



COLORADO
Office of State Planning
& Budgeting

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The REP team Presents
**Colorado Results First
Health Findings**

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ACRONYMS AND ABBREVIATIONS

ACC	Accountable Care Collaborative
BHOs	Behavioral Health Organizations
CDC	Centers for Disease Control and Prevention
CDPHE	Colorado Department of Public Health and Environment
HCPF	Colorado Department of Health Care Policy and Financing
OSPB	Colorado Governor’s Office of State Planning and Budgeting
RAEs	Regional Accountable Entities
RCCOs	Regional Care Collaborative Organizations
RTIPs	Research-Tested Intervention Programs
WSIPP	Washington State Institute for Public Policy
WWFH	What Works for Health

INTRODUCTION

The Research and Evidence-Based Policy (REP) team in the Governor’s Office of State Planning and Budgeting (OSPB) has reviewed programs in the Results First health policy area.¹ The team has developed a program inventory of programs/services delivered in the state, ranked them on their predicted effectiveness based on national/state research, and estimated *the benefits* of these programs. *Contrary to prior Results First reports, the traditional cost-benefit analysis could not be performed because limited cost data for health programs/services is available at the state level.* Despite costs not being included, the team has included the projected monetary benefits of health programs, which are typically accrued over the lifetime of an individual receiving services. The REP team is reporting on the benefits of the programs but notes that without better cost data at the state level, it is difficult to get a comprehensive picture of whether these programs are cost-effective. The program inventories can be used though to determine whether a program is effective based on national and/or state research.

The REP team reached out to several departments that have health programs related to the following topics:

- Emergency Department Visits
- Hospital Readmissions
- Maternal Health
- Obesity
- Patient-Centered Medical Homes
- Type 2 Diabetes

These topics were focused on because they have a rigorous body of research and are included in the Results First model.

The Colorado Department of Health Care Policy and Financing (HCPF) and the Colorado Department of Public Health and Environment (CDPHE) are the lead departments in Colorado that administer health programs, as defined by Results First (see following section). The Research and Evidence-Based Policy team did not reach out to providers to gather program information due to the scope of the project; however, in select circumstances, departments contacted providers to gather program information. The Colorado Department of Human Services also provided health program information; however, its programs align with the Results First prevention and behavioral health policy areas and were included in those respective Colorado Results First reports published in 2017.²

¹ For information on the Result First model and Colorado’s use of it, please see the Research and Evidence-Based Policy Initiatives website: <https://sites.google.com/state.co.us/rfpfs>.

² Prevention encompasses substance use and mental illness prevention (in addition to prevention of other risky behaviors) and Behavioral Health encompasses substance use and mental health treatment.

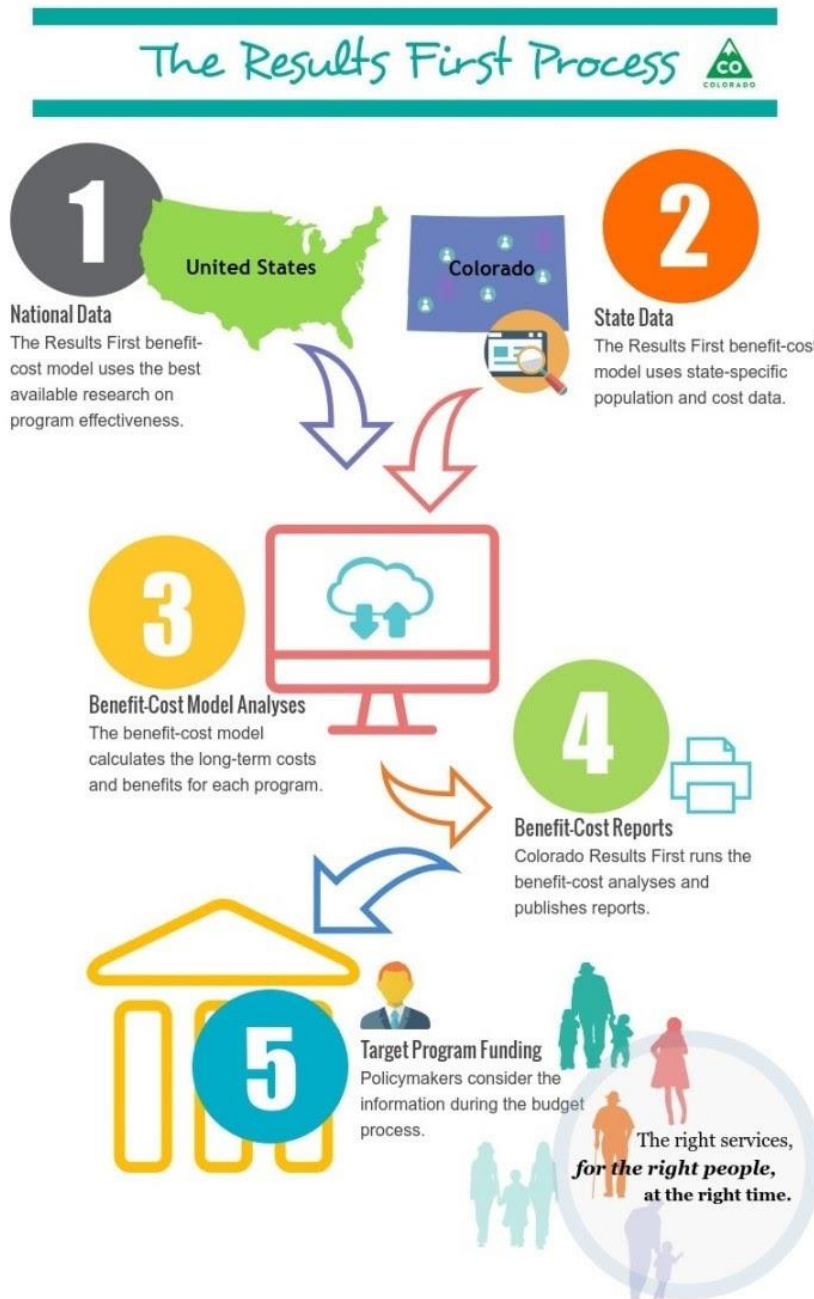
Results First Overview

Colorado Results First is implemented by the REP team in OSPB and is part of the Pew-MacArthur Results First Initiative. The Results First Initiative, a project of the Pew Charitable Trusts and the John D. and Catherine T. MacArthur Foundation, supports jurisdictions with the implementation of an innovative cost-benefit model.

The REP team works with state departments, the Judicial Branch, and counties throughout Colorado to identify programs that are operating throughout the state and gathers information on whether the programs have been researched, whether they are effective and where possible, conduct cost-benefit analysis.

Using Colorado-specific inputs along with data derived from the best available research, the cost-benefit model helps Colorado estimate the net long-term benefits of evidence-based program investments. Additionally, the Results First process allows Colorado to systematically inventory state programs according to their level of evidence. The image on the following page illustrates Colorado Results First's process.

For additional information on these programs, please reference the 2017 Results First reports which can be accessed online at <https://sites.google.com/state.co.us/rfpfs/colorado-results-first/reports>.



The program information used in the Results First model to estimate program benefits is based on national and international program evaluations, not necessarily Colorado-specific program evaluations. Furthermore, it is assumed that the evidence-based programs included in this report are operating with fidelity to the program’s original design. Fidelity is an important consideration because programs can only produce expected outcomes (and associated benefits) if they are being delivered the way they were designed and researched. For the state to fully understand how programs are being implemented, and whether they are achieving their intended outcomes, evaluation studies and fidelity monitoring must be performed.

Definitions Used by the REP team

There are three definitions used by the REP team for this health report to categorize programs, including evidence-based, evidence-informed/promising and research-informed/needs additional research. Each of these definitions are described below:

Evidence-Based: Evidence-based programs are those that have had one or more rigorous program evaluations completed on them and demonstrate that program activities lead to measurable outcomes. Rigorous evaluation designs include randomized controlled trials or well-designed quasi-experiments that incorporate strong comparison group designs—studies designed to determine if observable program effects are attributable to the program. The standards for evidence-based programs included in this report are determined by the Washington State Institute of Public Policy (WSIPP). The REP team relies on WSIPP’s standards because confidence can be placed in their research review process. WSIPP uses meta-analysis to review program research. Meta-analysis is a statistical method to combine the results from separate program evaluations to estimate a program’s effect on an outcome, or its effect size.³

Evidence-Informed/Promising: Evidence-informed/promising programs are those that have had one or more program evaluations completed on them; however, there are limitations to the research design. The terms “evidence-informed” and/or “promising” are also effect neutral, as they refer to the quality, or rigor, of evidence. Evaluation designs can include randomized controlled trials or quasi-experiments that incorporate comparison group designs; however, the program evaluations do not meet the above-mentioned evidence-based standards. Specifically, program research completed on these programs does not meet the research quality standards developed by WSIPP and is unable to be used in WSIPP’s meta-analytic process to estimate effect sizes. Please note that a program currently listed as an evidence-informed/promising practice may be able to achieve evidence-based status following additional, rigorous research and review.

Research-Informed/Needs Additional Research: Research-informed/needs additional research programs are those that have little to no research completed on them and may or may not have a theory of change. These programs may have some research completed on them, or they could have been developed based on related research findings; however, these programs have not been researched in a way that aligns with the evidence-based or evidence-informed/promising standards. For additional information on the programs included in this section, please contact a member of the REP team.

³ An effect size is a statistical calculation. For specific information on how WSIPP calculates effect sizes and WSIPP’s meta-analytic approach, reference page 11 of WSIPP’s online technical documentation at <http://www.wsipp.wa.gov/TechnicalDocumentation/WsippBenefitCostTechnicalDocumentation.pdf>.

TYPES OF HEALTH PROGRAMS REVIEWED

For this report, health services were categorized in two distinct ways. The report includes:

1. Population-based health strategies that reach large populations, which are primarily delivered through CDPHE.
2. Health care interventions for intended/targeted populations. These programs are intended to prevent or treat specific health conditions in specific populations.⁴ Intended/Targeted health care interventions are primarily delivered through HCPF.

Research Used to Analyze Health Program Effectiveness

The REP team used health program research from several sources to analyze these programs/strategies, including WSIPP, What Works for Health (WWFH), and Research-Tested Intervention Programs (R-TIPs). These resources mostly contain research reviews on health programs for targeted/intended populations.⁵ The REP team relies on these resources because they have specific requirements for the research they include in their review processes and they standardize how they express the quality of research that they have reviewed. CDPHE utilizes several different high-quality and respected research resources including the Cochrane Review and the CDC Community Guide.⁶

The REP team accesses WSIPP's program reviews, the Results First Clearinghouse Database,⁷ which is comprised of eight national clearinghouses that review and rate program research to determine program effectiveness, and two specific health clearinghouses: WWFH⁸ and R-TIPs.⁹ More information is detailed below:

- WSIPP systematically reviews program evaluations to identify programs' abilities to impact outcomes and uses meta-analysis to estimate the overall effects of programs. WSIPP only analyzes high-quality, rigorous program evaluations from the U.S. (and abroad) to estimate program effects. WSIPP

⁴ The specific list of health program areas included in the Results First model are bulleted above.

⁵ For more information on population health resources, please see the CDPHE section starting on page 13, which includes additional resources.

⁶ Please see the section "Further Discussion on Definitions and Evidence Ratings" for more information regarding the clearinghouses used by the Research and Evidence-Based Policy Initiatives team and CDPHE.

⁷ The Results First Clearinghouse Database can be accessed online at <http://www.pewtrusts.org/en/multimedia/data-visualizations/2015/results-first-clearinghouse-database>.

⁸ What Works for Health can be accessed online at <http://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/policies>.

⁹ RTIPs can be accessed online at <https://rtips.cancer.gov/rtips/index.do>.

only uses evaluations with credible designs, and ignores studies that use weak research methods.¹⁰

- The Results First Clearinghouse Database, comprised of eight national clearinghouses, utilizes a simple, color-coding rating system to reconcile the different ratings terminology used by each clearinghouse and provides hyperlinks to program pages so users can easily access program information, including evaluation information.¹¹
- WWFH provides information on policies, programs, and system changes that can improve a variety of factors that affect health. WWFH highlights the many factors that can make communities healthier places to live, learn, work, and play. WWFH considers research and evaluation information from several sources, including clearinghouses included in the Results First Clearinghouse Database, the Campbell Collaboration, the Cochrane Library, and the Centers for Disease Control and Prevention’s (CDC) Community Guide.
- RTIPs is a searchable database of cancer control programs and related materials and it is designed to provide program planners and public health practitioners easy and immediate access to research-tested materials. Sponsored by the National Cancer Institute, RTIPs provides a review of programs available for use in a community or clinical setting. Where applicable, it also links the program to the CDC’s Community Guide.

The REP team recognizes that several methods can be used to research programs and build evidence, and that evidence is built over time. To demonstrate how evidence can be built, the image on the following page, “Steps to Build Evidence,” is presented. Programs are typically considered evidence-based when they achieve Stage 5 by undergoing rigorous outcome evaluation(s) demonstrating causal evidence of program outcomes. Although the Research and Evidence-Based Policy Initiates team supports this criterion for the term evidence-based, it is recognized that not all programs can, or will, achieve evidence-based status by this standard.

Please note, this report is not inclusive of all health-based strategies/programs and some health-based strategies can be found in other Results First reports, such as the Behavioral Health report, because these programs targeted different outcomes (e.g.

¹⁰ For detailed information on WSIPPs inclusion criteria, reference page 13 of WSIPP’s technical documentation at

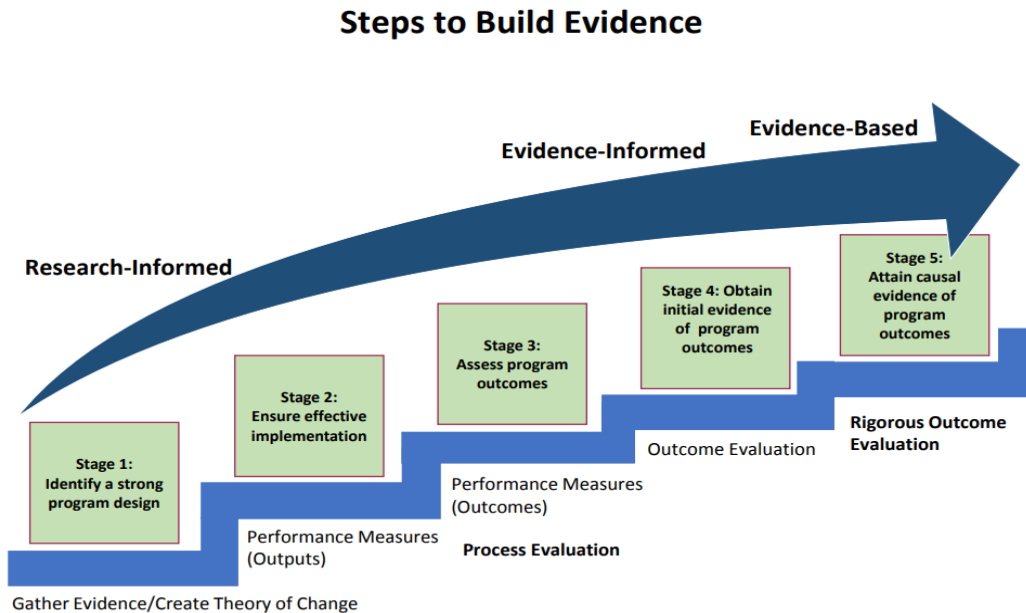
<http://www.wsipp.wa.gov/TechnicalDocumentation/WsippBenefitCostTechnicalDocumentation.pdf>.

¹¹ Each clearinghouse has their own rating system and often examines different research for the same intervention. For additional information on the clearinghouses, please access the Results First Clearinghouse Database User Guide online at

http://www.pewtrusts.org/-/media/assets/2015/06/results_first_clearinghouse_database_user_guide.pdf?la=en.

mental health) than the ones included here. Other Results First reports can be found here: <https://sites.google.com/state.co.us/rfpfs/colorado-results-first/reports>.

Additional Considerations



The REP team relies on clearinghouses that collect, standardize, and validate program research to determine program effectiveness, as clearinghouses play a role in identifying and *rating programs for effectiveness*.

Regardless of the level of effectiveness (e.g. highest rated, second-highest rated, etc.) assigned to a program in any of the clearinghouses, if a program was reviewed by WSIPP and is included in the Results First model it is considered evidence-based by the REP team. As mentioned, this is because of the rigorous standards that WSIPP employs when reviewing program research.

The REP team also, distinctly, presents information on program *effectiveness*, as it relates to a program’s *outcome(s)*.¹² For both evidence-based programs and evidence-informed/promising programs, the team identifies what the research findings demonstrate regarding the outcome(s) being measured. For evidence-based programs, the impact on outcomes is determined by WSIPP’s meta-analytic approach;¹³ for

¹² Please note that outcomes included in the research can be limited to specific areas of interest researchers had when developing the research design; further research might address different outcomes of interest.

¹³ WSIPP’s meta-analytic approach systematically combines outcome data from several selected program evaluations to develop conclusions that have greater statistical power.

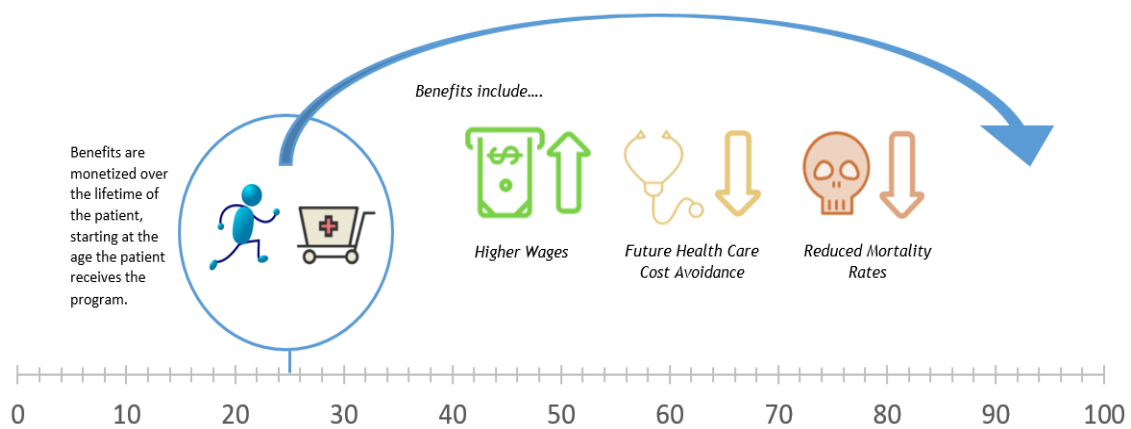
evidence-informed/promising programs, the impact on outcomes is labeled in accordance with the clearinghouse information.

Program Inventories and Benefit Analysis

1. CDPHE and HCPF Program Inventories:

The Department-specific program inventories identify programs supported by the Departments and their levels of evidence, and highlights the best available research demonstrating evidence of program efficacy and outcomes affected. In these inventories, benefit projections are presented. Benefit projections are an estimate of the monetary benefits that accrue as a result of a participant going through the evidence-based program. These projections are included to provide a general estimate of how beneficial an evidence-based program may be.

HEALTH CARE PROGRAM BENEFITS



Projected benefits of health programs include future health care cost avoidance, benefits associated with a participant earning higher wages over their lifetime, and benefits associated with reduced mortality rates. For obesity and diabetes programs, benefits are monetized over the lifetime of the patient, starting at the age the patient receives the program. For other health programs, benefits are typically monetized over a year or two.

2. Evidence of Program Effectiveness Inventory:

In addition to the Department-specific program inventories, the REP team also put together an inventory of all evidence-based health programs that can be assessed through the Results First model. Similar to the department-specific inventories, this document highlights the best available research demonstrating evidence of program efficacy and outcomes affected.

A NOTE ON EVIDENCE-BASED POLICYMAKING

The REP team to serve as a resource for departments and state partners to assist with the following:

- Evaluation Planning
- Evaluation Costing
- Research Review
- Cost-benefit Analysis

Furthermore, The REP team is actively involved with the following:

- The Colorado Lab
- Pay for Success
- Oversight of the Evaluation and Implementation Grant Program

Additionally, the REP team continues to engage with members of the Legislature, the Judicial Branch, other Executive Agencies and other state partners to continue the advancement of evidence-based policymaking. Several partners in the state work in this space, and it is our goal to identify opportunities for co-learning, co-creation, collaboration and coordination. Evidence-based policymaking is a function of the whole government. We encourage partners to reach out to identify how we can advance this work together.