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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 monetize the value of the programs’ outcomes. Those program benefits can be weighed against delivery costs to identify high-return program “investments” and promising innovations.

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

**Highlights of this year’s program**

The Department of Public Safety’s Division of Adult Correction and Juvenile Justice (DACJJ) and OSBM recently finished calculating community-based program costs and recidivism reduction benefits (avoided crime costs). Insights from this process can inform program delivery, contract design, resource allocation, and future research priorities. DACJJ and OSBM will share the complete modeling results and findings in winter 2022.

OSBM partnered with the Adult Mental Health (AMH) team within the NC Department of Health and Human Services’ (DHHS) Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMH/DD/SAS) to complete an inventory and benefit-cost analysis of programs seeking to reduce the incidence or symptoms of mental health conditions in adults. The final inventory is now available online. The results from the benefit-cost analysis are being finalized and will be released in late 2021.

OSBM is transitioning to a state-maintained model that continues the positive impact of NC Results First. The Pew Results First Initiative is winding down their direct technical assistance, preparing states like North Carolina to use the program inventory and benefit-cost modeling tools independently.
Looking ahead, NC Results First will address these opportunities

OSBM and DACJJ have completed the benefit-cost analysis of three Division of Juvenile Justice programs and therapies that aim to reduce recidivism. Results are expected to be released in winter 2022 and will also be included in the next Results First annual report.

OSBM will continue to partner with DMH/DD/SAS to complete an inventory and benefit-cost analysis of programs that reduce the incidence or symptoms of mental health conditions in children.

Over the next year, OSBM will engage stakeholders to make the Results First data and results easier to understand and more accessible across policy areas.

OSBM will evaluate and propose changes for the future of Results First in NC given the wind-down in technical assistance from Pew and advancement of other evidence-based, data-driven practices being used in NC and across the country.

Find NC Results First Reports Online

OSBM publishes program inventories and reports on its website for each policy area analyzed. Current reports include:
- Juvenile Justice Program Inventory;
- Adult Mental Health Inventory;
- Children and Family Health Program Inventories for Birth Outcomes and Chronic Disease Outcomes;
- Children and Family Health Final Report;
- Plan and Estimate to Conduct a Benefit-Cost Analysis of State-Funded DHHS Programs;
- All NC Results First Annual Reports.

3 Policy Areas
4 Annual Reports
4 Inventories
The North Carolina Results First Initiative is a framework for rigorous program evaluations and benefit-cost analysis. The Pew Charitable Trusts and the Washington State Institute of Public Policy (WSIPP) developed the model that formed the basis of this framework. The initiative helps North Carolina identify programs that generate positive outcomes and maximize the value of taxpayer dollars for North Carolina.

**Figure 1: Results First Process**

The Office of State Budget and Management (OSBM) works with state agencies to collect data to complete the inventory of currently funded programs, review the evidence base behind each, and conduct benefit-cost analysis on programs that match evidence in the Results First model. OSBM and partner agencies then review results and use them to inform how programs are designed and implemented and how resources are allocated across programs.

> Under increasing pressure to demonstrate effectiveness and do more with less, many governments are expanding their use of evidence-based programs—those shown in rigorous evaluations to be effective. Committing to such proven programs can help governments strengthen efficiency and accountability and achieve better outcomes for residents.

The Pew Results First Initiative
Program Inventory & Benefit-Cost Analysis

The Results First process produces two main products: a program inventory and a benefit-cost analysis.

**PROGRAM INVENTORY**

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. After creating an inventory, OSBM and partner agencies match these programs to those in the Results First Clearinghouse Database. [1]

The Clearinghouse Database is an online resource that provides information on the effectiveness of various interventions drawn from the existing body of program evaluation research. Included programs have different levels of evidence based on the quality, quantity, and/or scientific rigor of the research.

The Clearinghouse Database helps states determine which programs are evidence-based and how potentially effective those programs are according to available research. [2] Not all programs match the Clearinghouse Database, but this does not necessarily mean they are not effective. Rigorous evaluations may not have been conducted for some programs or programs may be too small to warrant rigorous evaluation.

Together, the list of programs and their associated level of evidence make up the program inventory.

**BENEFIT-COST ANALYSIS**

After the program inventory is complete, OSBM identifies which programs qualify for the benefit-cost analysis. If quality evaluations are not available to validate the outcomes and effect of the program, additional research would be required to monetize the benefits of the program.

In its simplest form, the Results First Benefit-Cost Model calculates the monetary values of benefits and costs of a program over time. For example, if the state funds a program that improves birth outcomes for participants, the model will calculate the potential monetized benefits, (e.g., reduced health care costs) and implementation costs.

The benefit-cost analyses do not directly evaluate outcomes or effectiveness for programs delivered in North Carolina. Rather, the Results First model helps us estimate the benefits the state can expect if its programs have the same impact found in similar or equivalent programs. The model assumes programs in North Carolina are as effective as those in the research.

OSBM works with partner agencies to collect cost information and customize the benefit-cost model. This information helps OSBM understand program cost-effectiveness and compare similar programs.

**PARTNERSHIP ROLES**

As the lead agency in North Carolina’s Results First Initiative, OSBM manages the process and provides 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 programmatic expertise and have primary responsibility for developing the program inventory. Additionally, partner agencies 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.

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[1] Results First defines programs as systematic activities that engage participants to achieve desired outcomes.
[2] An evidence-based program is one that has been rigorously evaluated to demonstrate an actual cause and effect relationship between a program and its outcome.
Accomplishments to Date

Child & Family Health
For the first NC Results First initiative, OSBM partnered with the Department of Health and Human Services (DHHS), reviewing child and family health programs designed to improve:
- Chronic disease outcomes, including obesity and type 2 diabetes
- Birth outcomes, such as reducing unnecessary cesarean sections, infant mortality, low birthweight, preterm birth, small for gestational age, very low birthweight, and Neonatal Intensive Care Unit (NICU) admissions

OSBM and DHHS completed work on the Child and Family Health policy area in May 2019. Findings from the Program Inventory and Benefit-Cost Analysis can be found on OSBM’s Results First web page.

Since the completion of the Child and Family Health policy area, several of the highest-rated programs have received additional funding. Governor Roy Cooper recommended using American Rescue Plan Act funds to expand some of the highest-rated Results First evidence-based initiatives to target top risk factors associated with severe COVID-19.

Juvenile Justice
North Carolina Results First’s second initiative was with the Department of Public Safety’s Division of Adult Correction and Juvenile Justice (DACJJ). The ongoing work with DACJJ is detailed in the next section.

Adult Mental Health
NC Results First’s third initiative was with the DHHS’ Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMH/DD/SAS) focused on Adult Mental Health programs. The ongoing work with DMH/DD/SAS is detailed in the Adult Mental Health Policy Area section of this report.

DHHS Inventory and Plan for Benefit-Cost Analysis
S.L. 2020-78, Section 14.1 directed OSBM to submit a plan to conduct a benefit-cost analysis of all of DHHS’ programs funded by state appropriations to the Joint Legislative Oversight Committee on General Government, the Joint Legislative Oversight Committee on Health and Human Services, and the Fiscal Research Division on January 15, 2021.

OSBM included an inventory of all of DHHS’ programs and an estimate of the cost to conduct the Results First benefit-cost analysis for each qualifying DHHS program. The DHHS Inventory of Programs and Plan for Benefit-Cost Analysis is available online.
Advancing Evidence-Based Policymaking

OSBM continues to implement strategies to help agencies increase the use of performance management and evidence-based policymaking tools. OSBM has partnered with various groups for training and internal consulting projects on topics such as strategic planning, designing impact evaluations, and evidence-based budgeting.

OSBM will continue offering more opportunities and trainings to reinforce evidence-based policymaking and foster continuous improvement.

Current & Upcoming Initiatives to Advance Evidence-Based Policymaking:

PERFORMANCE MANAGEMENT ACADEMY
OSBM is hosting the second Performance Management Academy (PMA) in fall 2021. PMA aims to build capacity within agencies to improve efficiency and effectiveness of NC government programs. It is a 20-hour training, held over five days. Training covers performance management concepts and provides opportunities for practical application, helping participants hone knowledge of evidence-based policy and related tools. PMA is geared towards state employees who implement or manage policies and/or programs.

PERFORMANCE MANAGEMENT COMMUNITY OF PRACTICE
In May 2021, OSBM created the Performance Management Community of Practice (PMCOP). The goal is to create an informal space where practitioners feel free to openly discuss challenges, ask questions, and offer solutions related to performance management.

PMCOP is a group of state agency representatives focused on sharing their performance management knowledge and encouraging the practical application of performance management in their work. Membership is open to any agency employees with an interest in these issues. PMCOP meets quarterly and features an online forum for sharing information and ideas.
Project Overview
The Department of Public Safety’s Division of Adult Correction and Juvenile Justice (DACJJ) Community Programs offers a wide array of programs and services targeting at-risk youth, diverted youth, and adjudicated youth.

Given the diversity of programs and services that DACJJ Community Programs offers, DACJJ focused on programs funded through statewide contracts due to their large impact on the North Carolina juvenile population. Statewide contracts include group homes and transitional living programs, family services, and short-term residential programs including gender-specific services. Both full programs and their subcomponents, where applicable, were included in the program inventory.

In September 2020, OSBM and DACJJ published the program inventory of Juvenile Justice statewide contracts. The inventory includes a six-tier evidence rating for 16 programs and therapies based on North Carolina evidence definitions, ranging from “proven effective” to “proven harmful.” While decisionmakers can and should use the inventory information when reviewing current programs and making policy and contract decisions, only a subset of the programs have sufficient research evidence to determine their effect on recidivism.

Among those that have been rigorously evaluated, it is possible to determine the return on investment for two programs and one service subcomponent:
- Functional Family Therapy (AMI Kids, Inc.);
- Value-Based Therapeutic Environment (Methodist Home for Children); and
- Cognitive Behavioral Therapy delivered in short-term residential settings (Eckerd, Inc.).

The return on investment analyses are currently being finalized by DACJJ and OSBM, and we expect to release results in winter 2022.

North Carolina Criminal Justice System Resources

Before Adjudication or Conviction
- Police
- Courts
- Intake process staff, court counselors
- Pre-conviction detention (youth) or jail (adult)

Confinement Setting
- Detention (youth) or Jail (adult)
- Youth Detention Center (YDC) or Prison (adult)

Community Setting
- Post-Release Supervision (PRS) after YDC or Prison
- Supervision (youth), Probation or Parole (adult)
- Community programs assigned based on risk and needs, availability, and other factors*

*Risk and need-based community programs are included in the analysis if they are state funded. Certain state-funded adult programs are excluded because they have waitlists, meaning that a reduction in recidivism would not result in a cost savings, although participants could expect benefits from expanded availability of those programs.

Recidivism Reduction Programs Benefit Participants, Taxpayers, and Crime Victims

In North Carolina, most adult criminal justice system crimes are not committed by first-time offenders. Individuals with one or more prior adult conviction(s) accounted for 68% of the 121,000 adult sentences and 32% of the 2,500 juvenile dispositions in FY 2020. [4] Delinquent juveniles [5] without appropriate intervention services, are more likely to become involved in the adult criminal justice system. Effective contractual interventions aim to disrupt the cycle of recidivism, restore community safety and offer opportunities for juveniles to internalize skills learned, thus promoting a trajectory for juveniles to lead successful, productive adult lives.

Over half (55%) of high-risk juveniles [6] in North Carolina placed on court-ordered supervision in FY 2014 recidivated within five years in the absence of a contractual program intervention. [7] For this analysis, recidivism is defined as a new juvenile adjudication or adult conviction; it excludes complaints, arrests, and technical violations.

Programs and therapies that reduce recidivism among adjudicated youth ultimately lower crime in the state, generating long-term benefits for youth, taxpayers, and society. The expected benefits from these interventions are derived from three key elements:

1. The avoided cost of an average recidivism event from multiple perspectives:
   a. The justice system (taxpayers) – criminal justice system cost savings;
   b. Crime victims – avoided personal harms and property damages;
   c. Program participants – higher graduation rates and lifetime earnings;
2. The effectiveness of the programs and therapies: how much they lower recidivism rates compared to the population's baseline rate;
3. The avoided costs, where applicable, of the justice system resources a juvenile would have utilized for their first offense in absence of program treatment.

The DACJJ and OSBM team recently completed the process of modeling and combining these elements to determine the expected benefits from the three evaluated programs and therapies. The team will weigh the benefits (avoided or reduced costs) against the state's implementation costs to determine the return on investment per person. Insights from this process can inform program delivery, contract design, resource allocation, and future research priorities.

[4] This number includes adult sentences imposed under Structured Sentencing. It excludes sentences imposed for drug trafficking and violent habitual felony convictions, which are subject to mandatory penalties.

Sources: NC Sentencing and Policy Advisory Committee Reports
FY 2020 Adult Misdemeanors
FY 2020 Adult Felonies
FY 2020 Juvenile Dispositions

[5] Any juvenile who, while less than 18 years of age but at least six years of age, commits a crime or infraction under state law or an ordinance of local government, including violation of the motor vehicle laws.

[6] The study population includes adjudicated juveniles with a high risk of recidivism (Level 4 or 5 based on a Risk and Needs assessment) and who received a disposition Level 1-Community, Level 2-Intermediate, or Level 3-Commitment.

[7] This recidivism “baseline” provides a proxy for recidivism rates in the absence of community program intervention. The study cohort was limited to juveniles who did not participate in the state's contractually funded community-based programs but have similar characteristics to the populations served by those programs.
Measuring the Cost of Recidivism to Taxpayers

Crime type and age of offender, among other factors, affect the costs taxpayers bear for a recidivism event. The severity of the offense affects the types of justice system resources an individual may encounter as well as the duration of their sanctions. Recidivists' age and offense influence whether they will utilize the juvenile or adult criminal justice system resources. Therefore, the NC Results First model estimates recidivism costs by crime type for both juveniles and adults.

To identify North Carolina’s specific justice system utilization patterns, this analysis examined case records to track the actual experiences of individuals who completed their court-ordered supervision in FY 2019, accounting for over 135,000 crime events. This backward-looking approach captures time served pre-adjudication or conviction as well as any adjustments to the initial sentence for credits earned or technical violations. The team coded the offenses into seven crime-type categories based on the most serious adjudicated or convicted offense.

MARGINAL COST ANALYSIS OF JUSTICE SYSTEM RESOURCES

This analysis mined administrative data and workload surveys to estimate marginal costs for each resource – those costs that would change immediately if the number of cases increased or decreased.

Compared to an average cost that would include all types of expenditures, a marginal cost better reflects the savings government entities would experience from a moderate reduction in recidivism. Marginal costs include immediate expenses, such as medical care, food, and certain staff time costs, but exclude long-term capital expenses. Personnel costs are also excluded when confinement facilities are understaffed and when supervision caseloads are high because recidivism reduction would not reduce costs in these situations. Staffing and capital expenses account for the largest portion of justice system average costs. As a result, the marginal costs in this analysis are significantly lower than the average costs typically reported in other contexts.

RESOURCE USE PATTERNS AND PROGRAM IMPACT

The team combined marginal costs with justice system resource utilization patterns, the crime distribution, and the effect of a program on recidivism to estimate expected justice system resource cost savings of avoided recidivism attributable to a youth participating in a contractual program.

Rigorous impact evaluations require careful experimental design with well-matched comparison groups and long follow-up periods. Using the Results First model approach allows us to estimate the benefits the state can expect if programs and therapies have the same impact found in high-quality causal impact evaluations previously conducted in North Carolina or elsewhere in the country. While the effect sizes have not been determined in a North Carolina-specific research study, the high quality of the research methods across multiple studies on a program lends us to be sufficiently confident in the generalizability of the results in North Carolina. Additionally, for one of the programs analyzed through the benefit-cost model we were able to employ North Carolina-specific research completed by Research Triangle Institute (RTI) as a basis for the effect size used in the model.

Taxpayer benefits from recidivism reduction are combined with the avoided victimization costs, the increased lifetime earnings for program participants, and justice system savings at initial treatment. This gives a more comprehensive picture of how North Carolina benefits from reducing recidivism.
Project Overview
In fall 2020, OSBM began working with the Adult Mental Health (AMH) team within the North Carolina Department of Health and Human Services’ (DHHS) Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMH/DD/SAS). OSBM and AMH completed a program inventory on select programs and are now focused on completing the benefit-cost analysis portion of the project.

Combined with the benefit-cost analysis, the inventory may be used to better understand the programs that have impacts on adult mental health outcomes and their levels of evidence, helping to inform program design and resource allocation across programs.

Program Inventory Highlights Effective Programs
OSBM and AMH completed the program inventory in July 2021. The inventory presents information about selected adult mental health services, administered in different care settings, that may reduce the incidence or symptoms related to mental health conditions in adults, including anxiety disorder and major depressive disorder, and increase the building of recovery skills.

OSBM identified similar or equivalent programs that matched AMH’s programs in the Clearinghouse Database and the Results First Benefit-Cost Model.

The Clearinghouse Database applies evidence rating levels to each individual clearinghouses’ distinct rating systems, creating a common language that allows users to quickly see each program’s level of evidence and where each program falls on a spectrum from negative impact to positive impact. As an example, to earn the highest rating of “proven effective,” a program must demonstrate a positive impact based on the most rigorous research.

The Adult Mental Health inventory includes 26 programs. See the graphic on the right for a breakdown of the programs evidence rankings.

Of the 26 programs, the following six programs had sufficient evidence to conduct a benefit-cost analysis. [8]

1) Critical Time Intervention (CTI):
Treatment model that bridges the gap between critical transitions (such as long-term psychiatric hospitalizations, homelessness, institutionalization, and incarceration) and housing/community services by providing recovery-oriented, psychiatric rehabilitation and community integration. Interventions may connect individuals to community supports such as peer support specialists, housing first/tenancy supports, and psychosocial rehabilitation.

2) Individual Placement Support (IPS):
Behavioral health service that aids individuals in choosing, acquiring, and maintaining competitive paid employment in the community.

For the complete Program Inventory, please see OSBM’s Results First website.

[8] A seventh program, Promoting Integration of Primary Care and Behavioral Health Care also had sufficient evidence to conduct a benefit-cost analysis. However, OSBM and AMH decided to wait to conduct the benefit-cost analysis on that program since it is a pilot project funded by a Substance Abuse and Mental Health Services Administration (SAMHSA) grant.
3) Assertive Community Treatment (ACT): [9]
Treatment mode that provides coordinated, person-centered services to address the needs of an individual with Severe and Persistent Mental Illness (SPMI). Teams offer varying levels of care and adjust service levels to reflect an individual’s changing needs. Teams include psychiatrists, nurses, social workers, substance abuse specialists, vocational specialists, certified peer support specialists, and other specialists who help adult individuals with SPMI live in their homes instead of institutions. They provide an array of community-based services, from delivering daily medications to helping individuals find and maintain safe and affordable housing. ACT is available 24/7.

5) Peer Support Services:
Program where a Certified Peer Support Specialist provides group or individual services that promote recovery, self-advocacy, engagement in self-care and wellness, and enhancement of community living skills.

4) Mobile Crisis Management (MCM):
Crisis community outreach program that provides immediate telephonic response to assess crises and determine the risk, mental status, medical stability, and appropriate response for an individual. Once triaged, MCM can provide face-to-face access to acute mental health, developmental disabilities, or substance abuse services, treatment, and supports to effect symptom reduction, harm reduction, or to safely transition persons in acute crises to appropriate crisis stabilization and detoxification supports or services.

6) Resource Intensive Comprehensive Case Management (RICCM):
Case management program that assists individuals not currently connected to services access a wide variety of community resources to decrease emergency department utilization for non-emergent behavioral health crises.

Insufficient evidence for a benefit-cost analysis does not mean the remaining 20 programs are ineffective. However, before programs can be monetized, they need rigorous causal impact evaluations to identify and quantify the outcomes attributable to program participation, separate from other unrelated factors.

Benefit-Cost Analysis Will Monetize Program Outcomes

OSBM is currently working on the benefit-cost analysis with DMH/DD/SAS to assess the state’s adult mental health programming.

For adult mental health, the benefit-cost model will assess the monetized benefits and costs of programs that reduce the incidence or symptoms of mental health conditions, including anxiety disorder, major depressive disorder, and post-traumatic stress disorder (PTSD). The model will also assess programs that improve the functioning of adults with serious mental illness (SMI), including psychosis, schizophrenia, and bipolar disorder. In addition, the model estimates the monetized benefits of improving these mental health outcomes, including avoided health care costs, labor market earnings, and reduction in mortality risk.

Adult Mental Health Benefit-Cost Analysis Completion Timeline

- **September 2021**
  - Customized the AMH policy area in the model.
  - Ran AMH programs through the Results First Model.

- **October 2021**
  - Analyze Results First model output.
  - Brief partners on AMH model outputs.

- **November 2021**
  - Publish AMH communication materials.

[9] Assertive Community Treatment (ACT) also has monetized outcomes that fall under the Substance Use Disorder policy area. This means realizing the full benefits of ACT requires the completion of the affected policy area and customizing the model to reflect the cross-policy area benefits. OSBM will not be able to complete the benefit-cost analysis to assess impacts on adult mental health until that part of the model is customized. OSBM is currently working with DHHS staff to collect the data needed to customize that part of the model.
Juvenile Justice

OSBM and DACJJ have completed the benefit-cost analysis of three Division of Juvenile Justice programs and therapies that aim to reduce recidivism. OSBM and DACJJ are working on communication materials and expect to release the results in Winter 2022. A summary of the final results will also be included in the next Results First annual report.

Mental Health

OSBM will continue to work with DMH/DD/SAS to assess the state’s mental health programming in children.

For child mental health, the benefit-cost model will assess the monetized benefits and costs of programs that reduce the incidence or symptoms of mental health conditions in children, including anxiety disorder, attention-deficit/hyperactivity disorder (ADHD), disruptive behavior (includes oppositional defiant disorder and conduct disorder), major depressive disorder (depression), and post-traumatic stress disorder (PTSD). The monetized benefits of improving these mental health outcomes include avoided health care costs, labor market earnings, and reduction in mortality risk. OSBM and DMH/DD/SAS anticipate starting work with child mental health in early 2022.

NC Results First Communications

Over the next year, OSBM will engage stakeholders to make NC Results First data and results more accessible and easier to understand for policymakers and the public. Potential strategies include creating an interactive program inventory for all completed policy areas on the OSBM website. OSBM will evaluate and propose changes for the future of Results First in NC given the wind-down in technical assistance from Pew and advancement of other evidence-based, data driven practices being used in NC and across the country.

Transition to state-maintained model

In July 2020, the Pew Charitable Trusts’ Results First Initiative launched the Results First Peer Learning Community (PLC) to help state partners collaborate on strategies that advance evidence-based policymaking. In September 2021, The National Conference of State Legislatures, The Council of State Governments, and The Policy Lab at Brown University launched the Governing for Results Network to replace the PLC. North Carolina has joined this learning network as a state partner.