

THE COLORADO  
POLICY COLLABORATIVE

EVIDENCE-BASED

# *Evidence-Based Policymaking*

Using Research to Make Better Decisions



# *What Is Evidence-Based Policymaking*

1. Using the **best available** research and information to help guide and inform policy and budget decisions; and
2. Building more knowledge to better inform future decisions



# *Why Evidence-Based Policymaking Matters*

- Better outcomes for Coloradans
- Better stewardship of taxpayer dollars
- Promotes a culture of learning, continuous improvement, and accountability



*Why support implementation and evaluation in your funding decisions?*

Evidence-Based Programs



Effective Implementation  
Methods



Improved outcomes for Colorado  
residents

# *National Recognition*

- National Conference of State Legislatures
- National Association of State Budget Officers
- Bipartisan Policy Center
- Pew Charitable Trusts
- Results for America
- Route Fifty
- The Hill

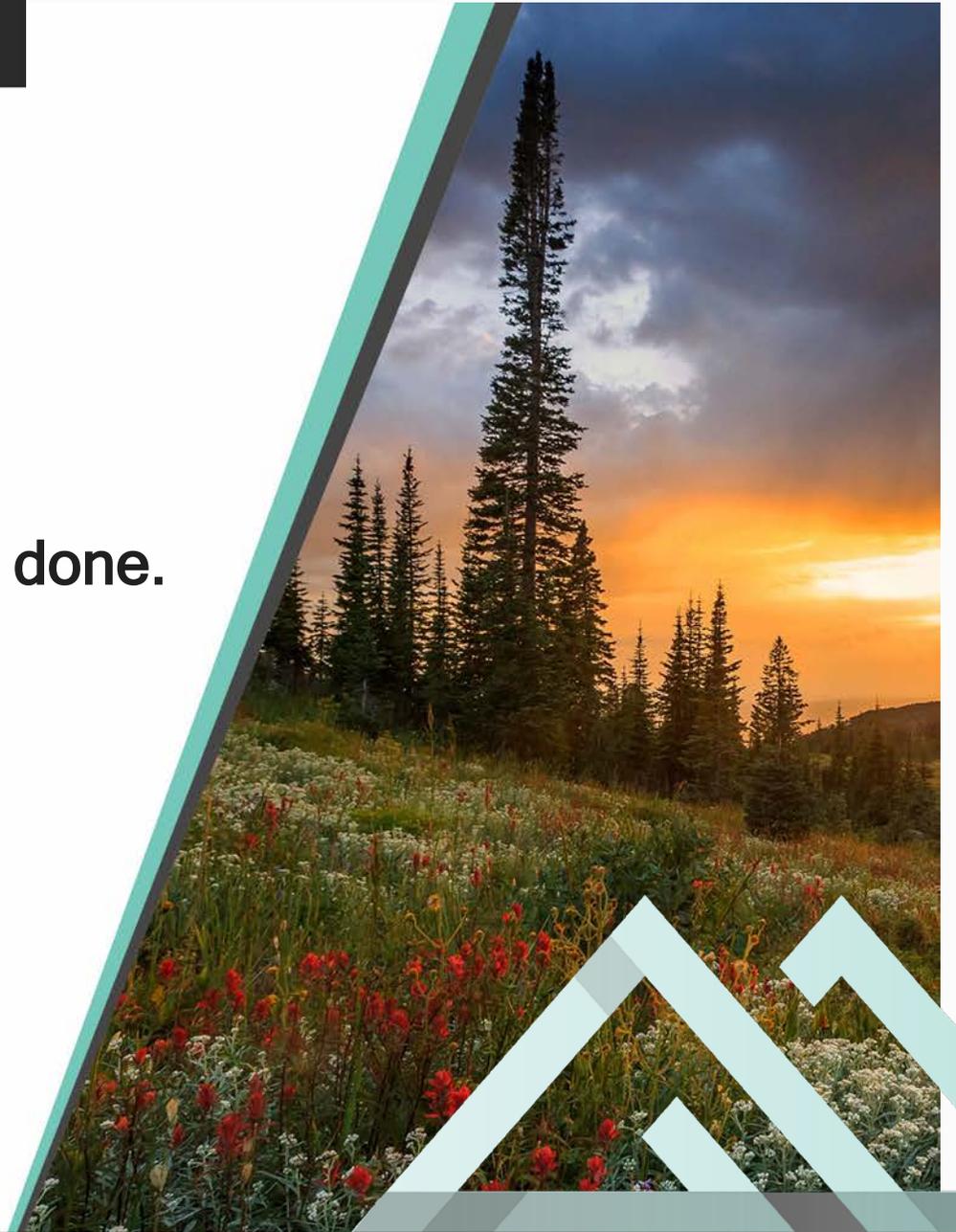


## *What it Takes*

Colorado is a national leader, but more can be done.

### *Leading states:*

- Define levels of evidence
- Inventory existing programs
- Compare program costs and benefits
- Support effective implementation efforts
- Report program outcomes in the budget
- Target funds to evidence-based programs  
(and build evidence for those that are not)



## *How can the JBC support evidence-building?*

Use the evidence standards adopted on 11/27 as appropriate when reviewing funding decisions

- **Invest in implementation support so programs and services are delivered as intended**
- **Invest in evaluation to monitor the progress of programs and services toward achieving desired outcomes**



## *The EBP Collaborative can...*

### **Support JBC, OSPB, and executive agencies in:**

- Determining the best available evidence to inform a funding request
- Making recommendations on appropriate levels of implementation support
- Making recommendations on appropriate evaluation design and supports
- Connecting with implementation and evaluation partners for deeper dives



## *Takeaways*

- Using an evidence-based policymaking framework can improve the lives of Coloradans while using taxpayer funds wisely.
- Consider the best available evidence and how to support innovation when deciding whether and how to fund programs.
- Ensure appropriate funding for implementation support and process and outcome evaluation.
- The Colorado Evidence-Based Policy Collaborative can be a resource and a partner to support this work.



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The Colorado Evidence-Based Policy Collaborative is comprised of professionals from the nonprofit, private, and public sectors who are all committed to using the best available evidence to improve program delivery and results for Coloradans. Members include:

- **Adrienne Russman**, *Director of Collective Impact, Uncharted*
- **Ali Maffey**, *Policy and Communication Unit Supervisor, Colorado Department of Public Health and Environment*
- **Ann Renaud Avila**, *ARA Strategies*
- **Bill Woodward**, *Director, Training and Technical Assistance, Center for the Study and Prevention of Violence, Institute of Behavioral Science, University of Colorado*
- **Brian Bumbarger**, *PhD, Adjunct Research Associate, Colorado State University Prevention Research Center; Adjunct Research Fellow, Griffith University Institute of Criminology; Consultant, Annie E. Casey Foundation*
- **Cindy Eby**, *Founder/CEO, ResultsLab*
- **David Anderson**, *Director of Evidence-Based Policy, Laura and John Arnold Foundation*
- **Diane Pasini-Hill**, *EPIC Manager, Division of Criminal Justice, Department of Public Safety*
- **Jessica Corvinus**, *Research and Evidence-Based Policy Manager, Colorado Governor's Office*
- **Kristen Pendergrass**, *Principal Associate, Pew-MacArthur Results First Initiative*
- **Kristin Klopfenstein**, *PhD, Director, Colorado Evaluation and Action Lab*
- **Lisa Hill**, *Executive Director, Invest In Kids*
- **Pamela Buckley**, *PhD, Director of Blueprints for Healthy Youth Development*
- **Sarah Prendergast**, *Doctoral Student, Colorado State University*
- **Tiffany Madrid**, *Research and Evidence-Based Policy Lead Analyst, Colorado Governor's Office*
- **Tiffany Sewell**, *Collaborative Management Program Administrator, Colorado Department of Human Services*

**Evidence-based policymaking typically focuses on the following public policy areas:**

- Child welfare
- Criminal and juvenile justice
- Employment and workforce development
- General prevention
- Health care
- Higher education
- K-12 and early education
- Mental health
- Public assistance
- Public health
- Substance abuse

**Contact the Collaborative:** [Jessica.Corvinus@state.co.us](mailto:Jessica.Corvinus@state.co.us)

To date, Colorado's Legislature has helped advance evidence-based policymaking through the following:

- **EPIC Resource Center**, est. FY 2012-13
  - EPIC provides a full spectrum of services aimed at enhancing organizations' abilities to effectively and efficiently implement programs and services, and to measure progress and outcomes.
- **Results First**, est. FY 2013-14
  - Inventories state programs and categorizes them by level of evidence. Produces a benefit-cost analysis for programs that are "evidence-based" based on Results First standards.
- **Pay for Success**, est. FY 2014-15
  - Ties program funding to program outcomes.
- **Evidence-Based Evaluation and Supports**, est. FY 2017-18
  - Provides state agencies with evaluation and implementation funding to support their efforts to build evidence and delivery programs with fidelity.
- **Tobacco Settlement Funds**
  - SB00-071 established funding for the Nurse-Family Partnership, an evidence-based program that has served over 22,000 mothers to date.
- **Investing in Budget Requests that Support Evidence-Based Policymaking** (e.g. *Expansion of Evidence-Based Incredible Years Program, FY 2018-19; Expand Substance Use Disorder Prevention Programs (Communities That Care), FY 2016-17; Community Corrections' Cognitive Behavioral Treatment Pilot, FY 2016-17*)
  - The legislature has invested approximately \$63m in programs that have been assessed using evidence-based policymaking tools and in over 25 programs with an evidence-based policymaking component (i.e. evaluation and/or implementation supports) since FY 2016-17.

**TO** Vance Roper, Senior Legislative Analyst, Colorado General Assembly  
**CC** Craig Harper, Chief Legislative Analyst, Colorado General Assembly  
**FROM** The Colorado Evidence-Based Policy Collaborative  
**DATE** 11/30/2018  
**SUBJECT** Evidence Standards (Second Revised Version)

Dear Vance,

The Colorado Evidence-Based Policy Collaborative thanks you for the opportunity to provide feedback on the evidence standards you are recommending to the Joint Budget Committee. Per your request, we reviewed standards for the following terms:

1. Randomized Control Trial (RCT)
2. Quasi-Experimental Design (QED)
3. Control Group
4. Promising Practices

A glossary of terms is listed at the end of this document for reference.

The Collaborative’s recommendations are that the Committee:

- References the Evidence Continuum listed in Table 1 (and illustrated in Figure 1);
- Focuses on the amount of *confidence* that different types of evidence provide (see Table 1) in terms of whether a particular outcome was caused by a given program;
- Understands that the more rigorous an evaluation, the more confidence we have in findings that demonstrate whether our investments in programs achieve important outcomes for Coloradans *and* do no harm;
- Fund programs that fall in all areas of the continuum, recognizing that evidence-informed and proven programs have the strongest evidence; and that programs that are opinion-based or theory-informed should be piloted and studied. We caution against scaling programs statewide that are not tested in more than one location;
- Recognizes that even programs with “Proven” evidence might not produce positive results if sufficient implementation resources are not invested; and
- Engages The Colorado Evidence-Based Policy Collaborative as a resource to vet and offer feedback on research, evaluation, and implementation.

Table 1: The Evidence Continuum

Evidence Continuum	Examples of Types of Evidence*	Confidence of Effectiveness, Ineffectiveness, or Harmfulness
Proven	<ul style="list-style-type: none"> <li>• 2 high-quality RCTs</li> </ul>	High
Evidence-Informed	<ul style="list-style-type: none"> <li>• 1 high-quality RCT, or</li> <li>• 2 high-quality QEDs</li> </ul>	Moderate
Theory-Informed	<ul style="list-style-type: none"> <li>• 1 high-quality QED</li> <li>• Evaluations with no control or comparison group</li> </ul>	Moderate-Low
Opinion-Based	<ul style="list-style-type: none"> <li>• Satisfaction surveys</li> <li>• Personal experience(s)</li> <li>• Testimonials</li> </ul>	Low-None



\*Please note that meta-analysis, if rigorously conducted, is another research method that can produce results that fall in the evidence-informed and proven categories.

The Evidence Continuum (Table 1) applies mostly to evaluations of individual service delivery (e.g. criminal and juvenile justice programs, behavioral health programs, child welfare programs, etc.). It does not best represent the highest level of evidence available –or even feasible– for many population-based strategies, including several implemented in state agencies such as public health (e.g., air quality), transportation (e.g., road safety), and agriculture (e.g., conservation).<sup>i</sup> The top evidence category listed in Table 1 is typically applied to programs that serve or engage individuals directly. Additionally, some programs (e.g., entitlements) are statutorily prohibited from randomizing their populations. This means that not all state programs can reach the level of “Proven.” In these circumstances, certain QED study designs are recommended to evaluate these strategies. Since there are a variety of QED designs, each with different strengths, weaknesses and applications, their rigor should be considered in context. In addition to rigor, particular attention should also be paid to the quantity of QED studies evaluating these strategies and the consistency of their findings (e.g., one can be more confident in the evidence supporting a strategy that has been consistently shown to have important impacts across multiple high-quality QED studies, than one evaluated in a single QED study or one for which the evidence is not consistent across multiple studies). To this point, ***the “best available evidence” is a principle that should be interpreted in context and determined by evaluation experts.***

It is also important to note that while most state programs will not fall into the “Proven” category, they still have value. We encourage the Committee to invest in moving programs along the evidence continuum (illustrated in Figure 1), or investing in the most appropriate scientific study design, so that the state’s programs can build evidence to support their efforts or engage in process improvement efforts to achieve better outcomes.

#### The Evidence Continuum in Detail

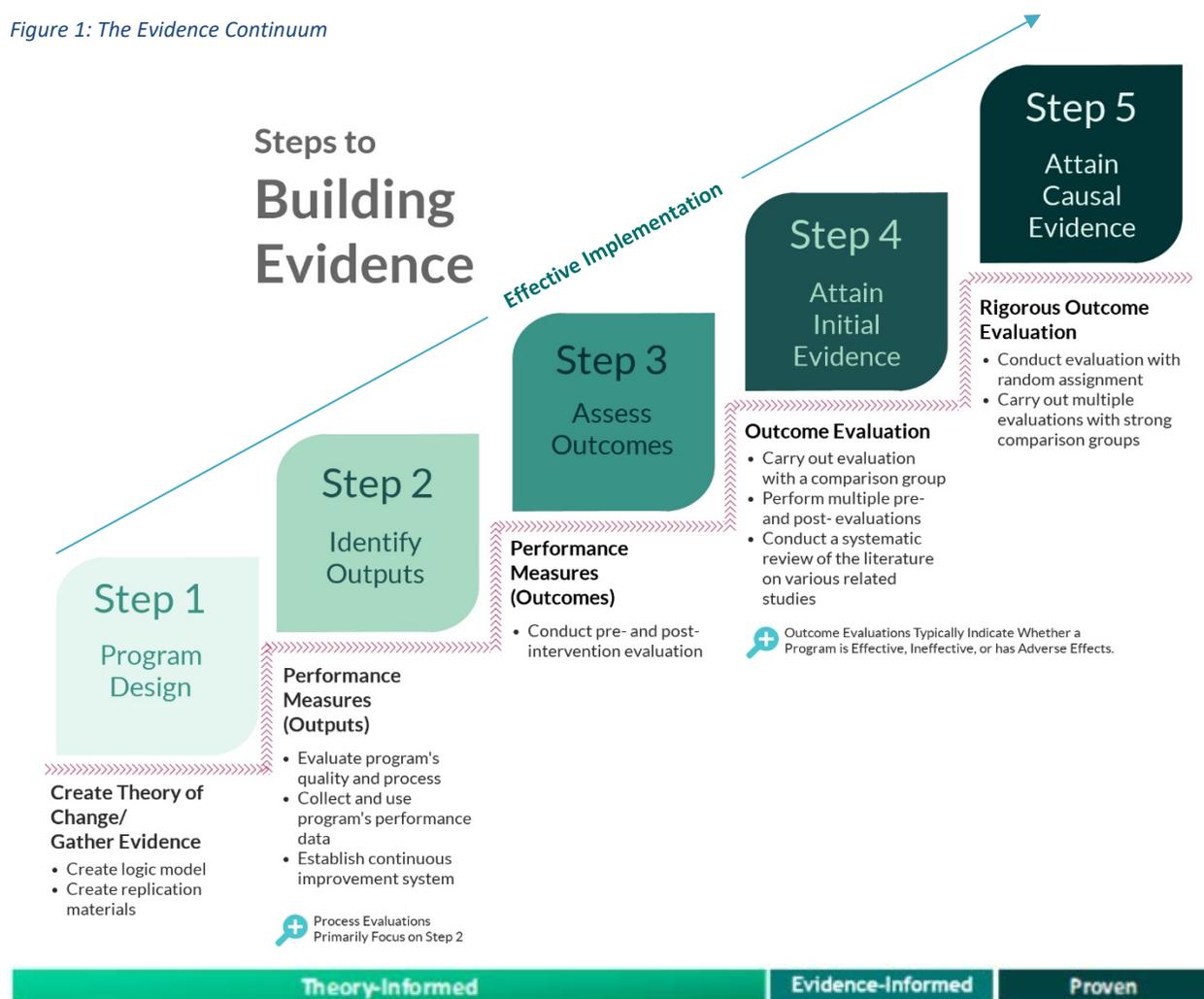
Evidence building is an iterative process and starts once a program becomes “Theory-Informed” (see Figure 1). The best way to aid programs in building evidence, or in moving along the evidence continuum, is to fund evaluations of programs and support proper implementation to ensure fidelity to the chosen program/model. ***Implementation support is critical*** –especially for “Proven” programs, ***because proper training, materials, and funding (etc.) ensures programs are implemented as intended and therefore more likely to produce positive findings.***<sup>ii</sup> Figure 1 provides guidance on the steps, or research activities, involved in building an evidence base, especially for programs that serve individuals and/or have a standardized curriculum. The figure also highlights how implementation support takes place throughout the entire evidence-building process. As mentioned above, ***the further a program is along the continuum (as it moves towards “Proven”/Step 5), the more credible the findings are of program effectiveness, ineffectiveness, or harmfulness, and the more confidence that can be placed in the findings.***

#### In Summary

This memo focuses on: 1) identifying how confident we can be that a program is effective; 2) increasing our confidence in the findings of a program’s effectiveness through building an evidence base of more rigorously designed evaluations; and 3) underscoring the important concept that evaluations produce findings that range from effective to harmful, and that confidence in those findings is associated with the level of rigor in the research study reporting outcome results.

The Colorado Evidence-Based Policy Collaborative would like to thank the Committee for considering our recommendations and invites the Committee to reach out with questions.

Figure 1: The Evidence Continuum



## Glossary of Terms

**Evidence:** Research that indicates whether a program is capable of influencing and/or changing an outcome of interest.

**Evidence Continuum:** Evidence is built over time using a series of different research designs. The graphic “Steps to Building Evidence” (Figure 1) displays this continuum.

**Comparison Group:** A group (typically people) in an evaluation that either did not, or were not *randomly* assigned to, receive a program. Data on the *comparison group* are compared to how other tested subjects (those receiving the program) do to benchmark and measure a program’s ability to influence and/or change an outcome of interest. Comparison groups are typically used in QEDs.

**Control Group:** A group (typically people) in an evaluation that have been *randomly* assigned to not receive a program. Data on the *control group* are compared to how other tested subjects (those receiving the program) do to benchmark and measure a program’s ability to influence and/or change an outcome of interest. Control groups are typically used in RCTs.

**Meta-Analysis:** A statistical analysis that combines the results of multiple scientific studies. Meta-analysis can be used to identify when the treatment effect (or effect size) is consistent from one study to the next, so results can be generalized to a larger population. Importantly, the rigor of meta-analyses will vary based on a wide variety of factors, including the quality and characteristics of the underlying

studies whose results are being combined and methodological choices regarding how to weigh the relative importance of each study's findings.

**Outcome of Interest:** The outcome that a program aims to influence and/or change. Program outcomes typically reflect behaviors, such as reducing recidivism or increasing academic achievement.

**Quasi-Experimental Designs (QEDs):** A research method that uses a comparison group. QEDs can produce high-quality evidence; however, they are generally not as reliable as RCTs in accounting for differences between subjects (typically people) who receive a program and those who do not. Importantly, QED methods vary widely in their rigor, particularly in their ability to ensure program and comparison groups are equivalent on both observable and unobservable characteristics at the start of the program. However, some QEDs are highly capable of controlling for threats to internal validity and establishing causation (like a well-done RCT), such as a well-designed and executed instrumental variable analysis, regression discontinuity design or comparative interrupted time series design. Experienced researchers determine which designs are most suitable and/or appropriate for the program in consideration of its setting.

**Randomized Controlled Trial (RCT):** A research method that uses a randomized control group, meaning that subjects (typically people) are randomly assigned to either (i) a group that receives a program or (ii) a control group that does not. Random assignment ensures to a high degree of confidence that there are no systematic differences between the program and control groups in their observable or unobservable characteristics at the start of the program. As a result, any difference in outcomes between the groups after the program can confidently be attributed to the program. It should be noted that with this evaluation design, either group can concurrently access any other available programs as needed.

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### Colorado Evidence-Based Policy Collaborative Members

- Adrienne Russman, Director of Collective Impact, Uncharted
- Ali Maffey, Policy and Communication Unit Supervisor, Colorado Department of Public Health and Environment
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- Tiffany Sewell, Collaborative Management Program Administrator, Colorado Department of Human Services

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<sup>i</sup> For example, the Colorado Department of Public Health and Environment utilizes several high-quality and respected resources including the Cochrane Review, the CDC Community Guide, the World Health Organization, the National Academies of Sciences, Engineering, and Medicine (previously the Institute of Medicine), and other reputable, peer-reviewed research to identify recommended strategies with substantial evidence of impact.

<sup>ii</sup> A good example of this is an implementation of the Functional Family Therapy program on the west coast. Through evaluation it was discovered that gaps in the program's implementation were likely linked to poor outcomes for youth. See <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4172308/>.



# Colorado Dives Into Evidence-Based Policymaking

Focused, multipronged investment yields benefits for the state

## Overview

Since 2011, Colorado has implemented several data-driven initiatives that are delivering positive results for Coloradans and changing the way its government leaders think about evidence. One key project includes a partnership with the Pew-MacArthur Results First Initiative to expand the use of evidence in policy and budget decision-making. Managed by a team housed in the Office of State Planning and Budgeting, the Results First approach to evidence-based policymaking—along with its staff and tools—has enabled state leaders to promote a culture in their government that supports data-driven decision-making.

Through this approach, the team has helped Colorado to:

- Build knowledge of what works and what doesn't to improve outcomes for residents.
- Promote investment in effective programming.
- Improve the way evidence informs the budget process.

This brief provides an overview of Colorado's efforts to build a culture of evidence-based policymaking, highlights the role of Results First—including successes and lessons learned—in doing this work, and details innovative ways the state continues to advance the use of evidence.

## A culture of evidence-based policymaking

Colorado implemented the Lean performance improvement program, which trains the state's workforce to apply its model, in 2011. This sequence of nine process improvement activities aims to continuously increase the efficiency of state programs, eliminate waste, and generate returns on government expenditures, such as costs saved or avoided, or time saved.<sup>1</sup> Lean has increased the effectiveness of government service. For example, it has reduced by half the time it takes to process the state's mental health hospital admissions as well as the Department of Education's teacher licenses.<sup>2</sup>

Building on this success, Colorado passed the State Measurement for Accountable, Responsive, and Transparent (SMART) Government Act in 2013 to further advance efficiency and transparency across departments. The legislation requires departments to develop measurable goals—and plans that outline strategies to achieve them.<sup>3</sup> To inform the public of its progress, the state launched an online dashboard that captures the key goals and outcome measures across five priority areas: health, economic and infrastructure development, environment and energy, workforce development and education, and quality government services.<sup>4</sup> The dashboard enables policymakers and residents to see how state leaders are using taxpayer dollars to achieve these goals, providing fiscal transparency.

In 2014, state officials saw an opportunity to build on this growing portfolio of data-driven initiatives with the Results First approach, which uses rigorous research and cost-benefit analyses to help government leaders identify and invest in cost-effective policies and programs. Leaders of the executive and legislative branches committed to partnering with Results First and approved funding for two full-time staff members in the Office of State Planning and Budgeting (OSPB) to help manage the project.

“ We have been able to integrate several initiatives that help us improve service to constituents, make better decisions, and grow employees' skill sets. It has been all the more gratifying to have continued and growing bipartisan support from the Colorado General Assembly and effective partnerships across government for all these evidence-based policymaking efforts.”

**Henry Sobanet**, former director, Colorado Governor's Office of State Planning and Budgeting

While the Results First project was underway, OSPB also recognized the need to build capacity to engage in related elements of evidence-based policymaking. The office formed a research and evidence-based policy initiatives team to advance these efforts through several projects, including the state's work with Results First, an implementation and evaluation grant program, a Pay for Success initiative to support effective youth programs, an evidence-informed budget request process, and other data-driven initiatives.

Collectively, these projects are promoting the use of data and research across state agencies and stakeholders. “Culture change has been one of our biggest successes. We've been able to go from mere discussions about data to promoting full assessments of programs to understand what works,” said Ann Renaud Avila, former director of research and evidence-based policy initiatives.

## How Results First works in Colorado

The Results First approach and tools enable Colorado leaders and stakeholders to embrace evidence-based policymaking in several ways.

### Build evidence of what works and what doesn't to improve outcomes for residents

As in many states, Colorado policymakers had limited knowledge about taxpayer-funded programs, including information about their effectiveness. The program inventories and cost-benefit analyses that are produced with Results First are helping the state fill this critical information gap by providing a common method to compare programs based on the evidence supporting their effectiveness and predicted return on investment (ROI).



There was a need to put structure around the problem of not knowing what's really going on, and Results First is one approach to help us make progress based on what works."

Colorado Representative Bob Rankin (R)

With support from Results First staff, the research and evidence-based policy initiatives team inventories state programs in various social policy areas (for example, behavioral health, child welfare, criminal justice). These inventories collect information such as program description, location, cost, and number of clients served, and assesses it against the national evidence base. Next, using the Results First cost-benefit model, the team calculates the monetary returns that the state can potentially gain from investing in evidence-based programs, then publishes the results of these analyses, organized by policy area. To date, the team has produced reports for adult criminal justice; behavioral health; child welfare; juvenile justice; prevention programs; and health-related programs including chronic conditions, system efficiencies (such as reducing hospital readmissions and unnecessary emergency department visits), and child and maternal health.<sup>5</sup>

Across all policy areas examined, the reports show that Colorado funds many effective, evidence-based programs that are expected to generate positive returns. For example, the behavioral health analysis revealed that 79 percent of the interventions inventoried are effective, evidence-based, or promising interventions, meaning they will improve behavioral health outcomes for Coloradans if properly implemented.<sup>6</sup> The remaining 21 percent need additional evaluation to determine efficacy, so the team is pursuing opportunities to evaluate these and other human services programs that lack information on effectiveness.

Most evidence-based programs that the team has analyzed demonstrated a positive ROI. For example, of the eight juvenile justice interventions studied, all but one are anticipated to achieve a positive ROI ranging from \$1.20 to \$11 per \$1 invested due to reduced reoffending. In addition, all four of the child welfare programs analyzed are expected to produce returns as high as \$6 per \$1 invested from reduced child-neglect and maltreatment rates.<sup>7</sup> The team presents cost-benefit findings in an apples-to-apples comparison format so policymakers can easily see which programs are likely to generate a return on taxpayer dollars and which probably won't (see Table 1). Policymakers and state entities—including OSPB—have used this information to inform funding and programmatic decisions, as described below.

## How Colorado Conducts Its Cost-Benefit Analyses

The behavioral health cost-benefit analysis that Colorado produced with the support of Results First provides an apples-to-apples comparison of similar programs within this policy area, although the programs listed may serve different populations, have different goals, and be delivered in different settings.

Program costs, taxpayer benefits, and nontaxpayer benefits are rounded to the nearest dollar. Taxpayer benefits represent the costs of government resources avoided, such as medical care and treatment, and lost taxes from wages. Nontaxpayer benefits represent the avoided costs to both society and individual program participants for medical care and treatment, increased insurance premiums, loss of employment or reduced wages, and crime victimization.

The analysis also assumes that programs are implemented in accordance with their original design, which is necessary to achieve intended outcomes and generate anticipated returns.



Table 1

## Colorado's Cost-Benefit Analysis of Behavioral Health Shows Many Positive ROIs

Total benefit-to-cost ratios, by program

Program name	Department/organization	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Program cost per participant (FY 2015)	Benefits minus costs (net present value)	Taxpayer benefits-to-cost ratio*	Total benefits-to-cost ratio*
<b>Substance use programs</b>								
<b>Access to tobacco quit lines</b>	Department of Public Health and Environment (DPHE)	\$20,938	\$1,327	\$19,611	\$178	\$20,760	\$7.45	\$117.63
<b>Antismoking media campaigns for adults</b>	DPHE	\$1,659	\$400	\$1,259	\$2	\$1,657	\$200	\$829.50
<b>Methadone maintenance treatment</b>	Department of Human Services (DHS) Office of Behavioral Health	\$10,098	\$967	\$9,131	\$3,386	\$6,712	\$0.29	\$2.98
<b>Screening, Brief Intervention, and Referral to Treatment</b>	DHS Office of Behavioral Health	\$4,733	\$1,045	\$3,688	\$395	\$4,338	\$2.65	\$11.98
<b>Seeking Safety</b>	Department of Corrections	\$13,045	\$470	\$12,575	\$344	\$12,701	\$1.37	\$37.92
<b>Text messaging for smoking cessation</b>	DPHE	\$18,925	\$3,183	\$15,742	\$17	\$18,908	\$187.23	\$1,113.23
<b>Mental health programs</b>								
<b>Assertive Community Treatment</b>	DHS Office of Behavioral Health	\$(1,728)	\$(212)	\$(1,516)	\$64,802	\$(66,530)	\$0	\$(0.03)
<b>Individual Placement Support, for individuals with serious mental illness</b>	DHS Office of Behavioral Health	\$1,929	\$500	\$1,429	\$2,579	\$(650)	\$0.19	\$0.75
<b>Mobile Crisis Response</b>	DHS Office of Behavioral Health	\$414	\$334	\$80	\$1,611	\$(1,197)	\$0.21	\$0.26

\* Figures in this column reflect the dollar benefit or cost per \$1 invested; figures in parentheses represent a negative value.

Source: Colorado Office of State Planning and Budgeting, "Colorado Results First Quick Guide: Behavioral Health Findings" (2016), [https://drive.google.com/file/d/0B5\\_3yhvPtgh-SHIPMmJoV1JQZ2c/view](https://drive.google.com/file/d/0B5_3yhvPtgh-SHIPMmJoV1JQZ2c/view)

These analyses also show that some interventions are likely to produce a negative ROI, generating a total benefit of less than \$1 for every tax dollar invested. For these programs, the research and evidence-based policy initiatives team carefully considers the ROI alongside other important factors when presenting this information in its reports and to policymakers. These factors include:

- How long a program has been operating. A newly implemented program might have higher upfront costs that could lower over time.
- How the program compares with alternatives.
- Whether it is the most effective and appropriate intervention for addressing a population's needs.
- Whether it has benefits that cannot be monetized, such as reducing homelessness. A relevant program's ROI could potentially be higher if these benefits were assigned a dollar value.

For instance, Table 1 shows that the Mobile Crisis Response intervention will probably generate only 26 cents for every tax dollar invested. The team's cost-benefit report explains that this program had recently been implemented and that providers of this service are required to offset costs with other revenue sources, such as private insurance. This means that the costs captured for the analysis may later be paid for by nontaxpayer funds, which could increase the program's ROI.<sup>8</sup> The team regularly emphasizes such factors in its reports and communications to policymakers.

## Promote investments in effective programming

Colorado leaders are using the Results First program inventories and cost-benefit analyses to inform decision-making. For instance, the state's Office of Community Corrections (OCC) found through such an analysis and its own data on adult criminal justice programs that several of its interventions were not generating favorable outcomes or returns.

"The results did not come back in as favorable a way as we wanted, but this created opportunity and space to innovate and implement new cost-beneficial programs," said Glenn Tapia, former OCC program director.

Based on the information and previous recommendations from the Colorado Commission on Criminal and Juvenile Justice, the OCC redirected funding toward a new pilot intervention—cognitive behavioral therapy—that is projected to generate a positive return. In addition, the Legislature granted new funding to implement an innovative program evaluation tool to assess adherence to evidence-based practices by community corrections programs.

OSPB used Results First analyses to inform the programs selected to receive funding through the state's new Pay for Success initiative.<sup>9</sup> After assessing the level of evidence supporting each proposal, OSPB requested approximately \$6 million over four fiscal years (2018-22) to fund three programs. To support this request, the research and evidence-based policy initiatives team used the cost-benefit model to calculate the value of key outcomes of the selected programs—such as on-time graduation and avoided child abuse and neglect—to demonstrate the potential monetary impact of achieving these results.<sup>10</sup> For example, to help legislators understand the value of Colorado youth graduating on time, the team calculated the lifetime projected benefits—costs avoided from graduating on time due to reduced crime and health care, and increased earnings—to both taxpayers and nontaxpayers, which is approximately \$536,000 per youth.<sup>11</sup> The Legislature ultimately approved funding.

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“ Both sides of the aisle have a goal for more efficient government. The Results First approach aims to show what works, what doesn’t, and how we can make the most of limited resources. Embedding this approach over the long term will help our state make the most of taxpayer dollars.”

Colorado Representative Chris Hansen (D)

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## Improve the way evidence informs the budget process

To ensure that new investments continue to support efficient and effective services, OSPB has developed a process to regularly integrate data and research into the state’s budget. In 2016, OSPB began to include evidence requirements in its budget instructions that agencies must satisfy when they submit requests for funding to implement new or expand existing programs. Requests must include information on the program’s expected effects on outcomes and anticipated ROI—which the team will help identify—and, if the program is untested, a plan to evaluate it.<sup>12</sup>

Along with OSPB analysts, the team reviews requests and provides research and funding recommendations as needed. For instance, a Department of Human Services request to expand investments in a respite care program revealed limited research on the program’s effectiveness. The team recommended that the state fund the program on the condition that the department perform an outcome evaluation to assess effectiveness.<sup>13</sup>





## Lessons learned from applying the Results First approach

Colorado's research and evidence-based policy initiatives team attributes the state's successes in using Results First to several key lessons learned, including:

- **Early and ongoing leadership buy-in.** Support from state leaders has been essential to driving the use of evidence to create effective change. The team noted that engaging leaders and stakeholders early and often helps generate and sustain buy-in. For example, legislative and executive leaders demonstrated their commitment to this effort when they approved funding for two full-time staff members to work on evidence-based policymaking initiatives. With support from Results First staff, the team continues to sustain the support of state leaders through legislative and agency employees training on the Results First approach.
- **Understanding that ROI tells only part of the story.** The cost-benefit model is only one tool. Sometimes the research is limited and does not capture all of the outcomes a program is capable of achieving. Moreover, its value cannot be measured by just cost-effectiveness. Context and factors such as overall effectiveness (regardless of cost) and the availability of alternatives are important to consider when identifying programs that can best meet the needs of Coloradans. The team emphasizes these factors in its reports and shares them with stakeholders when conducting outreach and meetings.

- **More evaluation is needed to understand the effectiveness of Colorado's programs.** Not every program in Colorado can be assessed using the Results First model, nor do all programs meet the team's "evidence-based" standard. The team's goal is to meet programs where they are and help move them toward rigorous evaluation to build evidence of their effectiveness. In fiscal 2018, the Legislature appropriated \$500,000 to OSPB to support program operations, including evaluation.<sup>14</sup> OSPB asked departments to apply for funding through a letter of interest. Departments responded with nearly \$2 million in requested assistance, indicating that programs need these supports.<sup>15</sup>

Also in fiscal 2018, the state received \$4.5 million in philanthropic funding to establish the Colorado Evaluation and Action Lab, a public-private partnership housed at the University of Denver. The lab, the first of its kind in the state, will partner with interested state agencies to identify ways to improve the services that address the governor's priorities<sup>16</sup>—recidivism reduction, affordable housing, youth prevention and early intervention—including conducting rigorous evaluations of programs to determine their effectiveness.<sup>17</sup>

- **Effective program implementation is key to achieving results.** State leaders recognize that to obtain the best results from evidence-based programs, they must ensure that they are properly implemented and that relevant data are collected to evaluate their efficacy. One way the state has supported these efforts is by creating the Evidence-Based Practices Implementation for Capacity (EPIC) Resource Center, which partners with the state's criminal justice agencies to create sustainable, structural implementation components to support their practices.<sup>18</sup> Since its inception, EPIC has worked with more than 100 government entities across the state and has seen substantial gains in its development of effective implementation strategies.

OSPB is also promoting effective implementation by using some of the \$500,000 appropriated to support programs for these activities and by updating the fiscal 2019-20 budget instructions to require agency requests for funding to start a new or expand an existing program to include an implementation plan.<sup>19</sup>

- **Using data and evidence as learning opportunities.** The program inventories and cost-benefit analyses serve as resources to agency and legislative leaders who want to learn more about the programs the state funds and operates, and to inform future budget and program decisions. But they are not meant to dictate what should or should not be funded or to call out poor investments. The team is working to ensure that these resources are also shared and discussed with program administrators to help inform strategic planning within departments—such as through the state's Performance Management Academy, which works with program leaders across state departments to promote the importance of evidence.

Furthermore, representatives from the Governor's Office, state agencies, and evidence-focused nonprofit and private organizations formed the Evidence-Based Policymaking Collaborative in 2017 to create a space for dialogue on evidence-based policymaking, provide resources and trainings on this approach, and identify ways to address gaps and barriers to doing this work.

As the research and evidence-based policy initiative team has learned, multiple partners are important to this effort: state leaders who help champion and promote this method of policymaking; legislative and government officials who approve funding to support the work; agency staff and program providers who facilitate the implementation, monitoring, and evaluation of the state's programs; and stakeholders who can lend support. The team continues to connect with these partners to learn from them and create a common language for this work.

## Conclusion

While many states have begun to use evidence-based policymaking in a number of ways, Colorado stands out as a leader. The state has unequivocally embraced tools and systems such as the Results First approach to improve how government operates and to inform its budget and policy decisions. These efforts—which require investments of time, employees, and funding—are building a culture in which government staff, policymakers, and local stakeholders work together to expand the use of evidence and make data-driven decisions.

## Endnotes

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