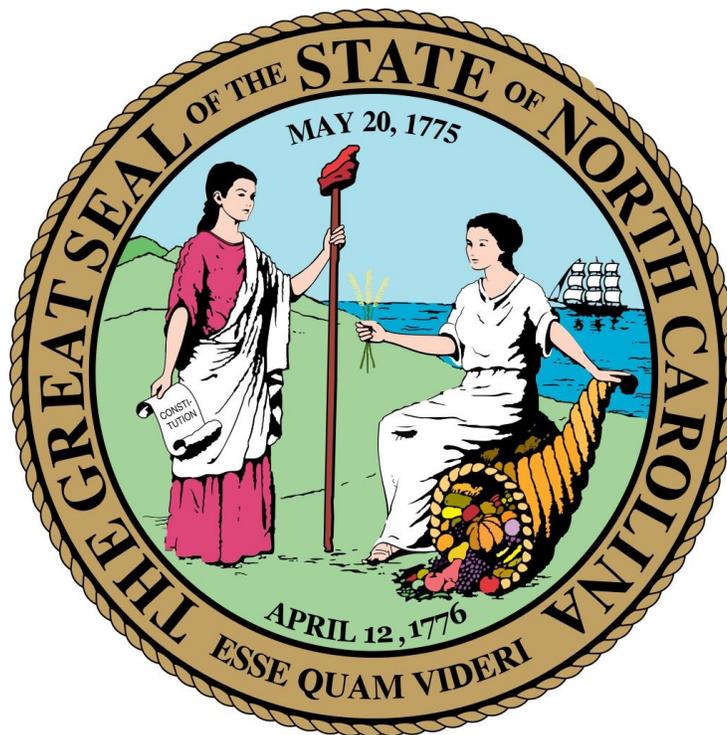**Annual Report**

Pew-MacArthur Results First Initiative in North Carolina

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OSBM

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I.   Background

In 2017, North Carolina became the 27th state to partner with the Pew-MacArthur Results First Initiative (Results First). S.L. 2017-57, Section 26.3 directed the Office of State Budget and Management (OSBM) to work with Results First to implement a benefit-cost analysis model for use in crafting policy and budget decisions and to provide an annual progress report by October 1 of each year. Through Results First, OSBM collaborates with state agencies to identify and estimate the benefits and costs of state programs. State agencies, such as the Department of Health and Human Services (DHHS), have already benefited from using Results First's tools to analyze and communicate their programs' evidence and cost-effectiveness. Results First serves as a valuable approach to help inform policymakers of cost-effective programs for achieving positive outcomes for North Carolina residents and to identify opportunities for piloting and evaluating promising, innovative approaches.

II.   Pew-MacArthur Results First Initiative

Results First is a joint effort of the Pew Charitable Trusts and the John D. and Catherine T. MacArthur Foundation. Results First works with states to implement a benefit-cost analysis approach that helps policymakers make decisions about investments in policies and programs that are proven to work. At no additional cost to the state, Results First partners receive training and technical assistance, a nationally representative clearinghouse database of evaluated programs, and a benefit-cost model that helps identify evidence-based programs that yield high returns on investment. Figure 1 below provides an outline of the Results First process.

Figure 1: Pew-MacArthur Results First Process

Match Programs to Available Evidence

Partners use the Results First Clearinghouse Database to understand how effective their programs are based on national research.

Analyze Results

Partners analyze the program inventory and benefit-cost analysis to develop findings and recommendations.

Create an Inventory of Current Programs

Partners develop a program inventory that includes information on design, budget, capacity, and populations served.

Conduct Benefit-Cost Analysis

Partners collect cost information on their programs and services. They also customize a benefit-cost model to calculate long-term costs and benefits for programs.

Inform Stakeholders

Partners develop reports and briefs that explain findings to policymakers and other stakeholders to enable them to make more informed program, policy and budget decisions.

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 the programs which match to evidence in the Results First model. Once the benefit-cost analysis has been completed, OSBM and partner agencies review results and use them to inform how programs are designed and how resources are allocated across programs. For each policy area, OSBM publishes program inventories and reports.

Program Inventory & Benefit-Cost Analysis

The Results First process produces two main products: the program inventory and the benefit-cost analysis. The program inventory starts as a comprehensive list of the programs in a particular policy area, along with basic information on the programs' duration, frequency, oversight agency, delivery setting, and target population. Partner states then use this information to match their programs to those in the Results First Clearinghouse.[1] The Results First Clearinghouse is an online resource that provides information on the effectiveness of various interventions.[2] Included programs have different levels of evidence based on the quality, quantity, and/or scientific rigor of the research.

The Results First Clearinghouse helps state partners determine which of their programs are evidence-based and if so, how potentially effective they are according to available research.[3] Not all programs will match to the Results First Clearinghouse. This does not necessarily mean they are not effective programs. Rigorous evaluations may not have been conducted for that specific program or the program may be too small to warrant a rigorous evaluation. Together, the list of programs as well as their associated level of evidence make up the program inventory.

The program inventory also helps identify which programs and services will be included in the benefit-cost analysis. After the inventory is complete and each program's level of evidence has been determined, OSBM, in consultation with the partner agency, identifies which programs qualify for the benefit-cost analysis. In its simplest form, the 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 would calculate the potential monetized benefits, such as reduced health care costs, and the costs of implementing the program.

With Results First's assistance, OSBM works with partner agencies to collect cost information and customize the benefit-cost model. The model will estimate a jurisdiction-specific return on investment for the programs in the Results First model. Only programs that have been evaluated with the highest level of rigor will match to the model. This information can be used to better understand the cost-effectiveness of programs and to compare similar programs.

Benefit-cost analyses conducted with the Results First model do not directly evaluate outcomes or effectiveness for programs delivered in North Carolina. Rather, the Results First model helps to estimate the benefits North Carolina can expect if its programs have the same impact found in previous evaluations

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[1] Results First defines programs as systematic activities that engage participants in order to achieve desired outcomes.
[2] The Results First Clearinghouse Database can be accessed at the following URL:
http://www.pewtrusts.org/en/multimedia/data-visualizations/2015/results-first-clearinghouse-database
[3] 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.

for similar or equivalent programs. The model assumes that programs in North Carolina are being implemented with the same level of effectiveness as those in the research.

III.   Results First in North Carolina

As the lead agency in North Carolina's Results First project, 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 collect data required for the benefit-cost model.

Partner agencies provide the programmatic expertise and have the primary responsibility to develop the program inventory. Partner agencies work with OSBM to estimate costs for the benefit-cost analysis and to provide other data as necessary. Along with OSBM, partner agencies will review results and use them to inform how programs are designed and how resources are allocated across programs.

Child & Family Health

In cooperation with Results First and the Governor's Office, the Department of Health and Human Services (DHHS) was selected as the first partner agency. Programs that support child and family health were chosen as the initial programmatic focus. With Results First, OSBM and DHHS defined the scope of this topic area to include programs that address the following outcomes in health:

- Reduced incidences of chronic diseases, including obesity and type 2 diabetes; and
- Improved 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.

Once the policy area was selected, OSBM worked with DHHS to identify relevant program staff to develop the program inventory. After a training with Results First on the program inventory tool, DHHS worked with program staff to identify relevant programs and provide program information. OSBM then used the program inventory to identify similar or equivalent programs that matched in the Results First Clearinghouse and the Results First benefit-cost model.

Based on these matches, OSBM categorized programs into one of six evidence rating levels, listed in the following table, used by the Results First Clearinghouse. The Results First Clearinghouse applies evidence rating levels to each clearinghouses' distinct rating systems, creating a common language that allows users to quickly see where each program falls on a spectrum from negative impact to positive impact. The clearinghouses of interest for the child and family health policy area include What Works for Health and the California Evidence Based Clearinghouse for Child Welfare. OSBM also reviewed research from the Washington State Institute for Public Policy.

Results First applies the following rating levels of evidence:

Table 1: Pew-MacArthur Results First Clearinghouse Database Rating Levels

Rating Category	Definition
Highest Rated	The program had a positive impact based on the most rigorous evidence.
Second-highest Rated	The program had a positive impact based on high-quality evidence.

No Evidence of Effects	The program had no impact based on the most rigorous or high-quality evidence. That is, there was no difference in outcomes between program participants and those in the comparison group.
Not Rated	The program is not in the Results First Clearinghouse Database.
Mixed Effects	The program had inconsistent impacts based on the most rigorous or high-quality evidence. That is, study findings showed a mix of positive impact, no impact, and/or negative impact.
Negative Effects	The program had a negative impact based on the most rigorous or high-quality evidence.

The Child and Family Health Program Inventory, which displays child and family health program information and their matches to the available evidence, will be found on OSBM's website sometime in October. Thirty-two programs are included in the program inventory.

OSBM and DHHS are now conducting the benefit-cost analyses for the child and family health programs that match to those available in the Results First model. It is anticipated that eight child and family health programs identified through the program inventory process will be included in the benefit-cost analysis. OSBM and DHHS have begun preliminary work in collecting data and developing the cost analyses for the programs included in the benefit-cost analysis.

Throughout the process, Results First conducted trainings and provided technical assistance to DHHS and OSBM staff on each part of the Results First process to help build state capacity in evidence-based policymaking. Trainings covered the program inventory, matching programs to the evidence base, creating a cost analysis, and running the benefit-cost analysis.

Juvenile Justice

The Department of Public Safety (DPS) was selected as the second partner agency for implementing Results First in North Carolina. In cooperation with Results First, the Governor's Office and OSBM, DPS selected juvenile justice as North Carolina's second policy area. In the juvenile justice policy area, benefit-cost analysis will estimate the benefits and costs of changes in crime, along with other linked outcomes, for state programs that match to the Results First model.

In August 2018, the Results First team provided a series of trainings to 28 DPS Juvenile Justice technical staff on the process, program inventory, and benefit-cost model to kick off the project's next phase. Further scoping conversations are underway to prioritize how to apply the Results First model to juvenile justice programs.

IV.   Evidence-Based Policy Developments in North Carolina

Defining Tiered Levels of Evidence

Per S.L. 2018-5, Section 26.1, OSBM was directed to develop and publish descriptive, formal definitions for tiered-levels of evidence along with the criteria needed to qualify for each tier of evidence. Establishing a standard framework and terminology for tiers of evidence is an important step toward building a strong system of evidence-based policymaking. Government leaders and other stakeholders can use these definitions to identify what works based on available research and to ensure that limited funds are invested in programs that have the greatest likelihood of achieving strong positive outcomes.

Moving forward, the defined tiers of evidence will be used in implementing the Pew-MacArthur Results First Initiative and to inform budget proposals for selected programs and service areas. These definitions will be most applicable to agencies that cover select policy areas. As an example, Results First currently has the following policy areas: crime & delinquency, child & family well-being, education, employment & job training, mental health, public health, sexual behavior & teen pregnancy, and substance use.

When designing the definitions, OSBM created categories that consider both the level of evidence and the program's evidence of impact (positive, negative, no impact). The level of evidence looks at quality, quantity, and/or scientific rigor of the available research. The evidence of impact looks at whether the evidence of the program demonstrates a positive, negative, or no impact on the outcome of interest.

Below are the defined tiered levels of evidence. The tiers of evidence are ordered based on the direction of impact, with positive impact at the top and negative impact at the bottom.

- <u>Proven effective</u>: A service or practice that is proven effective offers a high level of research on effectiveness for at least one outcome of interest. This is determined through multiple qualifying evaluations outside of North Carolina or one or more qualifying North Carolina-based evaluations. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
- <u>Promising</u>: A promising service or practice has some research demonstrating effectiveness for at least one outcome of interest. This may be a single qualifying evaluation that is not contradicted by other such studies but does not meet the full criteria for the proven effective designation. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
- <u>Theory-based</u>: A theory-based service or practice has no research on effectiveness or research designs that do not meet the standards for "promising" or "proven effective." These services and practices may have a well-constructed logic model or theory of change that has not been tested. This ranking is neutral. Services may move to another category after research reveals their causal impact on measured outcomes.
- <u>Mixed effects</u>: A mixed effects service or practice offers a high level of research on the effectiveness of multiple outcomes. However, the outcomes have contradictory effects, and there is not additional analysis to quantify the overall favorable or unfavorable impact of this service. This is determined through multiple qualifying studies outside of North Carolina or one or more qualifying North Carolina-based evaluations. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
- <u>No effect</u>: A service or practice with no effects has no impact on the measured outcome. It does not include the service's potential effect on other outcomes. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
- <u>Proven harmful</u>: A service or practice that is proven harmful offers a high level of research that shows participation adversely affects outcomes of interest. This is determined through multiple qualifying evaluations outside of North Carolina or one or more qualifying North Carolina-based evaluations. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.

Figure 2 below provides additional context on the different types of evidence available and their relative strength as referenced in the defined tiered-levels of evidence.

Figure 2: Evidence Hierarchy
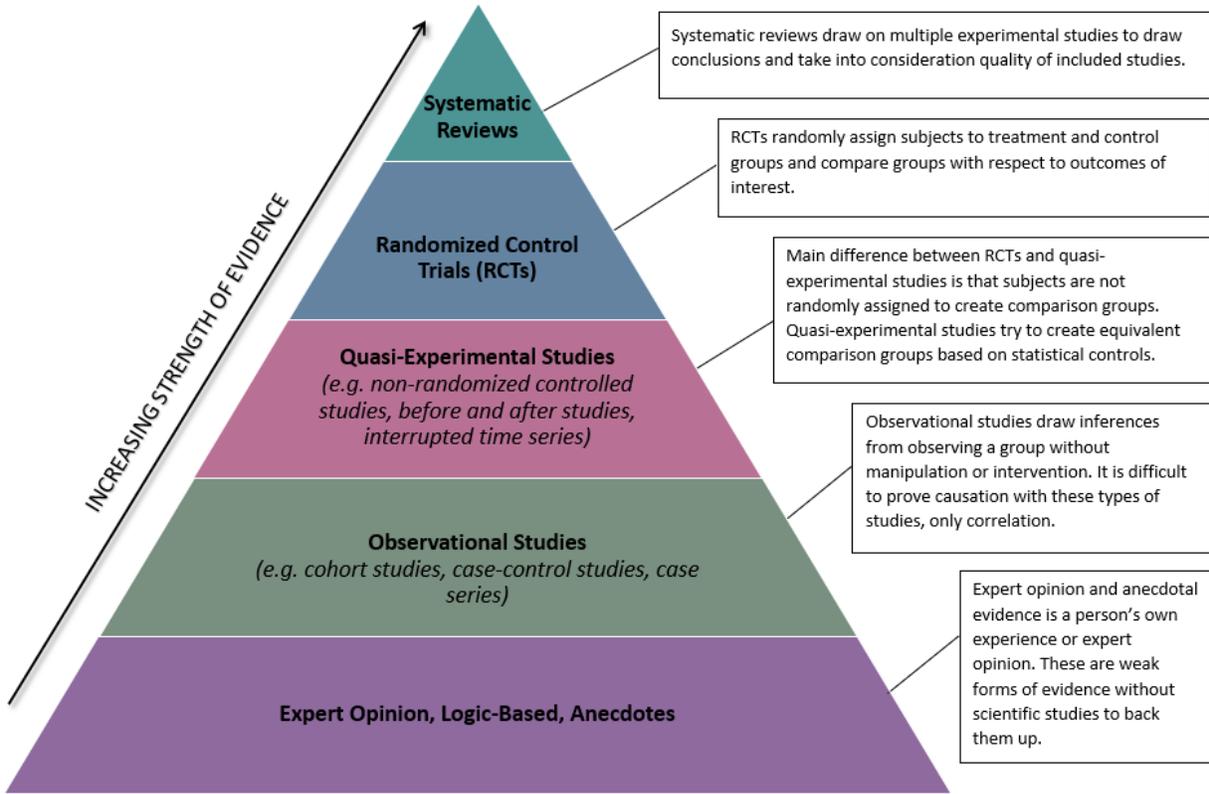
Data & Evidence in Budget Process

OSBM has also started to encourage the use of evidence-based policymaking, data-driven decision-making, and strategic planning through a variety of initiatives, such as the budget development process. In budget development, OSBM is placing a greater emphasis on strong business cases for new and expanded program requests. Requests for new or expanded programs or services must include data and evidence supporting the programs' effect on desired outcomes.

As part of these efforts, OSBM has allotted agencies more time this year in the budget development process to ensure a recommended budget that accurately reflects agency operations and critical future needs. OSBM budget development analysts are collaborating closely with agencies and offering deeper technical assistance in developing budget requests.

V.   Next Steps

Over the next year, OSBM will continue its work on the Results First Initiative. OSBM and DHHS will finalize and publish the benefit-cost analyses for child and family health programs. OSBM and DPS will also begin work on the juvenile justice policy area. The juvenile justice policy area is one of the most complex for the Results First model. It will require working in cooperation with other divisions within the Department of Public Safety, such as Adult Corrections, and non-profit or local government partners that receive state

funds. The analyses will provide valuable data to inform decision-making on the benefits and costs of state programs.

Moving forward, there are opportunities to better integrate Results First into the budget process and agencies' operations. OSBM will work with Results First partner agencies to identify strategies to better incorporate findings into their planning and operations. In addition, OSBM will develop a communications and outreach strategy to encourage greater understanding and utilization of the findings. Together, these efforts will help the state continue to foster a culture of evidence-based policymaking for improved outcomes in North Carolina.