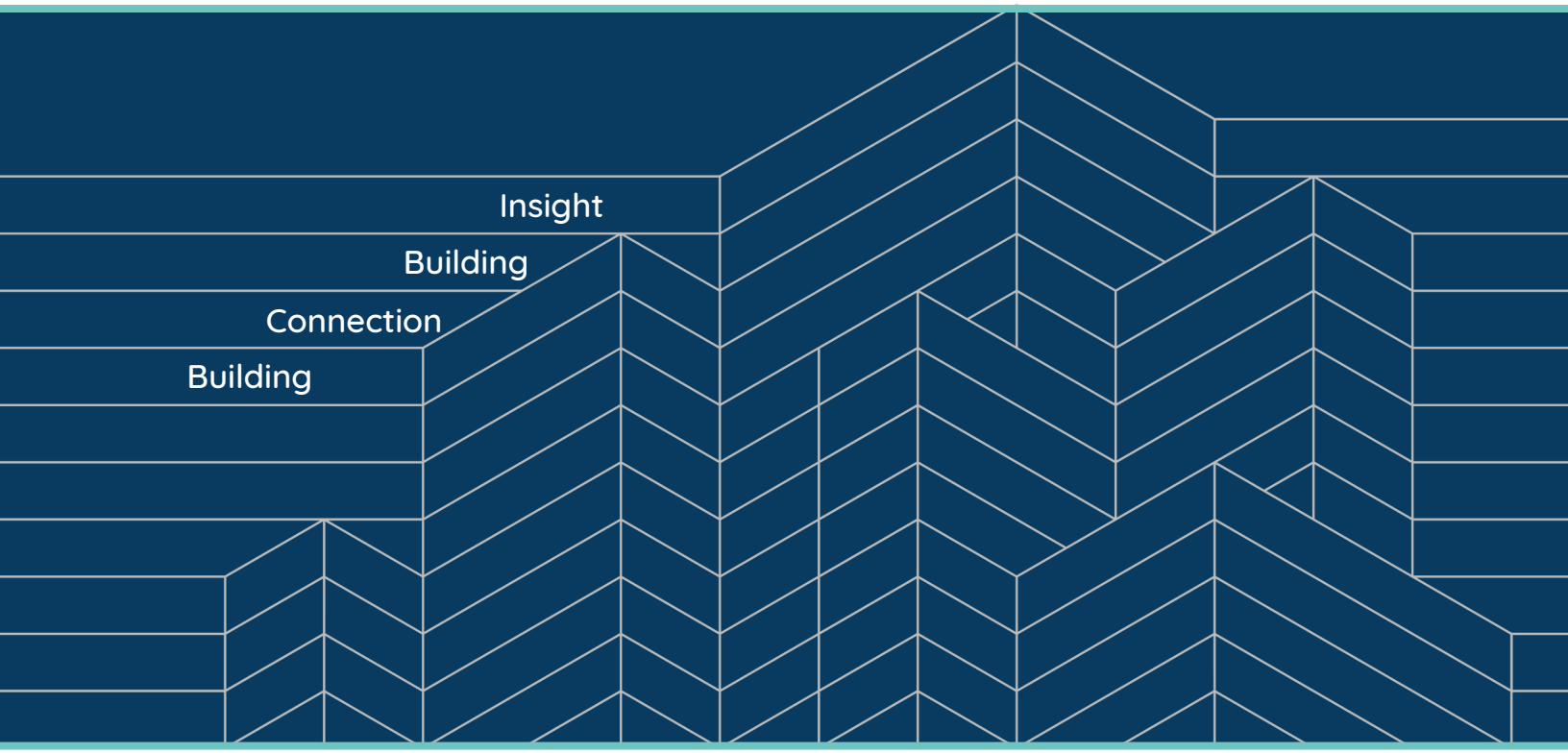
NC RESULTS First

Annual Report 2022



NC OSBM
OFFICE OF STATE BUDGET AND MANAGEMENT
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Executive Summary

North Carolina Results First is an innovative, data-driven initiative to inform budget and policy decisions to improve societal outcomes and maximize the value of taxpayer dollars.

Under the leadership of the Office of State Budget and Management (OSBM), and in collaboration with state agencies, NC Results First inventories social programs targeting a priority policy issue and determines their effectiveness from existing research evidence. Agencies then estimate the monetary value of the programs' outcomes. Program benefits can then be weighed against delivery costs to identify high-return program "investments" and promising innovations.

The efforts of the initiative are documented in the NC Results First Annual Progress Report as S.L. 2017-57, Section 26.3 requires.

Highlights from the Year

The Department of Public Safety's Division of Juvenile Justice and Delinquency Prevention and OSBM assessed the impact and return-on-investment from community-based programs that aim to reduce justice-involved juveniles' likelihood of re-offending. Through this process, we also estimated the average cost of a juvenile recidivism event to victims, juveniles, families, and taxpayers. Findings and next steps are summarized in this report. The full report is available online.

OSBM partnered with the Adult Mental Health team within the NC Department of Health and Human Services' Division of Mental Health, Developmental Disabilities, and Substance Abuse Services to inventory the state's adult mental health programs, review the research evidence of their effectiveness, and estimate their return on investment. Findings and next steps are summarized in this report. The full report is available online.

The Pew Charitable Trusts is concluding their direct technical assistance to states by March 2023. New partnership opportunities and peer learning networks have grown out of this transition. North Carolina continues to be recognized as a leading state for evidence-based policymaking.

Looking Ahead

OSBM is piloting an expansion of program inventories for a cross-section of state government. We will continue to offer benefit-cost modeling for targeted programs to meet agency needs.

OSBM and the NC Office of Strategic Partnerships launched the North Carolina Evaluation Fund to support partnerships between state agencies and researchers to make evidence-based decisions. OSBM received $1 million for these grants in the 2021 Appropriations Act (Section 23.1 of SL 2021-180). OSBM received 21 proposals from nine agencies and multiple research partner organizations. Eight projects were selected for awards. OSBM will seek continued state support for the program in the future.

OSBM will expand and create new initiatives to encourage and enable best practices in evidence-based decision-making across North Carolina.

NC Results First Overview

The North Carolina Results First Initiative helps decision-makers identify programs that generate positive outcomes and maximize the value of taxpayer dollars. The Pew Charitable Trusts and the Washington State Institute of Public Policy (WSIPP) developed the model that formed the basis of this framework.

The Office of State Budget and Management (OSBM) works with state agency partners to employ three main tools:

1

Program Inventories identify state-funded programs by policy goal.

2

Evidence Reviews examine the existing research base to assess the evidence of effectiveness behind each program.

3

Benefit-Cost Analyses monetizes program costs and benefits to estimate return on investment.

The process helps achieve better outcomes for program participants and North Carolina residents. Findings based on research evidence inform program design, implementation, and investment decisions. The process also identifies evaluation needs to fill gaps in the existing evidence base.

Findings inform decisions

- Program delivery and investments
- Contract design
- Future impact evaluation and priorities
- Performance and outcome monitoring

Program Inventories

The program inventory is a comprehensive list of programs in a particular policy area, along with basic information on the programs' duration, frequency, oversight agency, delivery setting, and target population.

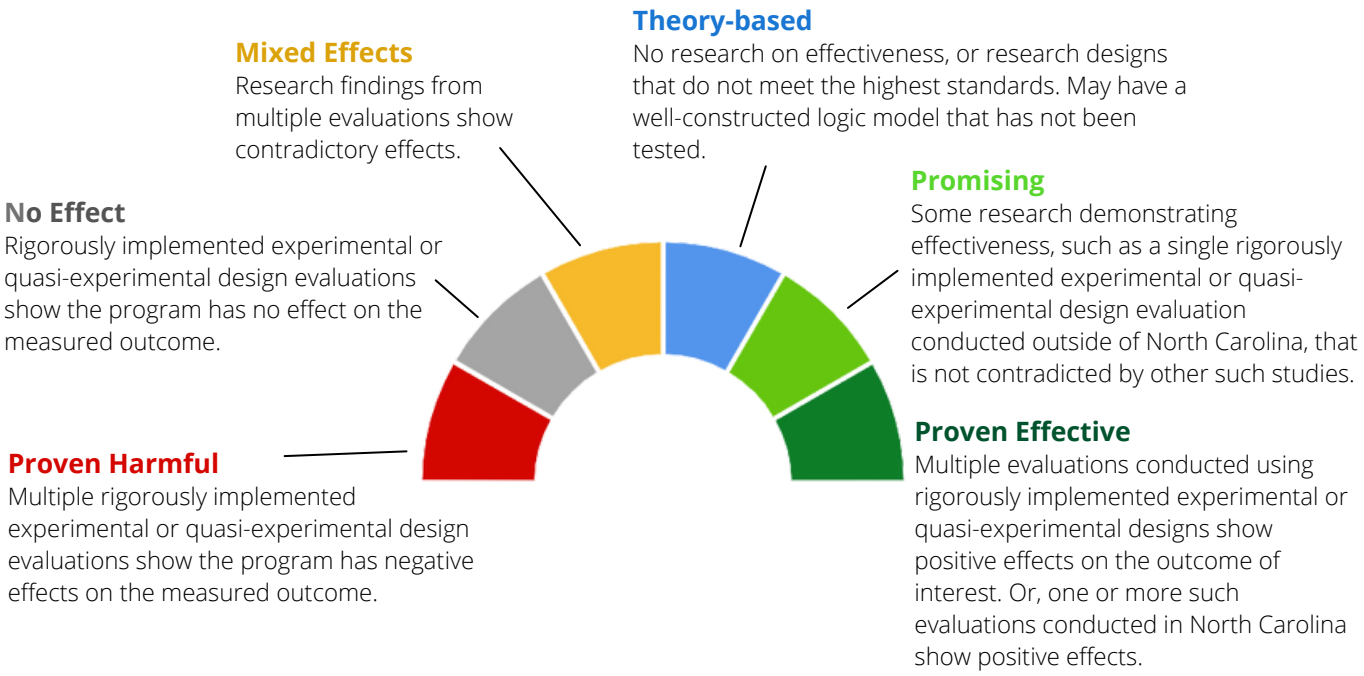
Program inventories provide a systematic way to assess what programs are being delivered to achieve a policy goal or desired outcome, how those programs are being delivered, and whom those programs target. Inventories also include details on the discrete subcomponent interventions that comprise broader delivery models like residential care facilities.

Evidence Review

After creating an inventory, OSBM and agency partners review the available research evidence from the Results First Clearinghouse Database[1] to evaluate the effectiveness of each program based on its measured impact (positive or negative) and the rigor of the research designs. Programs are rated on a scale ranging from "proven effective" to "proven harmful."

The ratings definitions are summarized below; more details can be found on OSBM's website.

Tiered Levels of Evidence



Most state programs are Theory-based, but this does not mean they are ineffective. This rating indicates that the programs are backed by strong theoretical models, but rigorous evaluations have not yet been conducted to measure the programs' effectiveness.

Program inventories and evidence reviews also help to identify top-priority research needs.

[1] The Clearinghouse Database is an online resource that brings together information on the effectiveness of social policy programs drawn from the existing body of program evaluation research found in nine national clearinghouses.

Benefit-Cost Analysis

Using the Results First Benefit-Cost Model,[2] OSBM estimates the return on investment for programs that have sufficient research evidence to confidently measure and quantify outcomes. The process uses the program effect – the difference between what happened after the program was implemented versus if the program had not been implemented – measured by the research and state program data to *monetize* the long-term program participation benefits and compare them to the delivery costs on a per-person basis.

For example, if the state funds a program that reduces the likelihood that an adjudicated[3] juvenile will re-offend, the model helps states estimate the associated benefits from avoided crime victimization, lower justice system utilization costs, and higher lifetime earnings for participants. Those benefits can then be weighed against program implementation costs to estimate return on investment per person served.

Benefit-cost analyses do not directly evaluate outcomes or effectiveness for programs delivered in North Carolina. Rather, the Results First model helps estimate the benefits the state can expect when programs are implemented with fidelity, i.e. are loyal to the core design and service delivery elements that research has proven to be effective.

Key outputs from the benefit-cost analysis:

1. The program's impact on the outcome of interest
2. Return on investment estimates
3. The distribution of benefits to participants, the public, and government entities (taxpayers)
4. A measure of confidence in those estimates

PARTNERSHIP ROLES

As the lead agency in North Carolina's Results First Initiative, OSBM facilitates and coordinates the process while providing technical expertise in the areas of benefit-cost analysis and evidence-based decision-making. OSBM works with agency staff to collect information required to build the program inventory. OSBM staff also collects data required for the benefit-cost model.

Partner agencies provide the programmatic expertise and have primary responsibility for the program inventory. Partner agencies also assist with the data collection and analysis required to customize the benefit-cost analysis. Depending on the policy area, data collection can be substantial.

Partner agencies then work with OSBM to estimate costs for the benefit-cost analysis and to provide other necessary data. Lastly, OSBM and partner agencies review results and use them to inform how programs are designed and how resources are allocated across programs.

[2] The model is a customizable tool that enables state and local governments to estimate the expected return on investment for evidence-based programs they fund or are considering funding in a variety of social policy areas.
[3] An adjudication is a finding by a judge, following an adjudicatory hearing, that a juvenile committed a delinquent act.

Juvenile Justice Project

The Division of Juvenile Justice and Delinquency Prevention (DJJDP) – Juvenile Community Programs offers a wide array of programs and services for adjudicated youth.[4] These interventions aim to disrupt the cycle of recidivism, restore community safety, and help juveniles internalize skills, thus promoting a trajectory for juveniles to lead successful and productive adult lives.

The NC Results First Initiative examined the effectiveness, costs, and benefits of DJJDP's statewide contract programs that seek to reduce recidivism among adjudicated juveniles with a high risk of reoffending. These programs include:

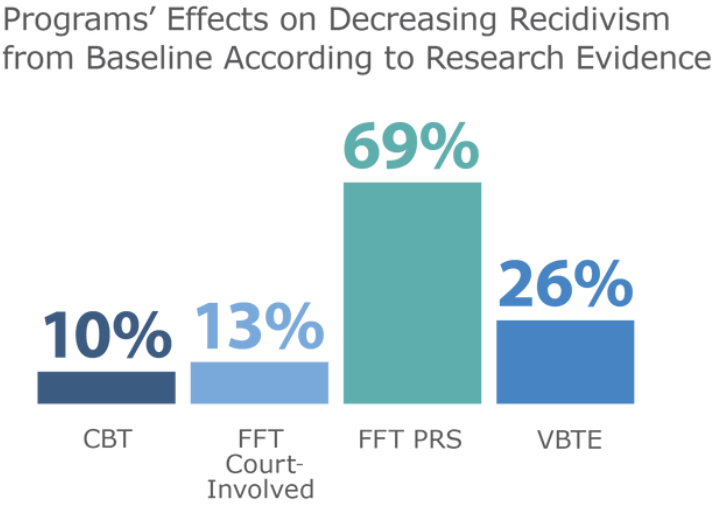
- Group homes
- Transitional living homes
- Short-term residential programs
- Community-based family services

Preventing a repeat offense among high-risk juveniles saves North Carolina $120,000 *on average in victim, societal, and justice system costs – 79% of which is associated with the impact on victims.*

Findings

Of the seven programs inventoried, two program models and one program component have been proven to lower the likelihood of recidivism for this population, based on rigorous research evidence. Measured impacts ranged from a 10% to a 69% decline in recidivism due to program participation:

- Eckerd's Cognitive Behavioral Therapy component (CBT),
- AMIkids' Functional Family Therapy (FFT) for Court-Involved Youth,
- AMIkids' Functional Family Therapy (FFT) for youth on post-release supervision (PRS),
- Methodist multipurpose group homes and transitional living homes using the Value Based Therapeutic Environment model (VBTE).



[4] An adjudication is a finding by a judge, following an adjudicatory hearing, that a juvenile committed a delinquent act.

The remaining programs are backed by strong theoretical models but need further evaluation to measure their actual effects. See additional details about the programs and their evidence ratings in the Project Brief.

Without program intervention, 55% of high-risk juveniles recidivate within five years. Preventing recidivism through effective programming generates benefits for all North Carolinians:

- Lower crime and avoided crime victimization costs,
- Better education outcomes and higher lifetime earnings for juveniles who avoid deeper justice-system involvement, and
- Cost savings to the state and local governments (taxpayers) from lower justice system utilization.

Key findings from this analysis demonstrate the value of investing in preventive, forward-thinking juvenile programming.

*For this analysis, **recidivism** is defined as a new juvenile adjudication or adult conviction; it excludes complaints, arrests, and technical violations.*

Program Effectiveness and Return on Investment Findings

Program Impact	$ - Costs* | Benefits Per Participant, Lifetime	Benefit: Cost Ratio
AMIkids (Functional Family Therapy) Most effective for youth with higher risks and needs.		
For youth re-entering the community on post-release supervision, AMIkids reduces recidivism by 69%. For every dollar spent, the program returns $9.44.	-$6,428 | $60,679	$9.44:1
For court-involved youth, AMIkids reduces recidivism by 13%. For every dollar spent, the program returns $0.97.	-$6,428 | $6,219	$0.97:1
Methodist Multipurpose Group Homes and Transitional Living Homes using the Value-Based Therapeutic Environment model Lowers recidivism by 26%. For every dollar spent, the program returns $13.01	-$2,421 | $31,496	$13.01:1
Eckerd's Cognitive Behavioral Therapy (CBT) component Lowers recidivism by 10% when delivered in the secure custody or residential environment. For every dollar spent, the program returns $5.13.	-$1,678 | $8,605	$5.13:1

**When calculating the return on investment for each program, costs and benefits are modeled on a per person basis. They include the short- and long-term effects of program treatment over the participant's lifetime. Costs and benefits are presented in 2020 dollar values, calculated using a 3.5% discount rate.*

Next Steps

These results support two guiding principles within Juvenile Justice:

Children have the capacity to change.

Delivering the right program at the right time - targeting interventions based on what is appropriate and proven effective for the individual's needs - maximizes benefits to victims, the justice system, juveniles, and families.

Guiding Principles

Accordingly, Juvenile Community Programs plans to take the following next steps:

1 Expand the use of AMIkids (Functional Family Therapy) for Youth on PRS: DJJDP aims to expand the number of post-release supervision youth served by FFT through educational outreach to Court Services and Facility Operations staff. DJJDP will also consider seeking additional funding to expand overall program capacity, if needed.

2 Fill Priority Research Gaps: DJJDP plans to seek funding opportunities and academic partnerships to assess top-priority programs that have not yet been rigorously evaluated, with the goal of measuring their effectiveness relative to alternative treatments.

3 Incentivize Proven Practices: DJJDP intends to incentivize providers to deliver proven, effective and high-fidelity programs to targeted populations by expanding performance-based contracting.

4 Communicate and Educate: DJJDP plans to inform legislators and other stakeholders of the outcomes related to public investments in preventive, forward-thinking juvenile programming. Communication efforts will aim to increase awareness of the value of serving high-risk youth in settings other than youth development centers.

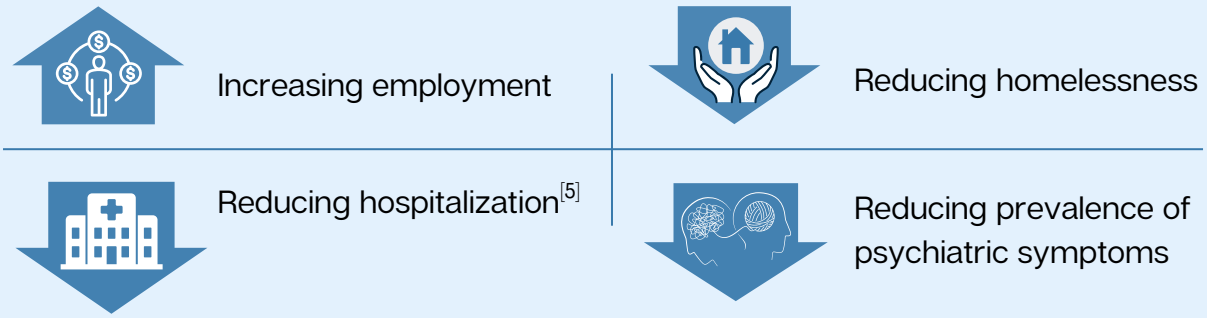
5 Continue Partnerships: DJJDP will continue to look for opportunities to partner with OSBM on projects that inform the state's policy making process in a fiscally responsible way, both through Results First and through other avenues.

Adult Mental Health Project

Investing in effective programs and services for adults with mental health and substance use disorders benefits program participants and the state. Programs that reduce the prevalence and severity of mental health conditions generate positive outcomes including higher employment and earnings, lower crime, reduced homelessness, and lower healthcare costs.

OSBM collaborated with the Adult Mental Health Services (AMH) team within the Department of Health and Human Services, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services to examine the effectiveness and return on investment from 25 state-funded adult mental health programs that AMH supports. The programs, administered in different care settings, aim to reduce the incidence or symptoms of mental health conditions in adults or improve functioning for individuals with severe mental illness.

AMH worked with OSBM to identify four key outcomes:



Findings

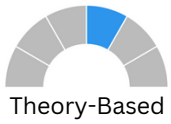
Rigorous evidence proves ten of the 25 total programs are effective, showing a positive impact on at least one outcome of interest. The remaining programs need additional research to confidently measure their impact. More details about these programs and the evidence ratings are available in the Project Brief.

25 programs identified:

10 are proven to improve at least one outcome of interest

2 are promising but more research is needed to validate their effectiveness

13 are backed by theory **but need to be evaluated**



[5] "Hospitalization" reflects emergency department visits, psychiatric hospitalization, and psychiatric rehospitalization.

Program Impact on Key Outcomes

The program impact on the outcomes below is represented by:
Green Fill: positive impact, **Gray Fill**: neutral impact, **Blank**: no available evidence on the outcome

Program	Employment	Homelessness	Hospitalization	Psychiatric Symptoms	Other
Proven Effective Programs (10)					
Assertive Community Treatment		Decreased	Decreased	Neutral	
Cognitive Behavioral Therapy				Decreased	
Critical Time Intervention		Decreased	Decreased		
Dialectical Behavioral Therapy					Decreased
First Episode Psychosis *(Pilot)*			Neutral	Decreased	
Individual Placement and Support	Increased		Neutral	Neutral	
Mental Health First Aid					Decreased
Peer Support Services	Increased	Neutral	Neutral	Neutral	
Promoting Integration of Primary and Behavioral Health Care *(Pilot)*					Decreased
Resource Intensive Comprehensive Case Management *(Pilot)*		Decreased			
Promising Programs (2)					
Facility Based Crisis					
Mobile Crisis Management			Decreased		
Theory-Based (13)	Unknown	Unknown	Unknown	Unknown	Unknown

More information on NC Results First, along with all past published reports, program inventories, and other related materials can be found on OSBM's website at:

https://www.osbm.nc.gov/results-first.

Five of the 25 programs had sufficient research evidence to estimate the return on investment the state can expect if the programs are implemented according to the core design and delivery elements from the research. All five programs are proven to generate positive outcomes for participants, in the form of long-term avoided healthcare expenses, increased employment and earnings, reduced crime costs, and reduced homelessness.

Program Return on Investment Findings

Program	$ - Costs* | Benefits Per Participant, Lifetime	Benefit: Cost Ratio
Individual Placement and Support (IPS)	-$4,369 | $11,163	$2.55:1
Peer Support Services	-$3,992 | $4,767	$1.19:1
Resource Intensive Comprehensive Case Management (RICCM)	-$4,203 | $11,819	$2.81:1
Critical Time Intervention (CTI) *Partial estimate. See below for details.*	-$6,983 | *$2,172*	*$0.31:1*
Mobile Crisis Management: Justice-Involved	-$998 | $4,478	$4.48:1
Mobile Crisis Management: General	-$998 | $645	$0.64:1

* *When calculating the return on investment for each program, costs and benefits are modeled on a per person basis. They include the short- and long-term effects of program treatment over the participant's lifetime. Costs and benefits are presented in 2020 dollar values, calculated using a 3.5% discount rate.*

The analysis found that Individual Placement and Support (IPS), Peer Support Services, and Resource Intensive Comprehensive Case Management (RICCM) show a positive return on investment.

The primary goal of Critical Time Intervention (CTI) is to reduce homelessness among adults with serious mental illness. While research shows that CTI is effective at reducing homelessness, this outcome cannot be monetized due to research and data limitations and the inherent difficulty of placing a monetary value on stable housing. Therefore, this analysis only provides a partial comparison of CTI's costs and benefits.

Mobile Crisis Management (MCM) generates a high return on investment when delivered to adults who are involved with the criminal justice system because of the program's effect on crime reduction. However, program costs outweigh the expected benefits for a general population that has a lower risk of committing an offense, on average.

Each of these programs target different subpopulations or have different primary goals. They should not be thought of as substitutable.

Next Steps

These results underscore the value of investing in high-quality and proven effective programs that reduce the symptoms and occurrence of serious mental illness for North Carolinians. While the analysis shows that the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services supports several proven and cost-effective programs, it also highlights opportunities in North Carolina to fill knowledge gaps and improve service delivery to maximize positive outcomes.

In alignment with strategic priorities of the Division, the Adult Mental Health team plans to take the following next steps. More details are available in the Project Brief.

Increase availability and access to high-quality programs

Expand proven effective and promising programs through funding and training, prioritizing programs shown to have a positive return on investment and long-term benefits from increased employment and avoided hospitalization: IPS, Peer Support Services, and RICCM.

MCM – Increase referrals among criminal justice-involved population: AMH will communicate MCM's recidivism reduction benefits and encourage adult criminal justice staff to increase referrals.

Integrate behavioral healthcare into primary and physical care

IPS – Integrate behavioral health services into all IPS teams: AMH will address implementation barriers to ensure all individuals receive both employment support and behavioral health services through IPS, in alignment with a person-centered model of care.

Lead innovation to leverage and maximize resources

Expand Value-Based Payment Models (VBP): AMH will explore expanding VBP to additional programs and recommends that all LME-MCOs participate in VBP for IPS.

Use data to ensure continuous quality improvement

Evaluate programs lacking rigorous evidence: AMH will develop research partnerships to evaluate the effectiveness of programs that are theory based but need additional research to measure their effects.

Track program outcomes: AMH will collect data on program delivery and outcomes for Peer Support Services, MCM and CTI to determine whether they are achieving the expected effects from the research.

Ensure programs are delivered according to best practices: AMH will offer enhanced technical assistance to IPS providers facing implementation barriers and will require LME-MCOs to develop an action plan to strengthen program fidelity.

CTI – Explore feasibility of monetizing CTI's effect on homelessness: To provide a more complete estimate of CTI's benefits, AMH will investigate approaches for addressing research and data gaps.

Engage stakeholders and build partnerships

IPS – Collaborate with DVR to enhance available resources: AMH plans to strengthen collaboration with the NC Division of Vocational Rehabilitation to reduce agency specific costs and provide a more robust array resources to help clients find and keep a job.

IPS – Increase engagement to strengthen support for IPS: AMH will engage providers, agency leadership, and other stakeholders to increase involvement and support for expanding the reach of IPS.

Next Steps for NC Results First

Foster New Partnerships and Growth

After more than 12 years of partnering with states to implement the Results First Initiative, the Pew Charitable Trusts will conclude their direct work with states in March 2023. This transition will create opportunities for new partnerships and growth in the next phase of North Carolina's evidence-based policymaking efforts.

New partnership and peer learning opportunities have grown out of this transition. Penn State University's Evidence-to-Impact Collaborative will maintain and expand the Results First research Clearinghouse database and benefit-cost model . In September 2021, the National Conference of State Legislatures, The Council of State Governments, and The Policy Lab at Brown University launched a peer learning community, the Governing for Results Network. North Carolina has joined this learning network as a state partner.

Since joining Results First in 2017, OSBM has promoted the importance of "Good Government and Operational Excellence" initiatives across state government. OSBM has invested significant resources to promote these best practices, provide technical assistance, and develop programs that help state government operate more efficiently and effectively. We've received national awards and, as recently as October, were cited by Results for America as one of the leading states in this regard.

As part of OSBM's commitment to evidence-based decision-making in state government, we will continue to advance and expand our efforts.

Expand Program Inventories

The Results First Initiative's two primary outputs are program inventories and return on investment analyses using the benefit-cost model. OSBM will continue to offer benefit-cost modeling for targeted programs to meet agency needs. Moving forward, OSBM intends to adapt and expand its use of program inventories beyond the Results First context to more agencies statewide.

Program inventories comprehensively identify state government programs and summarize program objectives, operational highlights, and budget context. The Results First Initiative has demonstrated the value of program inventories for identifying opportunities to improve programs or processes, reveal service gaps, and track activities toward strategic goals. Additionally, the inventory process is an excellent way for both OSBM and agency budget staff to deepen their knowledge of agency programmatic activities and therefore improve policy proposals.

OSBM has launched a new effort to conduct program inventories for select divisions and offices representing a cross-section of state government. OSBM intends to use program inventories to inform data-driven budget recommendations. OSBM analysts will use these inventories to determine the strength of the business case for budget requests and partner with agencies to encourage the use of these inventories for agency internal budget decisions. Agencies may also choose to use completed inventories to inform internal operational analysis, strategic planning, and future evaluation needs.

Award Evaluation Grants to Generate Evidence

Rigorous research needed to confidently measure program outcomes is limited. The Results First process highlighted the need to fill evidence gaps in top priority program areas, especially to evaluate home-grown and innovative programs.

The 2021 Appropriations Act provided $1 million to support partnerships between state agencies and researchers to make evidence-informed decisions. Consequently, OSBM established the North Carolina Evaluation Fund, which OSBM administers as part of the agency's Operational Excellence efforts to encourage strategic decision-making and evidence-driven policy.

OSBM and the NC Office of Strategic Partnerships (OSP) launched the new grant program in April 2022 and provided over 75 hours of direct technical assistance to prospective applicants. Between July and September, we received 21 proposals from nine agencies and multiple research partner organizations. An expert panel reviewed these proposals.

OSBM selected eight projects to receive NC Evaluation Fund grants. Selected projects will launch this fall and winter.

This process has further highlighted the demand and need for additional resources to support evidence-building and research partnership opportunities. Agencies continue to inform OSBM of research partnerships that require funding. Therefore, OSBM will seek funding for this grant program in the future.

> "Tremendous opportunity exists in our state to improve the quality and availability of information used to evaluate programs and policies. Research funded by NC Evaluation grants will reap dividends for years to come."
>
> State Budget Director Kristin Walker