the most and fewest identified cost-benefit analyses:

- Year released.
- Report type (full or partial costbenefit analysis).
- The branch of state government that performed or contracted for the study.
- Whether the cost-benefit analysis was conducted in-house or by an outside entity.
- The study's purpose/objective.
- The primary functional areas covered by the study.
- The study's content.
- The study's use in the public discussion.
- The study's impact in state decisionmaking.

Primary units list

We contacted the following units in each state and examined their websites to identify potential cost-benefit analyses. As states use different classification and naming conventions for their agencies, we examined all units under each subject

matter, or equivalent. For example, to assess state education entities, we included units such as departments of education and departments of higher education; to assess state social services entities, we examined units such as the departments of human services and departments of children, youth, and families.

Executive	Environment	State			
Administrative Services	Fish and Game (Ecology)	Transportation			
Aging (Elderly)	Forestry	Treasurer			
Agriculture	Health	Veterans Affairs			
Auditor (Accounting)	Homeland Security	Water Resources			
Budget and Management (Management)	Housing Justice (Judicial)	Legislative Audit			
Corrections	Juvenile Justice				
Commerce (Consumer and Business)	Insurance	Budget/Fiscal (in the absence of Budget/Fiscal, search for Appro-			
Community Services (Rural Services)	Labor Lottery	priations or Ways and Means)			
Comptroller/Controller	Natural Resources	Research/Evaluation NGOs-Academics State Policy Institution			
Economic Development	Parks and Recreation				
Education	Public Safety				
Energy	Revenue (Finance)				
5,	Social Services				

Appendix B: State cost-benefit analysis breakdown

Ranking the states

Results First analyzed states' use of costbenefit analysis by focusing on three key factors—how frequently they conduct these studies, how comprehensive the reports are in assessing policy alternatives, and how frequently policy makers use the results to inform policy and budget choices.

Production: the number of cost-benefit reports that each state and the District of Columbia produced over the four-year study period. The rating on production is based on the total number of cost-benefit reports states produced. States that produced at least 11 reports over the four-year period are leading the way in this area. Those that conducted between three and 10 reports over the period have mixed results, and states that produced up to two reports are trailing behind.

Scope: the extent to which studies systematically assessed the costs and benefits of portfolios of alternative program and policy options. States that assessed the combined costs and benefits of a package of program and policy options are leading the way in this effort. Those that assessed program and policy alternatives individually rather than combined as a packaged investment have mixed results, and states that assessed only one program or policy are trailing behind.

Use: how states and the district used costbenefit reports to drive policy and budget decisions. States that reported a study directly influenced legislative or executive action, including decisions to fund or eliminate programs, are leading the way. States that reported studies that did not directly influence policy, such as providing key information that was considered by legislatures and executive offices, but did not lead to budget or law changes, had mixed results. States trailed behind if they reported no evidence that studies had direct or indirect influence on decision-making.

APPENDIX B: STATE COST-BENEFIT ANALYSIS BREAKDOWN

Overall rankings: combining the three ratings yields an overall picture of each state's cost-benefit use. Leading states led in at least two categories and trailed in none. Mixed states either led the way in two categories and trailed in a third, had

mixed ratings in at least two categories, or led in one category, were mixed in a second, and trailed in third. Trailing states had trailing ratings in at least two categories.

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The reports discussed were similar in many respects to those that were not discussed. Reports prepared by the executive branch were slightly underrepresented among those that were the subject of interviews, accounting for only 58 percent of reports discussed compared with 73 percent of those not discussed, and

- reports prepared by legislative staff and academics were slightly overrepresented. For most subject areas, at least half of the reports were discussed in interviews. The largest area in which reports were judged to have impact was in social service and health, which also represented the most dominant area for cost-benefit work identified in the 2008 to 2011 period.
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