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Evidence-Based Approaches for Improving Federal Programs and Informing Funding Decisions

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Preface

In March 2016, the Office of Science and Technology Policy (OSTP) requested that the IDA Science and Technology Policy Institute (STPI) describe a set of approaches to improve innovation in and the effectiveness of the Federal Government. The innovative approaches identified create new processes, products, services, and methods of delivery; have been implemented or are in the initial stages of implementation; and have led to improvements in outcomes, efficiency, effectiveness, or quality related to Federal Government activities.

The objective of this project was to describe the lessons learned from the implementation of innovative approaches and identify opportunities for how to support the scaling up of these approaches throughout the Federal Government. The *Evidence-Based Approaches for Improving Federal Programs and Informing Funding Decisions* report describes approaches to identify or develop evidence and how evidence could be used to improve Federal programs and inform funding decisions.

Prior to its publication online in 2019, this report was an internal Federal resource and only disseminated to Federal Government employees. It was published online to provide a resource for and help benefit activities performed by Federal and non-Federal communities alike. We note that because this report was written at least 3 years prior to this publication, some of the URLs referenced may no longer be valid.

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Evidence-Based Approaches for Improving Federal Programs and Informing Funding Decisions

Strong evidence about policies and programs should be acted upon, suggestive evidence should be considered, and where evidence is weak it should be built to enable better decisions in the future.

—Office of Management and Budget[1]

Moneyball for Government Principles: Building evidence about the practices, policies, and programs that will achieve the most effective and efficient results so that policymakers can make better decisions; investing limited taxpayer dollars in practices, policies, and programs that use data, evidence, and evaluation to demonstrate they work; and directing funds away from practices, policies, and programs that consistently fail to achieve measurable outcomes.

—"Moneyball Principles," Moneyball for Government[2]

A. Overview

The purpose of this report is to provide an overview of evidence-based approaches that Federal employees can employ for improving Federal programs and informing funding decisions. The information in this report is derived from academic journals, news reports, and interviews with former and current Federal Government innovators and leaders. Appendix A and Appendix B contain additional program models including Tiered Evidence Grants and Pay For Success, Appendix C and Appendix D contain case studies for offices and programs at the Department of Labor and Department of Education, and Appendix E provides additional resources.

B. Introduction

The Office of Management and Budget (OMB) defines "evidence" as "facts or information indicating whether a belief or proposition is true or valid. Evidence can be quantitative or qualitative and may come from a variety of sources, including performance measurement, program

1 "Building and Using Evidence to Improve Government Effectiveness," Office of Management and Budget, Analytical Perspectives, Budget of the United States Government, Fiscal Year 2018, pp. 55-58, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/ap_6_evidence.pdf.

2 "Moneyball Principles," Moneyball for Government, http://moneyballforgov.com/moneyball-principles/.

evaluations, statistical series, retrospective reviews, and data analytics, and other science and research."[3] Evidence-based approaches aim to achieve improved results for citizens while improving the way taxpayer dollars are spent. These approaches assess the efficacy of policies, programs, and projects by evaluating what is working, where it is succeeding, for whom, and under what circumstances. Through the use of data, performance metrics, and assessments, Federal agencies can target their resources to invest in programs and initiatives shown to be effective for the populations and communities served and to repurpose programs shown to have minimal or negative effects. Evidence-based approaches are a complement, or at times an alternative, to more informal or fragmented ways of assessing the performance of Federal programs. Using existing evidence and expanding the knowledge base through continuous data collection can provide insights on ways to produce greater impact and advance agency goals.

1. Why

Evidence-based approaches propose to routinely and rigorously use data and evaluations to improve Federal programs and inform funding decisions. In the private sector, implementing a culture that emphasizes continuous learning and program improvement has led to better overall performance.[4] Implementing evidence-based grant investments at the Federal level has also shown to achieve cost savings. (Refer to Example 1: Evidence-Based Programming Generates Improved Outcomes for the Nurse Family Partnership Program at the Department of Health and Human Services (DHHS).)

The use of evidence-based approaches in the Federal Government can increase the knowledge base of programs with validated outcomes. Their use also presents ways for the Federal Government to continuously learn and improve upon existent programs and projects.

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3 "Building and Using Evidence to Improve Government Effectiveness," Office of Management and Budget, Analytical Perspectives, Budget of the United States Government, Fiscal Year 2018, pp. 55-58, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/ap_6_evidence.pdf.

4 D. Garvin, A. Edmondson, and F. Gino, "Is Yours a Learning Organization?," *Harvard Business Review*, March 2008.

Example 1: Evidence-Based Programming Generates Improved Outcomes for the Nurse Family Partnership Program at the Department of Health and Human Services (DHHS)

The Nurse Family Partnership (NFP) program is an evidence-based community health program that serves low-income first-time mothers. The program uses evidence from its evaluations to replicate the program in diverse communities and populations. The program's outcomes were evaluated in multiple studies and shown to produce positive outcomes for both children and mothers. For instance, one study found that every dollar invested in the program returned $5.70, or a net benefit of $34,148 per family served. Based in part on the strength of its evaluations, the NFP program has been replicated in 47 states including statewide in Pennsylvania and Colorado.

Because studies have demonstrated the impact and cost-effectiveness of NFP and other evidence-based home visitation programs, various other Federal funding streams and grant programs currently or in the past have also supported the program, including: Medicaid, Child Care Development Block Grant, Healthy Start, and Early Head Start, among others, as well as other child welfare and foster care, juvenile justice, and child abuse prevention funds through the Administration for Children and Families (ACF). This has allowed the program to expand and serve a greater number of mothers and youth, increasing the number of families served by 10,000 since 2011.

Sources: "Nurse Family Partnership (NFP)," DHHS, May 2016, https://www.nursefamilypartnership.org/about/program-history; "A Sound Investment that can Yield Substantial Public and Private Gains," DHHS, July 2017, https://www.nursefamilypartnership.org/wp-content/uploads/2017/07/NFP_Public_Funding.pdf; "Invest in a Strong Start for Children: A Toolkit for Donors on Early Childhood," The Center for High Impact Philanthropy, The University of Pennsylvania; "Nurse Family Partnership," The Edna McConnell Clark Foundation, 2016, http://www.emcf.org/grantees/nurse-family-partnership/performance/#families-enrolled.

2. How

A variety of ways are available to build the evidence of what works, including collecting and analyzing data to understand and evaluate a program's performance. Building the evidence base can include conducting experimental, quasi-experimental, and non-experimental evaluations to measure success and outcomes. (Refer to D.1. Types of Evaluations.)

Although not a comprehensive list, two models for structuring evidence-based programs are discussed further in this report:

- Tiered-Evidence Grant Programs—Tiered-evidence grant programs can use various means (legislative, regulatory, or agency policy) to require evidence in Federal grant-making and to make funding decisions (Appendix A).
- Pay-for-Success Programs—These programs focus on ways in which the public sector can establish partnerships through programmatic means to increase investment in and support of evidence-based interventions (Appendix B).

Other models exist and include programs that give preference points or priorities in competitive grants for proposals that will use evidence-based practices and that require evidence, either as a percentage of funds or type of evaluation, in implementation plans.

In addition, agencies may structure evidence building in varied ways. Mechanisms to provide a supportive environment for evidence-based policymaking include: (1) creating a Chief Evaluation Office, (2) establishing an evaluation set-aside to fund evidence-building activities, (3) developing evaluation policies to bring rigor and transparency to evidence building, and (4) articulating learning agendas to plan and structure evidence-building.

C. Background

> *Everyone wants to know whether programs work and, if they are not working, how they can be improved. In politics it has always been popular for policymakers to tell their constituents and taxpayers that they can show that they are spending taxpayer dollars wisely. What is new is the public definition of "good evidence," brought to Federal policymaking by the [George W.] Bush administration's OMB and Institute for Education Sciences and further expanded by the Obama administration's OMB, which further raised the bar on the quality of evidence.*[5]

The evolution of using evidence-based approaches in the Federal Government goes back several administrations. In 1993, during the William J. Clinton Administration, a law called the Government Performance and Results Act was passed, which aimed "to provide for the establishment of strategic planning and performance measurement in the Federal Government."[6] The George W. Bush Administration built upon this framework shortly after taking office in 2001 and implemented the Program Assessment Rating Tool (PART), which institutionalized program reviews to identify a program's strengths and weaknesses and factors that affect and reflect program performance, including program purpose and design performance measurement, evaluations, and strategic planning; program management; and program results.[7]

In 2010, under the Barack H. Obama Administration, OMB established guidance to systematize and encourage evaluation across government agencies.[8] At that time, a definition for strong evidence and ways to build Federal agencies and program manager capacity for evidence-based programming were needed. One priority was to build capacity and understanding of evidence as a continuum—that is, to encourage agencies to build a body of evidence by conducting increasingly rigorous evaluation studies and studies in multiple contexts, including in varied settings and for different populations. In this way, agencies could be better positioned to assess their existing

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5 R. Haskins and G. Margolis, "Show Me the Evidence: Obama's Fight for Rigor and Results in Social Policy," Kindle Locations 3062-3065, Brookings Institution Press, 2014.

6 "Government Performance and Results Act, 1993," OMB 1993.

7 "Archive: Assessing Program Performance," Office of Management and Budget, 2008, https://georgewbush-whitehouse.archives.gov/omb/performance/.

8 P.R. Orszag, "Evaluating Programs for Efficacy and Cost-Efficiency," Executive Office of the President, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2010/m10-32.pdf.

programs and formulate means for validating current and future interventions. OMB also encouraged that agencies adopt a learning agenda, "in which agencies collaboratively identify the critical questions that, when answered, will help their programs work more effectively and develop a plan to answer those questions using the most appropriate tools."[9] (Refer to Resource Box 1: A Learning Agenda.) Christopher Spera, former Director of Research and Evaluation at the Corporation for National and Community Service (CNCS) explained: "The learning agenda was about embedding evaluation into the work of the agency—to ensure they are using inquiry to improve. What do we need to know to do our work better? How do we get that information? How do we change practice based off information once we have it?"[10]

Resource Box 1: A Learning Agenda

OMB encouraged agencies to adopt "learning agenda" approaches with the following key components:

- "Identify the most important questions that need to be answered in order to improve program implementation and performance. These questions should reflect the priorities and needs of Administration and agency leadership, policy and program offices, program partners at state and local levels, researchers and additional stakeholders, as well as legislative requirements and Congressional interests.
- Strategically prioritize these questions given the level of current understanding, available resources, feasibility, and other considerations to determine which studies or analyses will help the agency make the most informed decisions.
- Identify the most appropriate tools and methods (e.g. evaluations, research, analytics, and/or performance measures) to answer each question.
- Conduct studies, evaluations, and analyses using the most rigorous methods that are feasible and most appropriate.
- Disseminate findings in ways that are accessible and useful to Administration and agency leadership, policy and program offices, state and local partners, practitioners, and other key stakeholders—including integrating results into performance measurement and strategic planning.
- Act on the results by using the information for policy decisions and continuous program improvement."

Source: "Analytical Perspectives: Budget of the United States Government, Fiscal Year 2018: Building and Using Evidence to Improve Government Effectiveness" pg. 72, Office of Management and Budget, 2017, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/ap_6_evidence.pdf.

Federal agency evaluation offices have also helped support evaluations of programs that are implemented throughout agencies (Table 5). Some of these offices were created by statute, including the National Center for Education Evaluation and Regional Assistance in the Department

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9 "Analytical Perspectives: Budget of the United States Government, Fiscal Year 2017," pg. 72, Office of Management and Budget, 2016.

10 C. Spera, phone interview, November 30, 2016.

of Education (ED).[11] Others have been established over time due to the demand for capacity building and performing evaluations.

Table 1. Select Federal Offices or Components with Program Evaluation as their Predominant Function

Office	Department or Agency	FY 2017 Appropriation for Statistical Activities (in millions $)
Chief Evaluation Office	Department of Labor	8.0[1]
National Center for Education Evaluation and Regional Assistance (NCEE)	Department of Education	18.8[2]
Office of Evaluation Sciences	General Services Administration	1.5[3]
Office of Research, Evaluation, and Statistics	Social Security Administration	14.0[4]

1 Estimate, https://www.dol.gov/sites/default/files/FY2018BIB.pdf.

2 https://www2.ed.gov/about/overview/budget/budget18/justifications/v-ies.pdf.

3 https://app_gsagov_prod_rdcgwaajp7wr.s3.amazonaws.com/FY18CJ.pdf.

4 Estimate, "Analytical Perspectives, Budget of the U.S. Government, Fiscal year 2018," 2016-2018 Budget Authority for Principle Statistical Agencies, Office of Management and Budget, 2018.

A number of private foundations, including the Edna McConnell Clark Foundation and W.T. Grant Foundation, made significant operational shifts to invest in evidence-building by funding evaluations of their investments, investing in evaluation capacity-building, or requiring evidence baselines to receive funding.[12] Building on this work, a number of philanthropic and non-profit leaders lobbied for 2008 presidential candidates to expand Federal investment in evidence-based approaches and increase the reach of effective social programming.[13]

In addition, other agencies and programs began to promote evidence and evaluation beyond their agency, by establishing evidence clearinghouses—including the ED What Works Clearinghouse (WWC),[14] the DHHS/ACF's Home Visiting Evidence of Effectiveness,[15] the Clearinghouse for

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11 20 U.S.C. Section 9561.

12 K. Fitzsimmons, "Getting the Most out of Evaluation," The Edna McConnell Clark Foundation, March 16, 2016; K. Du Mont, "Leveraging Knowledge: Taking Stock of the William T. Grant Foundation's Use of Research Evidence Grants Portfolio," W.T. Grant Foundation, November 23, 2015.

13 R. Haskins and G. Margolis, "Show Me the Evidence: Obama's Fight for Rigor and Results in Social Policy," p. 137, Brookings Institution Press, 2014.

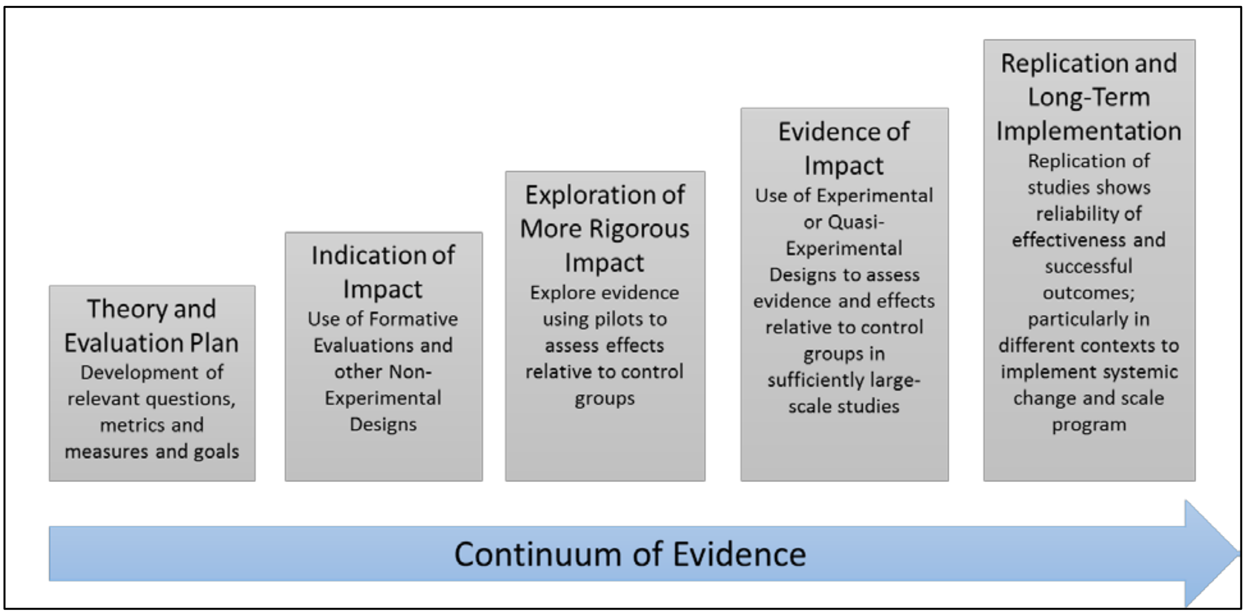
14 "Welcome to the What Works Clearinghouse," What Works Clearinghouse, https://ies.ed.gov/ncee/wwc/FWW, also refer to Appendix D.

15 "Home Visiting Evidence of Effectiveness," Department of Health and Human Services, https://homvee.acf.hhs.gov/.

Labor Evaluation and Research at Department of Labor (DOL),[16] the youth.gov Investing in What Works,[17] and the DHHS Teen Pregnancy Prevention Evidence Review[18]—which seek to provide multiple audiences access to evaluations and evidence-based programs.

D. Considerations for Use

All Federal programs can benefit from using evidence-based approaches. The extent to which agencies implement evidence-based practices can be understood on a continuum (Figure 12). On one end of the continuum are programs at the early stages of generating and using evidence that are starting to collect data and using it to understand their performance to make improvements. On the other end of the continuum are programs that have capacity to implement highly sophisticated program evaluations and use resulting data to effect wide ranging policy and improve national programs at scale.



Source: Created by author, modified from the Medical Research Council framework for the development and evaluation of complex interventions, Medical Research Council. 2000. "A framework for development and evaluation of RCTs for complex interventions to improve health," Medical Research Council, London.

Figure 1. Continuum of Evidence

A variety of factors need to be considered when building the evidence base for a portfolio or program, including staff capacity, leadership's commitment to evidence, identification of metrics

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16 "CLEAR: Clearinghouse for Labor Evaluation and Research," Department of Labor, https://clear.dol.gov/.

17 "Investing in Evidence Home," Youth.gov, http://www.youth.gov/evidence-innovation/investing-evidence.

18 "Teen Pregnancy Prevention Evidence Review," Department of Health and Human Services, https://tppevidencereview.aspe.hhs.gov.

or measures of success, and costs. Due to these and other factors, it may not be appropriate or prudent for all programs to aspire to move to the far end of the continuum. However, all agencies may find a place to start as they strategize how to implement pieces of the learning agenda.[19]

1. Beginning Stages

An agency at the beginning stages of implementing evidence-based approaches for their existing programs might start by asking: “What is it I want to know about our programs? About the field? What are the goals, aims, and missions of the programs?” Ideally, before a program is established, these questions are asked. The questions may also be performance or impact related: “Are the programs meeting their performance goals?” or “Are the programs having the effect that is intended?”

Program managers’ answers to these questions could be informed by questions routinely received or reported on from Congress, appropriators, and OMB. Ideally, program managers could also identify the frequency with which assessments should occur, for instance, if the information is needed for reporting on a one-time, quarterly, annual, or five-year basis. Based on the answers to these questions, a strategy can be developed which identifies the data or information needed and a means for collecting this information. This strategy could also entail reviewing the history of evaluations or data collection efforts for the program and results from their analysis. An agency or program can map resources and staffing capacity needs to implement the evaluation strategies. (Refer to Resource Box 2: Questions to Consider for Selecting Methods, Data Collection, and Communication of Evaluation Results.)

[19] L. Zandniapour, “Introducing the Impact Evaluability Assessment Tool,” Corporation for National and Community Service, 2014.

Resource Box 2: Questions to Consider for Selecting Methods, Data Collection, and Communication of Evaluation Results

Questions and topics below could be considered as agencies develop strategies for selecting an evaluation method, data collection, and ways to communicate the results of evaluations.

- To determine the best method for answering evaluation questions, consider:
  - What is the appropriate and more rigorous evaluation design or method to answer this question?
  - What data is needed to answer the question?
  - What is the timetable for answering the question?
  - Who is best situated to provide the needed data (i.e. grantees, beneficiaries, evaluators, program staff, etc.)?
- To help create strategies for data collection and reporting, consider:
  - Developing new or refining existing performance reporting to collect identified data points
  - Developing and implementing a program evaluation
  - Analyzing existing data sets to produce useful reports that can be used for decision-making
- To help distribute and review results, and ensure they are used, consider:
  - Providing reports or briefings that are easily used by the targeted audience (e.g. technical reports may be appropriate for an evaluation office; summary reports with infographics or other visuals may be appropriate for program staff or grantees)
  - Providing technical assistance to ensure audiences can interpret and act on the data provided
  - Modeling effective and transparent use of data and evaluation—communicate how programs or policies are proactively changing in response to reports

2. Building on Evaluation Efforts

Agencies and programs who have already begun implementing evidence-based approaches can explore how to increase the use of data and evaluations across their programs and assess if implementing new evidence-based programs is feasible.

If establishing an evidence-based program is not a feasible option, agencies can continue to build the reach and use of the data being collected. This might entail increasing cooperation between program and evaluation or research staff as well as providing training and technical assistance to ensure programs are using data and evaluation in decision-making. Agencies can also contribute to existing clearinghouses or establish their own, thereby making data and evaluation reports open to the public so that policymakers and practitioners at the state, city, and local levels can benefit from them. For example, the ED's WWC makes evaluation reports on education-related interventions available to local philanthropies, school districts, and others interested via a searchable web interface. The reports provide an avenue for interested stakeholders to identify vetted and research-backed programs they may wish to implement. (Refer to Appendix D.)

3. Guidance for Evaluations

In addition, Federal agencies may further consider the following evaluation principles when developing their evaluations and relevant evaluation policies:[20]

- Rigor—Use the most rigorous methods that are appropriate to the evaluation questions and feasible within budget or other constraints. This applies to all forms of evaluation, not just impact evaluations.
- Relevance—The evaluation priorities should take into account legislative requirements, congressional interests, and reflect the interests and needs of other stakeholders, including the administration leadership, the agency, the implementing program, and other partners and stakeholders.
- Transparency—Evaluation plans, ongoing evaluation work, and evaluation findings should be easily accessible, and should be released regardless of the findings.
- Independence—While stakeholders should actively participate in identifying evaluation priorities and questions, and assessing the implications of findings, the actual evaluation functions should be insulated from undue influence, and from both the appearance and actuality of bias.
- Ethics—Evaluations should be conducted in an ethical manner and safeguard the dignity, rights, safety, and privacy of participants.

E. Implementation Guidelines

1. Types of Evaluations

Evaluation can be achieved via three methods—non-experimental, quasi-experimental, and experimental design. Agencies could also develop a portfolio of evidence-generating practices among varied evaluation types. Non-experimental designs include:

- Outcome evaluation—An evaluation that tracks whether identified desired outcomes were achieved by the program. These evaluations help programs identify outcome and related output measures that directly align with their theory of change. They then create systemic and reliable methods to collect data on these measures and report them on a regular ongoing basis. This approach could include a pre-post analysis and benchmarking to identify changes that occurred during a program's implementation.
- Formative evaluation—These evaluations ensure that a program or program activity is feasible, appropriate, and acceptable before it is fully implemented. These evaluations

[20] "Principles and Practices for Federal Program Evaluation: Proceedings of a Workshop-in Brief," National Academies of Sciences, Engineering, and Medicine, 2017, https://www.nap.edu/read/24716/chapter/1.

are usually conducted when a new program or activity is being developed or when an existing one is being adapted or modified.

- Implementation or process evaluation—These evaluations investigate how a program is being enacted and whether it is being carried out as intended. They typically include quantitative and qualitative methods that will capture measurable units (i.e. number of participants, hours of programming, number of staff, survey results) as well as descriptive elements (i.e. written descriptions of program space, participant interview narratives). These studies can answer questions about how a program was implemented, what challenges it experiences, and how it might be adapted in the future.

Other types of evaluations are quasi-experimental and experimental designs, which measure impacts and are distinct from the types of evaluations mentioned above:

- Impact evaluation—An evaluation designed to determine if the outcomes observed among program participants are due to having received program services or the intervention. An impact evaluation is the only way to determine causality. This evaluation requires a comparative element that contrasts outcomes achieved by the program against outcomes observed from a control or comparison group comprised of individuals who did not participate in the program.
- Quasi-experimental design—A design that includes a comparison group formed using a method other than random assignment, or a design that controls for threats to validity[21] using other counterfactual situations, such as groups which serve as their own control group based on trends created by multiple pre/post measures. Quasi-experimental design, therefore, controls for fewer threats to validity than an experimental design.
- Experimental design, including randomized control trials (RCTs)—A research design in which the effects of a program, intervention, or treatment are examined by comparing individuals who receive it with a comparable group of individuals who do not. In this type of evaluation, individuals are randomly assigned to the two groups to try to ensure that, prior to taking part in the program, each group is statistically similar in both observable (i.e., race, gender, or years of education) and unobservable ways (i.e., levels of motivation, belief systems, or disposition toward program participation). This type of evaluation is the strongest design to measure impact.

The use of low-cost RCTs has been strongly supported by OMB to reduce costs for conducting rigorous evaluations. This is done by using existing data, which reduces the need for expensive

[21] Validity generally refers to how accurately a conclusion, measurement, or concept corresponds to what is being tested.

data collection efforts, and by embedding evaluations into existing programs, which reduces the need to spend more money on the intervention program.[22]

2. Evaluating Agency Readiness

With increasing experience and capacity, a program can grow the amount and quality of information and the rigor of its data collection and analyses. The cumulative effect is an increasingly robust evidence-base of program performance and effectiveness. Three elements of readiness for implementing evidence-based approaches include organizational, program, and evaluation readiness.[23]

a. Organizational Readiness

Organizational readiness includes the leadership commitment and priorities at the organizational level to conduct evaluations. Elements of organizational readiness include capacity building, learning, use of data for decision-making, and building related infrastructure, such as data collection, storage, and information sharing tools, to help in conducting evaluation activities.[24]

Effectively using data and evaluation may require expertise that an agency or program does not currently have. It is important to have staff on hand who are deeply steeped in evaluation and data collection methodologies and can also communicate these concepts to other program staff. Technical skills are required in terms of creating or maintaining data systems and generating useful reports. This expertise may already exist or can be brought on through in-house hiring. Agencies may also be able to procure additional expertise through contracts. In addition to staffing, ongoing consultations with general counsel may be needed to interpret policies around information collection, reporting, and using funds for these activities.

b. Program Readiness

Program readiness includes support for evaluations at the programmatic level and among stakeholders with interest in the program and its outcomes, operational readiness, and maturity and stability of the program.[25]

An important aspect of program readiness is assessing if there is a budgetary authority for evaluation spending or if there is flexibility within an agency or program's budget to set aside

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22 A. Feldman and R. Haskins, "Low Cost Randomized Control Trials," Evidence-Based Policymaking Collaborative, November 16, 2016.

23 "Introducing the Impact Evaluability Assessment Tool," Corporation for National and Community Service, https://www.nationalservice.gov/sites/default/files/resource/SIF_Impact_Evaluability_Assessment_Tool_Final_Draft_for_Distribution.pdf.

24 Ibid.

25 Ibid.

funds for evaluation activities. In some agencies, there may be a dedicated funding stream for evaluation activities; in others, there may be an allowable set-aside. If there is a history of not using the funds set aside for evaluations, agencies could explore what are the barriers in their use and how to resolve those challenges in the future. Examples of agency budget set-asides include:

1. DOL's set-aside for the Chief Evaluation Officer (CEO) office (0.75% of specific program funding) (Refer to Example 2: Evaluation Funding at DOL.)
2. ED's set-aside of 0.5% of elementary and secondary education (kindergarten through 12^{th} grade) programs[26]
3. DHHS/ACF's set-aside of 0.5% of Child Care and Development Block Grant funds
4. DHHS's set aside of 0.33% of Temporary Assistance for Needy Families (TANF) block grant funds for evaluation, research, and technical assistance (authorized in the FY17 appropriations law).[27]

Example 2: Evaluation Funding at DOL

Starting in Fiscal Year (FY) 2010, Congress appropriated approximately $8 million per year for program evaluation at DOL under the direction of the Chief Evaluation Officer (CEO). Additionally, Congress allows the Secretary of Labor to set aside dollars from specified DOL accounts for use by the CEO for program evaluation. For example, the Consolidated Appropriations Act of 2016 stipulates that the Secretary of Labor may reserve not more than 0.75% from specific budget accounts for transfer to and use by the Office of the CEO for departmental program evaluation. The CEO must submit a plan to Congress describing the evaluations to be carried out at least 15 days in advance of any transfer. Appropriations acts have included similar provisions for the past several years. In FY 2016, approximately $25 million was transferred under this authority to the CEO for evaluations.

The CEO directly funds evaluations and also combines its own funds with agency funds to jointly sponsor some evaluations. In addition to appropriated department evaluation dollars, funding for some large competitive grants allows a percentage of grant funding to be devoted to evaluation. For example, DOL uses H-1B visa program dollars to fund a number of discretionary grant programs that provide training and related activities to workers to assist them in gaining the skills and competencies needed to obtain or upgrade employment in high-growth industries or economic sectors. Job training programs funded by the H-1B visa program for foreign workers can be used for evaluation and technical assistance as well as for the training program activities in occupations typically requesting visas. In FY 2016, DOL's CEO will directly oversee an estimated $40 million in evaluation funding.

Sources: M. Irwin, e-mail correspondence, January 6, 2017; "A 2016 Policy Playbook, Invest in What Works: How to Solve Our Nations' Greatest Challenges," Results for America, March 2015; "Overview of Federal Evidence-Building Efforts," OMB, July 15, 2016.

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[26] Title I of the Every Student Succeeds Act (ESSA) is exempted from the set-aside, see Appendix E. Supporting Policies. The law sets aside about $700,000 for evaluating Title I itself.

[27] Public Law No: 115-31, Section 413. *Evaluation of Temporary Assistance for Needy Families and Related Programs.*

Building and maintaining support from all levels of the agency is also an important task in program implementation of evaluations. Agencies have used both leadership directives (top-down) and relationship building and educational efforts (bottom-up) to gain buy-in for evidence-based approaches. Changes in policy may lead to shifts in programmatic approaches and even decisions to curtail support or resources for certain types of programs. Having visible leadership buy-in and investing in making an effective case to program managers and field staff are critical to managing expectations and achieving operational readiness. Additional roles and offices that can help in implementation of evaluations include:

- Senior leadership—Leadership, including the agency heads and senior program managers, who can provide management support, direct funding, and organize internal interest that may be necessary to overcome implementation barriers.
- General Counsel—The General Counsel office can advise whether new efforts are within legislative and budgetary authority.
- External and governmental affairs—These offices can provide guidance on properly and effectively communicating efforts to key constituencies and help identify how efforts are responsive to congressional interest and well-communicated to appropriators.
- Program managers and field staff—These individuals execute or closely interact with the staff or grantees that implement the interventions to be evaluated, and having their buy-in and willingness to translate results and recommendations into action is critical.

c. Evaluation Readiness

Evaluation readiness includes understanding the history of evaluations, resources, structure, capacity, and scope needed to conduct rigorous evaluations.[28] Past evidence and evaluation work provides information on how program interventions are working, including whether they have reached target populations, are being executed as intended, and to what extent stakeholders are satisfied with the program. In addition, program readiness involves a clear understanding of the outcomes and goals of the program, metrics that are quantifiable and measurable, and an evaluation timeframe that is aligned with other program processes, e.g., funding or grant duration.

F. Lessons Learned

Implementing evidence-based approaches within agencies can be challenging. Several lessons that can be useful to agencies seeking to implement these strategies include:

- Establish and use consistent evidence vocabulary
- Sustain expert leadership as a resource to help drive evaluations

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[28] Ibid.

- Develop strategies to address culture change
- Embed evidence and evaluation within programs
- Generate cross-government and senior leadership support

1. Establish and Use Consistent Evidence Vocabulary

Evaluation vocabulary and its translation can be a challenge when implementing evidence-based practices. Based on the program focus or sector, there may be a different expectation for what is authoritatively understood as a high-quality or rigorous evaluation. It may be important for agencies to clearly define "evidence," "evaluation," and other evaluation terms so that program managers and evaluators have a standardized understanding of what is intended to be achieved by the agency's evaluation efforts. For example, "best practices" can be misleading because the term can be used to describe ways of tackling a specific problem or challenge but these practices may not have been vetted by rigorous evaluation. Similarly, the definition of "what works" may need to specify for whom an intervention works and under what circumstances. These semantics will need to be carefully clarified.

2. Ensure Sustained Expert Leadership

In order to help explain and implement an evidence-based learning agenda across an agency, it is important to have experts on hand who can help lead evaluation initiatives. It may be important to position that expert within a part of the organization that has a cross-cutting, agency-wide mandate or focus. In some agencies, the first step was to establish a CEO. (Refer to Appendix C for further on DOL's CEO.) In others, it was to task an existing Director of Research and Evaluation to take on this role. The proper title and placement of such a person can vary depending on the agency. No matter the position, an agency's evaluation expert or leader benefits from having senior leadership support and being empowered to work alongside agency deputies and program directors to guide and build capacity for learning across the agency.

3. Develop Strategies to Address Culture Change

Implementing culture change requires pressure and management support. "The effort behind advancing the evidence-based policy agenda is akin to turning around a massive ship," according to Neil Seftor, Project Director for the What Works Clearinghouse. "It will take time, energy, incentives, and a lot of manpower to achieve a complete change."[29] To address this obstacle, "Think in the short and long term," advises Spera. His evaluation team at CNCS planned out projects or initiatives that could achieve early wins—along a six-month, one-year, and two-year

[29] N. Seftor, phone interview, December 6, 2016.

calendar. “Most of our evaluations are on a three- to five-year study period. You can’t ask colleagues to wait that long to see your value. Our early wins helped keep momentum going.”[30]

In addition, “You have to understand where different staff are coming from and use different types of engagement techniques,” advises Anne Healy, who leads the Development Innovation Ventures at the U.S. Agency for International Development (USAID).[31] “Some people will respond to the scientific appeal of evidence-based decision-making. Others might be responsive only if they see their leaders being responsive to the needs for building an evidence base. For others, it may require forming relationships and dialogue to understand what programs do, their concerns and needs, and how evidence and evaluation can help address these. You have to use multiple forms of influence for this to really be embraced as a cultural shift,” she adds. [32]

4. Embed Evidence and Evaluation within Programs

Traditionally, evaluation offices or staff have worked in environments that are siloed from the programs they are evaluating. This separation can be a strength when ensuring independence of the program evaluation offices and staff, but it can be a deterrent for diffusing an evidence-based learning agenda approach across an agency. Both CNCS and DOL highlight successful efforts to build relationships between the evaluation or research office and the program offices, and both noted the importance of outreach and relationship building between the two staffs to achieve this.

At CNCS, Spera tasked his staff to work with program staff and collaboratively plan evaluation agendas. The teams were already working collaboratively on grant decisions because of newly-added agency evidence policies. “Getting evaluators into team meetings to ask, ‘What do you want to know? What would be helpful in meeting your own performance goals?’ helped illustrate how the work was valuable to the program officers in the weekly monitoring of their portfolios. It helped demonstrate that this was not an add-on to an already large to-do list, but a way of helping re-prioritize and organize the support they provided to their grantees.”[33]

5. Generate Cross-Government and Senior Leadership Support

Evidence-based approaches benefit from centralized support and coordination. For instance, if there is a call for a unified and coordinated set of definitions of what “strong” or “rigorous” evidence means, empowering a facilitator with decision-making authority within or across agencies (government-wide) can help coordinate and aid in reaching consensus. Agencies may have a hard time reaching cross-agency consensus, as each may prefer to have autonomy and

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[30] C. Spera, phone interview, November 30, 2016.

[31] A. Healy, phone interview, December 16, 2016.

[32] A. Healy, phone interview, December 16, 2016.

[33] C. Spera, phone interview, November 30, 2016.

authority to make their own decisions on definitions and policy language, and because each has their own programmatic goals and objectives. However, "There needs to be a high-level, neutral entity working to identify who should be at the table, convening the table, and driving discussions," advises Seftor, "Otherwise, this work just won't get done...it won't be prioritized."[34]

G. Future Considerations

One challenge in encouraging evidence-based approaches is the lack of a robust clearinghouse of evaluation studies across the Federal Government. A key contributing factor to this deficiency has historically been cost and access to data needed for rigorous evaluations. Public online repositories are paving the way for establishing this library of historical evaluation in certain social or public policy areas. Sharing references for past Federal program evaluations, including the data collected, analyses, and results, could help increase agency readiness to conduct future rigorous evaluations.

To address some of the limitations related to data access, the Commission on Evidence-Based Policymaking (CEP) was established by the bipartisan Evidence-Based Policymaking Commission Act of 2016. The CEP members explored several key issues related to the use of survey and administrative data, including:[35]

- Existing barriers to accessing and using data that the government already collects
- Strategies for better integrating existing data with appropriate infrastructure and security, to support policy research and evaluation
- Practices for monitoring and assessing outcomes of government programs
- Whether a data clearinghouse could enhance program evaluation and research opportunities

Through meetings and open comments, the CEP's analysis provided an opportunity for further dialogue with Federal and non-Federal evaluation experts and encouraged Federal coordination to share lessons learned for implementing evidence-based approaches, data, and evaluation reports. In September 2017, the CEP released its recommendations, which included "(1) how the Federal government can provide the infrastructure for secure access to data, (2) the mechanisms to improve privacy protections and transparency about the uses of data for evidence building, and (3) the institutional capacity to support evidence building."[36]

[34] N. Seftor, phone interview, December 6, 2016.

[35] "About CEP," Commission on Evidence-Based Policymaking (CEP), https://www.cep.gov/about.html.

[36] CEP, *The Promise of Evidence-Based Policymaking: Report of the Commission on Evidence-Based Policymaking*, 2017, https://www.cep.gov/content/dam/cep/report/cep-final-report.pdf.

Appendix A.
Tiered-Evidence Grant Programs as a Type of Evidence-Based Approach

This appendix provides a summary of tiered-evidence approaches and their application in the design of Federal grant programs. Tiered-evidence grant programs address a key challenge agencies face: how to structure investments to support promising new ideas while also investing in the scale-up of approaches that have demonstrated credible results and the potential for broader impact.[37] A tiered-evidence approach provides agencies a systematic way of addressing this challenge. In these programs, grants are structured so that awardees are evaluated, and multiple tiers enable the program to build the evidence on the effectiveness of the research, service, or intervention. A tiered approach focuses on making more efficient investments and testing ideas to understand their effectiveness. This is particularly important in constrained budgetary environments.[38]

Introduction

Tiered-evidence grant programs help build the evidence base by replicating and further testing practices, validating promising approaches, adapting and testing interventions for new areas, and piloting innovative models. To achieve this, a strong evaluation component is necessary. Evaluations assess the impact of the program and identify important learnings in terms of implementation, such as how different populations, locations, or methods affect outcomes.

Tiered-evidence grant programs can have varied definitions of "replication," "adaptation," or "strong evidence." However, all aim to provide follow-on investments in interventions and programs that demonstrate a strong evidence of effectiveness based on program goals.[39] By limiting investment in untested programs and building the evidence base for these initiatives, programs can "fail fast" and learn with less financial risk.

Federal tiered-evidence grant programs include the U.S. Agency for International Development (USAID) Development Innovation Ventures Fund (DIV), the Department of Education (ED) Education and Innovation Research (EIR) program (previously Investing in Innovation Fund (i3)), the Corporation for National and Community Service (CNCS) Social Innovation Fund (SIF)

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[37] S. Burwell, et al., "Next Steps in the Evidence and Innovation Agenda," Memo to the Heads of Departments and Agencies from the Executive Office of the President, Office of Management and Budget, July 2013.

[38] K. Ayotte, et al., "Moneyball for Government," Disruption Books, November 2014.

[39] "Investing In Evidence," Youth.Gov, December 2016.

(defunded by Congress in FY 2018), and the Department of Health and Human Services (DHHS) Teen Pregnancy Prevention (TPP) Program (continues to exist but slated for elimination in the FY 2018 President's Budget).

Why

Tiered grant-making can help present a clear message to grantees and prospective applicants about the importance of building an evidence base. It allows for innovative ideas to percolate up from local practitioners or other program sectors and be scaled and tested, while advancing understanding about a particular policy issue. Tiered grant-making benefits all funders—whether government or philanthropic—by allowing them to see how and whether different funded strategies create the desired impact. For agencies, it's a valuable way of directing investments toward programs and projects that provide evidence and may demonstrate greater impact for each dollar invested.

Considerations for Use

Table A-1 compares traditional and evidence-based grant programs across select features.[40]

Table A-1. Comparison of Traditional and Evidence-Based Grant Programs

	Traditional	Evidence-Based
Incentives for grantees to evaluate models that work	Grantees may not have incentives to develop evidence and validate approaches.	Grantees are re-funded according to demonstrated success.
Learning and feedback loops	Grant processes may not be designed to produce evidence that can be used for investment or program models.	The rigorous evaluations required generate shared data that can be used to scale effective approaches and inform future investments.
Innovation	Grants may have a conservative and incremental bias in funding decisions.	By design, promising innovative ideas are funded at relatively smaller levels, and once validated, can be expanded.
Resources	Funds may not cover the cost of rigorous evaluation.	The coverage of cost for program funding, staff, time, and rigorous evaluation is included.
Incentives for producing evidence	Evidence and evaluations may not be supported by the grant, which could lead to barriers in developing evidence-supported programs.	Grantees are incentivized to produce evidence to advance program development, leading to more reliable investments.
Leveraging "the crowd"	Grants may not effectively capitalize on innovative ideas from outside actors.	Grants naturally harness innovative ideas by funding promising programs at various stages of development.
Mobilizing Capital	Limited public funds are tapped to finance traditional grant programs.	Grants may include match-requirements, requiring public and private dollars, including through philanthropies, to leverage resources.
Enabling Intermediaries and Grant-Making Experts	Grants are awarded in a top-down fashion through a two-way model.	Grants can capitalize on the expertise grant-making intermediaries to more effectively disperse funding and provide assistance.

Source: Modified from: "Invest in What Works Fact Sheet: Evidence-Based Innovation Programs," Results for America, October 2015.

[40] "Invest in What Works Fact Sheet: Evidence-Based Innovation Programs," Results for America, October 2015.

The tiered-evidence grant model is suitable for a wide range of programs and missions, with the caveat that they have regulatory flexibility, sufficient funds, and evaluation capacity. Many Federal programs can adopt aspects of a tiered-evidence grant-making approach. Even when there are few or no interventions that meet the evidence standards for scaling up grants, a program can adopt the tiered framework to signal the expectation that some interventions that test a proof of concept can, over time, become eligible for larger validation and scale-up grants.

Some questions that agencies may wish to consider in establishing or adopting tiered grant-making approaches include:

- Assess internal capacity—What is the existing evaluation and research capacity of your agency? How do you currently evaluate programming, and who is responsible for these activities? What resources would be required to introduce a tiered-evidence approach to grant-making, both at the application assessment point and post-award during implementation?
- Review agency standards of evidence—How have you previously defined success in programming? On the continuum of evidence, where do you place your agency as it relates to the problem you would like to evaluate? What would success look like in the particular program you are evaluating? What metrics might be used to evaluate performance?
- Aim for strategic alignment—Is an evidence-based approach to programming embedded into your agency's core strategy? What funding is available to improve internal capacity? What other resources could be sourced to support the growth of institutional evaluation? Does the budget authority support your approach?

Implementation Guidelines

How to Structure Tiered-Evidence Grant Programs

Agencies can structure grant competitions into different "tiers"—varying the amounts of funding available depending on where a program or intervention falls on the continuum of demonstrated effectiveness. It is important to note that evaluations are required across all tiers. While some programs use only two tiers, many distribute their program along three tiers:

- Highest tier: For programs where the evidence base is "strong," that is, they are proven effective through multiple experimental studies or quasi-experimental studies that can be replicated with fidelity. These projects are deemed suitable for scaling to serve more beneficiaries and warrant funding at the highest level because they have been shown to work.
- Middle tier: For programs with only a moderate evidence base, that is limited quasi-experimental studies or a single or small random assignment study. Moderate level

funding is provided for replication grants designed to further test and validate effectiveness, assess implementation, and to address factors that may limit impact.

- Lowest tier: Where there is only preliminary evidence or a strong theory of action, funding is offered for development or proof of concept projects with an appropriate evaluation design to determine whether the project would merit further development or replication.

Grantees receive a base level of funding under the "proof of concept" (lowest tier) and additional funding may be awarded as evidence of effectiveness and impact is gathered. This framework enables agencies to seed multiple potential interventions and encourage further testing and validation.[41] (Refer to Example A-1: Framework for Structuring Tiered-Evidence Grant Programs.)

[41] Ibid.

Example A-1: Framework for Structuring Tiered-Evidence Grant Programs

An example framework for tiered-evidence grant programs can include:

- Phase I grants focus on the development and feasibility testing of an intervention—Funded applicants at this level need to show that prior evidence, if any, suggests that the intervention could produce positive effects at a reasonable cost, and the project team should demonstrate previous experience implementing an intervention on a similar scale in a community setting.
    - The goal is for the intervention to be operationally functional: develop the intervention to the point where it is operating as it was designed to.
    - Test implementation with a feasibility study to determine whether the intervention can be delivered successfully in a real-world community setting, in adherence to a manualized protocol.
    - Phase I grants might be funded at levels to sufficiently seed the exploration or investigation of an intervention, depending on the agency, type of program, and the nature of the evaluation implemented.
- Phase II grants focus on funding a rigorous, preferably randomized, evaluation of the intervention, at low cost, if possible—The second phase funding ranges in size, depending on factors like availability of existing administrative data to measure study outcomes, and the overall cost of the intervention. To keep costs low, consider measuring key outcomes with existing administrative data, if available, rather than relying on primary data collection.
    - The goal is to measure the intervention's impact on the primary outcomes of interest, as well as obtain basic, low-cost programmatic data on the effectiveness of implementation.
    - High-quality quasi-experimental design studies can be used if an RCT is not feasible.
    - Phase II grants could provide mid-range levels of funding, depending on the agency, size of the program, and the nature of the evaluation implemented.
- Phase III grants use experimental trials to test the intervention—The third phase targets replication of the intervention using a randomized, systematic research design. An RCT should be used to test whether the outcomes from the second phase can be replicated in a different environment, often with a larger population. To enable a longer-term and larger study, the number of grants distributed at this level are usually few, plus relatively few interventions are found to be effective enough in phase II to warrant larger investment.
    - The goals here are to (1) determine whether the positive impacts from prior studies can be reproduced with a new sample of the population in a new setting, and whether they endure long enough to constitute substantive improvements in people's lives; and (2) identify the reasons that the intervention produced the effects, the conditions and subgroups where it is most effective, and its impacts on a broader set of outcome measures.
    - Phase III grants are typically the largest funded and can be sufficient to cover an RCT and necessary expansion or scaling efforts.

Source: Coalition for Evidence-Based Policy, "Proposed Social Spending Innovation Research (SSIR) Program: Harnessing American Entrepreneurial Talent to Solve Major U.S. Social Problems," http://coalition4evidence.org/wp-content/uploads/2015/02/Proposed-Social-Spending-Innovation-Research-SSIR-program-Education-2015.pdf.

How to Demonstrate What Works

As programs move across the three tiers of grant-making, different forms of evaluation may be appropriate to help determine what is and isn't working, how it is working, and for whom. The RCT may be ideal for moving interventions from tier two to tier three, but it may not always be feasible or appropriate for a given program.[42] Other forms of evaluation can be utilized to assess proof of concept or program feasibility in a given context. The key to building scientific evidence of effectiveness is to use the most rigorous methodology feasible for answering a given question about the program. "Rigor" in this context is defined as "credible, useful, and unbiased."[43] Rigor requires following the best scientifically-backed methods to answer identified questions about if or how a program works. To this end, quasi-experimental designs or other evaluative methods, so long as they are implemented in a high quality fashion, also provide evidence of effectiveness.

The main consideration for grantors and policymakers is creating evaluations with research designs that instill confidence in the results. Jim Manzi, an expert on running RCTs in the private sector, has observed, "The percentage of government policy programs that can be replicated with well-structured randomized trials to create statistically significant improvements is under 10% of those attempted. Rather than thinking, 'I've got to get a RCT for my program to prove it works,' policymakers and grantors should focus on radically ramping up the number of trials and rigorous testing."[44] Significant improvements to program design are possible as the body of evidence builds (Refer to Chapter 7.C. Considerations for Use and Figure 12).

In addition, agencies may also consider an exit requirement which requires the grantee to conduct an evaluation that is more rigorous than the evidence cited in the grant application. This can offer more credible and extensive evidence for the program.[45]

Lessons Learned

Some lessons learned from experiences of other agencies implementing tiered-evidence grant programs include:

- Fostering a supportive agency culture
- Agreeing on standards of evidence across the agency
- Building capacity for understanding evidence

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42 L. Haynes, O. Service, B. Goldacre, and C. Torgerson, "Test, Learn, Adapt: Developing Public Policy with Randomised Control Trials," Cabinet Office Behavioral Insights Team, June 2012.

43 L. Zandniapour and K. Brennan, "Advocacy Evaluation and Rigor," Center for Evaluation Innovation, 2010.

44 J. Manzi, "Learning from Innovative Businesses About Creating a Culture of Experimentation: An Interview with Jim Manzi," GovInnovator, April 2013.

45 "Invest in What Works Fact Sheet: Evidence-Based Innovation Programs," Results for America, October 2015.

- Sourcing adequate budgetary resources
- Overcoming structural barriers and adapting to agency operating contexts

Fostering a Supportive Agency Culture

Introducing an innovation into an agency requires some "inherent openness to failing and to managing failure," notes Aneesh Chopra, former U.S. Chief Technology Officer.[46] Across the agency, instilling an evidence-based mindset is important for the successful integration of tiered grant-making. Successful strategies of deploying tiered grant-making within other agencies include:

- Building and engaging communities of practice from across other agencies to support staff and civil service in adapting to change
- Creating working groups and cohorts of vital employees to work through the challenges of deploying tiered grants together as a group

Many agencies are open to sharing lessons learned and vibrant ecosystems of innovators exist across different communities of practice.

Agreeing on Standards of Evidence

According to Sonal Shah, former Director of the Office of Social Innovation and Civic Participation, introducing an evidence-based grant program requires developing a common base of understanding about what constitutes "evidence."[47] Within a given agency, people often bring their own methodological and disciplinary understandings of what it means to measure the success of a program. Across different institutional settings, there are often multiple position titles (Chief Data Officer, Chief Performance Officer, Chief Evaluation Officer, and the like) designated to deal with evidence and data. This can create confusion. Ensuring that everyone involved is using the same terminology, definitions, and standards of rigor when referring to evaluation is important for establishing a culture of evidence-driven policy and open communication across the organization. Standards of evidence and terminology are a simple way of creating clarity. Trainings within the agency on evaluation methodologies, including how results can be interpreted and used, can also help maintain intra-agency consistency of evidence standards.

Building Capacity for Understanding Evidence

In a review of tiered-evidence programs, the Government Accountability Office (GAO) found that "some grantees did not have the technical skills and infrastructure to understand the evidence base

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[46] A. Chopra, "Foster a Government of Open Innovation," Voices of Next Generation, A Conversation with Aneesh Chopra, May 6, 2015.

[47] S. Shah, in-person interview, July 7, 2016.

and select the evidence-based model that would best fit their target populations."[48] In addition, GAO noted that programs may not be able to effectively review grant proposals due to the specific technical knowledge and skills necessary to review evaluation methodologies.[49] Agencies could consider evaluating and building their capacity for conducting and managing evaluations in order to effectively implement evidence-based programs.

Sourcing Adequate Budgetary Resources

The cost of evaluations can be a prohibitive factor in developing tiered-evidence grant programs. RCTs can be expensive, as significant human resources are required to implement the intervention and collect data. To overcome this challenge, the low-cost RCT can offer an alternative means to implement a similar approach. This approach encourages the use of already-collected administrative data. In this case, administrative data can function as the comparison group, which can enable costs of data collection to be significantly reduced. The low-cost RCT also has limitations in that it may not be appropriate to answer all relevant evaluation questions using this method. Evaluators may be limited to answering only those questions for which there is already available data. It may be worthwhile to strongly consider to what extent measures from existent data meet the program's evaluation goals. Aside from seeking less resource-intensive methodologies, another approach is to ensure that allowable evaluation costs are allocated and used to the fullest extent. Some agencies have programs with regulatory authority to allow some percentage of program funds to be used for evaluation.[50] Typically, grant funds in tiered-evidence programs can be used for evaluation and require grantees to allocate funds for the cost of evaluations in their proposed budgets.

Overcoming Structural Barriers and Adapting to Agency Operating Contexts

Running evidence-based programs requires more resources. As a result, agencies may wish to run multiple grant competitions simultaneously, for instance, for each tier, to streamline activities. However, GAO notes that this could significantly increase the need for programmatic and staff support.[51] In addition, there are alternate methods for integrating evidence into discretionary grant programs. For instance, competitions can award competitive preference points for those applicants who demonstrate higher levels of existing evidence or propose using greater rigor and evaluation

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[48] "Tiered Evidence Grants: Opportunities Exist to Share Lessons from Early Implementation and Inform Future Federal Efforts," GAO, 2017, http://www.gao.gov/assets/680/679917.pdf.

[49] Ibid.

[50] A. Feldman, "Creating outcome-focused grant programs known as tiered-evidence grant programs or innovation funds: A video overview," May 4, 2014.

[51] "Tiered Evidence Grants: Opportunities Exist to Share Lessons from Early Implementation and Inform Future Federal Efforts," GAO, 2017, http://www.gao.gov/assets/680/679917.pdf.

in their project plans. These types of designs are useful when there are many applications of varying quality, and where a streamlined, pre-application process can identify leading proposals.[52]

Examples

Examples of four tiered-evidence grant programs are described below:

- USAID Development Innovation Ventures Fund (DIV)
- ED Education and Innovation Research (EIR) (previously Investing in Innovation Fund (i3))
- CNCS Social Innovation Fund (SIF) (defunded by Congress in FY 2017)
- DHHS Teen Pregnancy Prevention (TPP) Program (continues to exist but slated for elimination in the FY 2018 President's Budget)

USAID Development Innovation Ventures Fund (DIV)[53]

Since 2010, USAID's tiered-evidence open innovation fund—Development Innovation Ventures (DIV)—has focused on piloting, testing, and scaling innovative solutions for some of the toughest challenges in global development.[54] DIV is part of USAID's Global Development Lab. DIV invested small sums of funding in a variety of relatively unproven ideas and continues to support only those that demonstrate rigorous evidence of impact, cost-effectiveness, and the potential to scale via the public and/or private sector. "Taking a portfolio approach to its impact has enabled the agency to embrace failure," according to Anne Healy, lead for DIV. DIV sought to advance innovations that work at the demonstration scale while avoiding long-term investments in those that do not.

1. Key Accomplishments

Over six years, DIV invested more than $90 million in nearly 170 innovations across all 10 sectors in which USAID operates and approximately 60% of the countries in which the Agency works. DIV projects reached over nine million direct beneficiaries and mobilized $4.6 dollars for every $1 of DIV funding.

A tiered-evidence grant program helped enhance USAID's projects with rigorous impact evaluations. Over 65% of projects showed evidence of impacts and nearly 40% conducted RCTs.

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[52] A. Feldman, "Creating outcome-focused grant programs known as tiered-evidence grant programs or innovation funds: A video overview," May 4, 2014.

[53] Information derived from A. Healy, phone interview, December 16, 2016.

[54] U.S. Agency for International Development (USAID), Global Development Lab, Development Innovation Ventures (DIV) website, www.divportfolio.org. Note that at the time of writing, September 2017, DIV applications had been temporarily suspended. The program is not authorized by statute but continues to receive funding through the USAID Global Development Lab.

Other accomplishments include:

- Portfolio-level impact—Modeled after a venture capital fund, DIV made many smart "bets," with the hope that a small share of those achieves considerable impact, justifying the overall portfolio of investments. As such, DIV expected to fund some grants that failed to deliver significant impact at scale, recognizing that the true yardstick of success was measured at the portfolio level. Some results include:
- Retrospective review of completed grants—Since the promulgation of the Global Development Lab's official Results Framework in December 2015, DIV has retrospectively reviewed the majority of its completed grants. DIV's portfolio of completed grants has performed very well against this Framework, with 62% of completed grants having shown positive (causal) evidence of impact, reaching 9.3 million direct beneficiaries, and mobilizing 4.6:1 in follow-on funding.
- Analysis of Reach: DIV's reach has been studied by two development economists. Michael Kremer (from Harvard University; also co-founded DIV and serves as its Scientific Director) and Esther Duflo (from MIT) reviewed the first three years of DIV's portfolio (2010-2012) with a focus on number of people reached by DIV-funded innovations. They found that, across 43 innovations, DIV reached 24 million people at a cost per person of only $0.75.
- Boosting engagement with non-traditional actors and ideas—As an open innovation fund, DIV was open to anyone with an idea, including local entrepreneurs, world-class researchers, and high-growth start-ups and small businesses. Since DIV's inception, approximately 70% of its 8,000 applicants and over 50% of its portfolio organizations were previously not funded through USAID. DIV consistently outperformed its target for engagement of local entrepreneurs (30% target compared to approximately 40% achieved). In addition, nearly 40% of DIV's portfolio was for-profit start-ups.
- Served as a model—USAID was one of the first global development institutions to launch a tiered, evidence-based innovation fund model. DIV has advised several bilateral, multilateral, and private development institutions on their models over the years.
- Implementation

Through its awards, DIV selected, tested, and scaled projects based on three main criteria:[55]

- Cost-effectiveness: DIV sought innovations that delivered greater development impacts per dollar than standard practice.

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[55] "DIV's Model in Detail" webpage, Development Innovation Ventures, USAID, https://www.usaid.gov/div/model.

- Rigorous testing: DIV valued the use of rigorous evaluation methods to determine whether an innovation significantly improved development outcomes, and held organizations to a high bar of rigorous evidence or market viability in order to support scale-up.
- Pathways to scale: DIV expected those innovations with evidence of impact and cost-effectiveness to eventually scale up through funding from the private sector, public sector, or, in some cases, a combination of the two, in order to reach financial sustainability without long-term DIV support. An exit strategy with multiple institutional partners was key to the overall approach.

Based on these criteria, DIV applied the following three-tiered approach to its open grant competition:[56]

- Stage 1 Proof of Concept/Initial Testing Grants supported the initial testing of an idea in order to demonstrate viability of the concept. Stage 1 grants ranged from $25,000 to $150,000 for up to three years.
- Stage 2 Testing and Positioning for Scale Grants supported innovations that were ready to be measured for overall impact, sustainability, and possible scale. Stage 2 grants ranged from $150,000 to $1,500,000 for up to three years.
- Stage 3 Transitioning Proven Solutions to Scale Grants supported proven ideas that were ready to be scaled, potentially across multiple countries. Stage 3 grants ranged from $1,500,000 to $15,000,000 for up to five years.

Applicants could apply to any stage, and were required to re-compete to advance to the next stage. Further funding was offered for promising interventions driven by successful, rigorous evidence. DIV also rigorously evaluated impact and cost-effectiveness of its projects. Using larger populations and impact evaluations to test the interventions, DIV looked for evidence at scale, while also maintaining a focus on cost and long-term financial sustainability of the intervention.

2. Key Learning Insights

DIV was able to catalyze private and other sector investments. For example, DIV became a leader within USAID in re-structuring traditional grant funding to catalyze debt and equity in markets, such as off-grid energy. DIV combined extensive due diligence involving external partners with milestones tied to key performance indicators and follow-on funding so that for-profit start-ups could seek more sustainable forms of capital to support their long-term growth.

[56] Development Innovation Ventures, USAID, https://www.usaid.gov/div.

ED Education Innovation and Research (EIR) (previously Investing in Innovation (i3) Fund)[57]

The Investing in Innovation (i3) Fund was established under section 14007 of the American Recovery and Reinvestment Act of 2009 (ARRA).[58] The i3 program was succeeded by the Education Innovation and Research (EIR) program in 2015 when it was authorized as part of the Every Student Succeeds Act (ESSA). The EIR program aims to invest in high-impact, potentially transformative kindergarten through 12th grade education interventions, ranging from new ideas with significant potential to those with strong evidence of effectiveness that are ready to be scaled up. EIR was designed to accelerate the development of innovative practices and to expand the implementation of practices that have a demonstrated impact on improving student educational outcomes. The program requires evidence of effectiveness from applicants seeking to qualify for its largest grants; it aims to build the evidence base surrounding those practices that it supports, and it aims to increase the use of evidence generally in K-12 education. EIR was appropriated $95 million for new awards in fiscal year 2017 and the fiscal year 2018 request was for $370 million.[59] The main difference is between i3 and EIR is that under the new program, states, in addition to districts, are eligible to receive grants, and both states and districts may collaborate with a wider range of organizations.[60]

1. Key Accomplishments

Through the EIR program, the ED funded more than $1.4 billion in 172 grants to improve educational achievement, attainment, growth, or to close achievement gaps. Through these grants, EIR supported organizations' capacity to build and use evidence to support improvements in educational outcomes for students. Because of the results from rigorous evaluations of these programs and efforts, the EIR program helped to build the evidence-base for how to best support students, particularly in high-need schools. In addition, the EIR program served as a model for evidence-based grant-making within the ED. Foundations have indicated their support for EIR by creating an easy-to-use online platform for philanthropic organizations (Foundation Registry i3) to identify EIR applicants and seek support from foundations willing to match grants. It also informed foundations about active initiatives they may want to invest in or collaborate with. Through the registry, grantees raised over $84 million in private funds.

57 Information derived from M. Moritz, e-mail communication, December 19, 2016.

58 "Investing in Innovation Fund Resources," Department of Education, https://www2.ed.gov/programs/innovation/index.html?exp=0.

59 "Fiscal Year 2018 Budget Summary and Background Information," Department of Education, https://www2.ed.gov/about/overview/budget/budget18/summary/18summary.pdf.

60 "Inaugural Education Innovation and Research Competition," Department of Education, December 15, 2016, https://www.ed.gov/news/press-releases/us-department-education-announces-inaugural-education-innovation-and-research-competition.

In October 2015, Results for America reported on nine impact evaluations of EIR projects. The following examples indicate success in a variety of settings and educational focus areas:[61]

- A 2015 evaluation of KIPP charter schools found positive, statistically significant, and educationally positive impacts on (1) reading and math achievement in elementary grades, (2) math, reading, science, and social studies achievement in middle grades, and (3) student achievement for students new to KIPP high schools.
- A 2015 report on Success for All (SFA) found that SFA is an effective vehicle for teaching phonics at the second grade level and that students entering kindergarten with low pre-literacy skills registered statistically significantly higher scores on measures of phonics in grades K-2, word recognition, and reading fluency than similar students in control groups in grades K-2.
- A 2015 evaluation of Teach For America (TFA) found that first- and second-year corps members in elementary grades were as effective as other teachers (with an average of 14 years' experience) in the same high-poverty schools in reading and math, and a sub-analysis focused on grades pre-K-2 showed students of TFA teachers gained an additional 1.3 months on measures of reading skill relative to other students in the same schools.
- Findings from a final report on the Children's Literacy Initiative (CLI) demonstrate that kindergartners and second graders score significantly higher on early reading tests than other students, and that CLI had a statistically significant positive impact on the quality of teachers' literacy instruction in grades K-1.

Of the 143 grants made between 2010 and 2014, 120 were on track to have evaluations that have the potential to meet What Works Clearinghouse (WWC) evidence standards.[62]

2. Implementation

To build knowledge about what works to support students, particularly in high-need schools, all EIR grantees were required to conduct rigorous third-party evaluations to determine impact, to identify relevant lessons about program design and implementation, and ultimately to identify practices that should be scaled.[63] The lessons learned from these evaluations were useful to the organizations for continuous improvement of their own programs in addition to building the knowledge base about successful programs and practices in public education. The EIR program awarded grants to school districts and non-profit organizations in partnership with school districts/schools, and all grantees must obtain matching funds from the private sector.

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[61] "Invest in What Works Fact Sheet: Evidence-Based Innovation Programs," Results for America, October 2015.

[62] Ibid.

[63] Ibid.

The EIR program used a three-tier evidence framework:[64]

- Development grants funded the development and testing of novel approaches to issues of national significance that merit systematic study. Since 2010, 115 Development grants have been awarded, ranging from up to $3 million to $5 million each.
- Validation grants funded the expansion of projects that are backed by moderate evidence, to either the regional level or state level. Since 2010, 46 Validation grants have been awarded, ranging from up to $12 million to $30 million each.
- Scale-up grants funded the national expansion of programs with strong evidence of effectiveness. Since 2010, 11 Scale-up grants have been awarded, ranging from up to $20 to $50 million each.

3. Key Learning Insights

- Be willing to iterate over time—The availability of education practices that meet the highest evidence standards will probably be limited early on, but creating the right incentives for new and existing players to leverage practices that have some evidence of efficacy allows for the development of expertise and the capacity of grantees over time. At the same time, teams will learn more about doing this work as it progresses—and will be able to iterate alongside of their grantees.
- Leverage resources to change agency and grantee culture—i3 was a small program relative to the overall size of the ED's budget. The goal was to use i3 resources on projects that have a high probability of working, and to support entrepreneurs who are willing to develop evidence about their practices while they are in the process of refining their practices. This approach allowed i3-funded efforts to inform larger funding streams over time, as reflected in the recently reauthorized Elementary and Secondary Education Act. The work set the foundation for influencing a cultural shift within ED and in the education sector more broadly to use the best available data and evidence to drive decision-making.
- Build on the power of networks—By funding cohorts of grantees to tackle similar issues, the ED built a pipeline of entrepreneurs to test what works across a range of issues. Not only did this enable them to learn from each other and improve their efforts as they go along, but it helped many organizations build new partnerships to expand and deepen their impact. In turn, this created important momentum within and across i3 grantee organizations, and increased entrepreneurs' willingness to rigorously evaluate their impact.

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[64] "Investing in Innovation Fund (i3): Programs," Department of Education, https://www2.ed.gov/programs/innovation/awards.html.

5. Additional Resources

- ED websites:
  - EIR website—"Education Innovation and Research," Department of Education, https://innovation.ed.gov/what-we-do/innovation/education-innovation-and-research-eir.
  - EIR community website—"Welcome to the i3 Community," Department of Education, https://i3community.ed.gov/.
- "Education Innovation and Research: Awards," Office of Innovation and Improvement, Department of Education, https://innovation.ed.gov/what-we-do/innovation/education-innovation-and-research-eir/awards.
- "FY 2016 Competition," Office of Innovation and Improvement, Department of Education, https://innovation.ed.gov/what-we-do/innovation/investing-in-innovation-i3/fy-2016-competition.
- "Strengthening evidence-based grant making at the U.S. Department of Education: An interview with Jim Shelton, Deputy Secretary of Education—Episode #69," GovInnovator podcast, December 24, 2014, http://govinnovator.com/jim_shelton.
- "What We're Learning from Investing in Innovation," Medium.com article on learnings from i3 featuring an interview with Jim Shelton and Nadya Chinoy Dabby, ED's Assistant Deputy Secretary for Innovation and Improvement. Department of Education, December 21, 2015, https://medium.com/@usedgov/what-we-re-learning-from-investing-in-innovation-b13e5039fa79.

CNCS Social Innovation Fund (SIF)[65]

The CNCS SIF was authorized by the Edward M. Kennedy Serve America Act in April of 2009. Although SIF was defunded in FY 2017, a number of projects continue to operate under the multi-year grant.[66] The SIF provides financial resources to high-performing organizations (grantees) to identify and grow effective programs so that they can improve the lives of children, youth, adults, and families in low-income communities across the country. SIF programs seek to prepare children and youth for success in school, active citizenship, productive work, and healthy and safe lives; increase economic opportunities and financial stability for economically marginalized individuals and families; and improve health outcomes, promote healthy lifestyles, and decrease health disparities that disproportionately affect low-income communities.

65 Information derived from P. Patel, e-mail communication, January 13, 2017.

66 Note that on May 5, 2017, President Donald J. Trump signed H.R. 244, the "Consolidated Appropriations Act, 2017," which provides funding for federal agencies and programs through September 30, 2017. The President's Fiscal Year 2018 Budget request to Congress proposed the elimination of the CNCS and SIF.

Each year the SIF identifies programs with evidence of effectiveness and rigorously evaluated them to identify opportunities for improvement. The SIF runs two competitive grant-making programs: (1) SIF Classic, a tiered-evidence grant program to leverage public-private partnerships to identify and support solutions that make an impact in transforming communities, and (2) SIF Pay for Success (PFS), a program launched in 2014 to build capacity for and pilot projects that align payment for social services with verified social outcomes.

1. Key Accomplishments

As of March 2016, SIF invested, along with grantees and match funders, almost $1 billion to find solutions that work, awarding $19.1 million as part of SIF PFS program and a pilot program focused on utilizing data to demonstrate impact, and $21 million as part of SIF Classic.

As of March 2016, SIF:[67]

- Served beneficiaries—SIF's public-private partnerships benefited nearly 700,000 individuals to gain access to evidence-based solutions.
- Invested in grantees—SIF made a total of 43 awards to grantees located in 17 states and the District of Columbia. Of the 39 current grantees, 31 are SIF Classic grant-making organizations distributed in 12 states and the District of Columbia, and 8 SIF PFS organizations located in 6 states. Through the SIF, $295 million in Federal funds were leveraged to raise more than $628 million in non-Federal match commitments. As a result, more than $900 million was invested in effective community solutions by 458 non-profits working in 40 states and the District of Columbia.
- Developed private sector partnerships—Since the inception of SIF, more than 227 private sector grantee funders and 527 private sector sub-grantees, who provided capacity building and technical assistance, matched funding commitments. Private sector funders came from 39 states and the District of Columbia.
- Approved program evaluations—SIF Classic grantees conducted rigorous evaluations as a central aspect of receiving funding. The SIF had 73 approved program evaluations distributed across the following focus areas: Economic Opportunity (10), Healthy Futures (14), and Youth Development (63).

2. Implementation

Descriptions of the SIF Classic and SIF Pay for Success programs are below.

1) SIF Classic

The SIF Classic program combines public and private resources to increase the impact of innovative, community-based solutions that have compelling evidence of improving the lives of

[67] "About the Social Innovation Fund," Corporation for National and Community Service, https://www.nationalservice.gov/programs/social-innovation-fund/about-sif.

people in low-income communities throughout the United States. Through this program, the SIF makes grants to experienced grant-making institutions or "intermediaries" that are well-positioned within communities to identify the most promising programs and guide them toward greater impact and stronger evidence of success. These grants range from $1-$10 million annually for up to five years.

The intermediaries then match the Federal funds dollar-for-dollar and hold open competitions to identify high-performing community-based organizations working in low-income communities that have innovative solutions with evidence of compelling results. At least 80% of awarded Federal funds are invested in sub-grantee programs. Once selected, these organizations also match the funds they receive, and participate in rigorous evaluations of the impact of their programs. The SIF and its grantees share data, lessons learned, and results, which helps to build the capacity of the social sector to scale solutions.

Using similar tiered-evidence definitions as the ED's i3 program, the SIF requires that all interventions have at least preliminary evidence as the threshold for entry. Once funded, SIF Classic programs build on their level of evidence. Programs conduct a rigorous evaluation by partnering with an independent evaluation team that helps build the evidence supporting its effectiveness and potentially move it to a higher tier of evidence.

The SIF's funding guidelines make clear that programs with higher levels of evidence should be prioritized for greater expansion, receiving more financial support (i.e. larger grants) so that they can scale up their programs. Scale for organizations with preliminary levels of evidence allows for limited expansion to support evaluation efforts by testing interventions with new populations or locations, whereas scale for organizations with moderate and strong levels of evidence allows for more substantial growth to provide services to larger numbers of people in the current or new geographic area(s).

2) SIF Pay For Success (PFS)

SIF PFS is a $30-plus million grant-making initiative designed to help cities, states, and nonprofits develop PFS projects, which align payment for social services with verified social outcomes. This funding builds the pipeline of Pay for Success projects, with the goal of identifying PFS opportunities, building capacity, and helping to launch new PFS projects. The SIF PFS Administrative Data Pilot awards help current PFS projects better determine the impact of their programs by providing support for access to high-quality, less-expensive data for evaluation purposes.

Through this program, the SIF awards fund experienced social finance institutions or government entities to run open competitions to select, fund, and support eligible nonprofit organizations and state and local governments that seek to enhance the capacity and readiness of implementing Pay for Success projects that produce measurable outcomes in low-income communities across the country. These grants range from $350,000-$1.8 million annually for up to three years. Recipients make sub-awards or provide services in annual amounts of at least $75,000 but not more than $400,000 and of sufficient size and scope to enable the sub-recipient to build its capacity to eventually launch high-quality PFS projects.

3. Key Learning Insights

Results from the SIF National Assessment, an independent review of the SIF Classic program, identified several strengths of the program and recommendations for change.[68] These recommendations can be useful considerations for other programs that are considering implementing a tiered-evidence grant program:

- Consider modifying the SIF's matching requirement—Though public-private partnership and two-level private match required by SIF's statute are a significant part of its value proposition, grantees and sub-grantees reported it to be an onerous burden, especially for smaller or rural-based grantees and sub-grantees.
- Continue to support the SIF evaluation program including providing technical assistance—The assessment found that grantees felt the SIF evaluation program increased their capacity for and use of evaluation. This aspect of the program was a strength and should be continued, if not expanded, perhaps with the inclusion of an evaluation planning year.
- Provide more support for or reform regulatory requirements—The assessment acknowledged that SIF provides support for grantees to achieve compliance with program regulations but that the number and complexity of these requirements was onerous and any opportunity to lessen the burden posed by these requirements should be pursued.
- Increase collaboration and knowledge sharing, particularly with private foundations and philanthropy—Grantees and sub-grantees recommended that the learning network expand beyond SIF participants to achieve field-wide impact, capacity building, and adoption of evidence-based practices.

Additional Resources

- "Social Innovation Fund"—Program website—Corporation for National & Community Service website, https://www.nationalservice.gov/programs/social-innovation-fund.
- "Search the Exchange"—CNCS Evidence Exchange—Search for reports from SIF funded projects and project evaluations—Corporation for National & Community Service website, https://www.nationalservice.gov/impact-our-nation/evidence-exchange/basic-search.

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[68] "Social Innovation Fund National Assessment," Corporation for National and Community Service, https://www.nationalservice.gov/documents/sif-classic-national-assessment/2015/National-Assessment-Factsheet.

DHHS Teen Pregnancy Prevention (TPP) Program[69]

The DHHS Teen Pregnancy Prevention (TPP) Program is a national, evidence-based program that funds diverse organizations working to prevent teen pregnancy across the United States. TPP focuses on reaching populations with the greatest need with a goal of reducing disparities in teen pregnancy and birth rates. The TPP Program was established in FY 2010 with a Congressional mandate to fund medically accurate and age-appropriate programs to reduce teen pregnancy. It was funded in FY 2017 at approximately $101 million through the Office of Adolescent Health (OAH) with $6.8 million for program evaluation. At the time of writing, as of October 2017, the TPP Program suspended making new grants and Congressional decisions were not yet made regarding funding for the program.[70]

1. Key Accomplishments

During the first five years of the TPP Program (FY 2010-2014), OAH funded 101 grantees who reached nearly half a million youth. They trained more than 6,800 professionals, established partnerships with over 3,800 community-based organizations across the United States, and disseminated their results in over 70 published manuscripts and 1,300 national, regional, and state-wide presentations. In 2015, OAH funded a second round of 84 grantees in 39 states and the Marshall Islands. These grants are slated to end in June 2018 after a three-year project period (starting in 2015).

To increase the likelihood of replicating the same positive results associated with the original program evaluation, OAH grantees implemented programs with fidelity and high quality, and ensured high levels of youth attendance throughout the program. Overall, 95% of all sessions were implemented as intended (fidelity), 92% with high quality, and on average, youth attended 86% of all sessions.

From FY 2010-2014, the TPP Program funded 41 rigorous, independent evaluation studies that significantly contributed to the field's knowledge of where, when, and with whom programs are most effective. The TPP Program evaluation results increased the menu of effective interventions and provided important information to help communities select and implement programs that are a good fit and likely to have the greatest impact. Beginning in FY 2015, OAH continued its investment in rigorous evaluation by supporting several new grantee-led and federally led evaluations.

2. Implementation

The TPP Program funded two types of grants to (1) implement evidence-based TPP programs, and (2) develop new and innovative approaches.

[69] Information derived from E. Kappeler and A. Margolis, e-mail communication, November 28, 2016.

[70] Note that the President's Fiscal Year 2018 Budget request to Congress proposed the elimination of the TPP Program. The House approved its version of the FY 2018 appropriations bill, which does not include funding for TPP. The Senate Appropriations Committee approved version does include continued level funding for TPP.

1) Implementation of Evidence-based TPP Programs

Approximately three quarters of TPP grant funding was invested in implementing evidence-based teen pregnancy prevention programs. Grantees were funded to build the capacity of youth-serving organizations to implement, evaluate, and sustain evidence-based teen pregnancy prevention programs, and to use a community-wide approach to implement evidence-based programs to scale to reach a large number of youth and communities in need. Seventy-five implementation grants were awarded between FY 2010-2014 at an average size of $1,000,000 annually per grant.[71]

2) Development of New and Innovative Approaches

To continue to expand the evidence base and address the changing needs of youth and communities, 25% of TPP grant funding was dedicated to developing and testing new and innovative approaches to preventing teen pregnancy. This included:

- Supporting technology and program-based innovations that are promising approaches to preventing teen pregnancy, but need support to develop, prototype, and evaluate
- Rigorously evaluating new and innovative approaches to preventing teen pregnancy designed to fill gaps in the current evidence base and address existing disparities

Twenty-seven development grants were awarded between FY 2010-2014 at an average of $925,900 annually per grant.[72]

3. Key Learning Insights

- The results from OAH's 41 independent rigorous evaluations from FY 2010-2014 showed that it was important to build a body of evidence for individual programs to provide information about where, when, and with whom programs are most effective. A single study was not sufficient to show if a program will find the same outcomes when implemented in different places and with different populations. In addition, independent replication evaluations were essential to validate the findings from initial evaluations conducted by a program developer.
- High quality program implementation was essential to finding and sustaining outcomes. Ensuring that programs were implemented with fidelity and quality, and that participants receive the majority of the program, was as important to achieving results as is ensuring the rigor of the evaluation study. Intensive training and technical assistance were important to help organizations maintain quality program implementation and rigorous evaluation.
- Time and focus were spent on program selection, fit, and implementation. This included assessing community needs, the capacity of the implementing organization, any

[71] "Invest in What Works Fact Sheet: Evidence-Based Innovation Programs," Results for America, October 2015.

[72] Ibid.

restrictions at the implementation sites, and the outcomes an organization was working to achieve to make sure that programs selected for implementation were a good fit.

- Building a culture of learning and using evaluation results to inform program selection can be difficult. It requires a willingness to move away from programs that may no longer be effective or that may not be the best fit for a community, even if they were the programs that have always been done, or that were already purchased. Communities need to be able to use the best available evidence to select programs that were the best fit and likely to have the greatest impact.

4. Additional Resources

- "Teen Pregnancy Prevention Program (TPP)," OAH Teen Pregnancy Prevention Program, Results, and Funded Grantees—HHS.gov Office of Adolescent Health, Department of Health and Human Services, https://www.hhs.gov/ash/oah/grant-programs/teen-pregnancy-prevention-program-tpp/index.html.
- "Teen Pregnancy Prevention Evidence Review," Department of Health and Human Services, https://tppevidencereview.aspe.hhs.gov.
- "Teen Pregnancy Prevention (TPP) and Pregnancy Assistance Fund (PAF) Resources," OAH Teen Pregnancy Prevention Program Resource Center, HHS.gov Office of Adolescent Health, Department of Health and Human Services, https://www.hhs.gov/ash/oah/resources-and-training/tpp-and-paf-resources/index.html.

Appendix B.
Pay for Success as a Type of Evidence-Based Approach

This appendix provides an overview of the application of evidence-based approaches in the pay for success program model.

> *Pay for Success is an innovative way of partnering with philanthropic and private sector investors to create incentives for service providers to deliver better outcomes at lower cost—producing the highest return on taxpayer investments. The concept is simple: pay providers after they have demonstrated success, not based on the promise of success, as is done now.*
>
> —Corporation for National and Community Service[73]

Overview

Pay for Success (PFS), also known as Pay-for-Performance or Social Innovation Bond, is a program model that promotes the use of evidence to achieve outcomes in a more cost-effective way. PFS can include performance-based contracts between the Federal Government and service providers (e.g. a social impact bond). The contract is structured such that the government only pays the provider if the services and outcomes are achieved (or pay a partial amount if expected outcomes are partially achieved).[74] The contract typically specifies the expected outcomes and how results will be measured. The contracts may include an intermediary organization that works with one or more service providers to deliver an intervention. Funding for service delivery can come from outside investors (commercial or philanthropic), which can be secured by the intermediary. The government pays the intermediary when the expected outcomes are achieved. (Refer to Figure B-1.)

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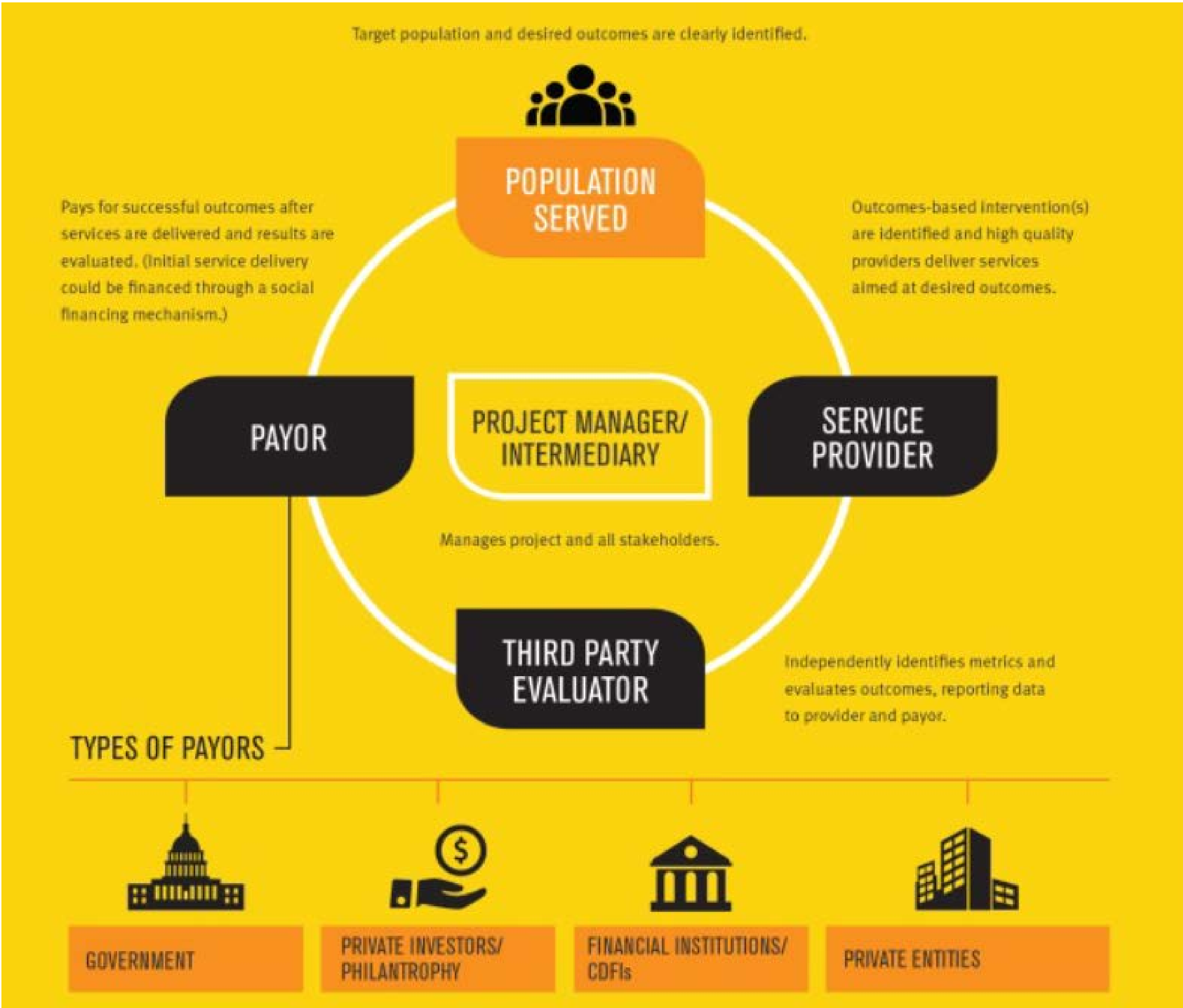
73 "Social Innovation Fund 2016 Pay for Success Grant Competition," Corporation for National and Community Service, https://www.nationalservice.gov/build-your-capacity/grants/funding-opportunities/2016/social-innovation-fund-2016-pay-success-grant.

74 "Invest in What Works Fact Sheet: Evidence-Based Innovation Programs," Results for America, October 2015.



Source: Results4America, n.d., “Funding What Works: Incorporating Pay for Success Language in Federal Legislation.”

Figure B-1. Notional PFS Model

PFS contracts are designed to transfer risk from the government to the private sector, as the government payor only pays proportionally for the level of outcomes achieved. “If the service provider is not able to achieve these outcomes, the outside investors are on the hook for program costs incurred,” notes Anna Fogel of Social Finance.[75]

The structured nature of PFS arrangements create an avenue for investing in multi-year collaborations. PFS contracts are inherently several years long to allow time for recruitment of participants, implementation of the service intervention, and evaluation to measure and validate the outcomes.

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75 A. Fogel, phone interview, December 12, 2016.

Considerations for Use

PFS is not appropriate for all contexts.[76] Not all challenges will fit with the measurement and evaluation requirements for this model via outcomes-based contracting. Additionally, the partnerships required take time to develop with government, financier, service provider, and evaluation stakeholders.

Common programmatic elements that may be needed to implement the PFS model include:

- Budgetary authority or flexibility
- Access to evaluation expertise, e.g., via technical assistance contracts or internal staffing
- Agency focus on an issue that lends itself well to the PFS model, e.g., the issue can be well-defined and progress measurable, both in terms of outcomes and specific costs, and interventions exist with evidence of achieving the desired outcomes.

PFS programs have been implemented at the local, state, and Federal levels. (Refer to Example B-1: Select Federal PFS Activities). However, only a handful of transactions have come to fruition, with mixed results in terms of achieving the outcomes specified by the contracts.[77] From an operational perspective, PFS contracts can be effective in coordinating the funding to implement an evidence-based intervention, evaluating the outcomes of interventions, and using outcomes to learn more about an intervention's effectiveness. Federal agencies are also piloting PFS projects and investing in PFS feasibility studies (see Appendix E). This support is being matched by interest from private philanthropies and city and state governments.

Example B-1: Select Federal PFS Activities

Housing and Urban Development (HUD): In 2015 HUD issued a Request for Proposal, using funding from the Department of Justice, for PFS projects that use supportive housing to improve outcomes for formerly incarcerated individuals upon reentry. Projects are currently underway at multiple sites.

Workforce Development: The DOL Workforce Innovation Fund provided grant funds to projects with evidence-based approaches. DOL began piloting the PFS model in 2013 with the announcement of two projects totaling about $24 million. The second round solicitation in 2014 provided about $50 million. The Workforce Innovation Fund was supported by the 2014 Workforce Innovation and Opportunity Act (WIOA), which authorized states and local workforce investment boards to invest up to 10% of funds in PFS projects.

Sources: "Workforce Innovation Fund Solicitation," Employment and Training Administration, Department of Labor, https://www.doleta.gov/workforce_innovation/solicitation.cfm; "Pay for Success Learning Hub," Nonprofit Finance Fund, 2016.

[76] V.K. Rangan and L. Chase, "The Payoff of Pay-for-Success," Stanford Social Innovation Review, Fall 2015.

[77] P. Lester, "Does Pay for Success Work? Define 'Success'," http://www.govexec.com/excellence/promising-practices/2015/11/does-pay-success-work-define-success/123756/?oref=eig_online_nl.

Implementation Guidelines

Several toolkits have been developed in coordination with Federal PFS programs and independently by private actors. Generally, these toolkits suggest that Federal agencies can evaluate the following components when considering pursuing a PFS project:

1. Clearly defined social problem that can be addressed
2. Existing evidence-based solution for the identified problem
3. Capacity assessment of both providers and the intermediary project manager
4. Strength of public will from public partners
5. Evaluability of the program
6. Level of private or philanthropic funder interest
7. Appropriateness of fit for the problem, solution, partners, and population to be served in a given jurisdiction

McKinsey and Company and the Nonprofit Finance Fund offer additional questions related to the stakeholders in PFS transactions to further assess readiness for many of these components (Figure B-13).

Intervention The evidence-based program model undertaken in order to achieve a desired social outcome. For example, Permanent Supportive Housing is an intervention that addresses homelessness.	Can the impact delivered by this intervention be clearly measured? Does the intervention have a long track record of results? Does the intervention focus on prevention?
Service Provider Service providers deliver the intervention to an identified constituent population, scale up the intervention over a multiyear period, and drive outcomes.	Does the service provider have significant experience with program beneficiaries? Can the organization effectively collect and analyze data? Do they have the capacity to scale operations?
Intermediary The intermediary identifies evidence-based program solutions, raises the money to bring them to scale, conducts ongoing project management, and works with service providers to ensure effective implementation.	Has the organization demonstrated an ability to manage to outcomes? Does the organization have a demonstrated track record in raising capital for new ventures?
Government State, local, or federal governments agree to repay investors - via the intermediary - for positive social outcomes if performance targets are met.	Is there a demonstrated commitment to paying for results? Are there mechanisms in place to ensure repayment to the investors over the multiyear life of a transaction?
Investor Impact investors who want to generate social and financial returns that provide funding to deliver preventive programs. They will be repaid only if the intervention achieves the pre-determined performance targets.	Do the investors prioritize social returns as well as financial returns? Are investors interested in public-private partnerships? Do the investors have a high tolerance for risk?
Independent Assessor An independent assessor reviews the constituent treatment group relative to a counterfactual and reports on whether the target outcomes have been achieved.	Does the organization have demonstrated knowledge and experience with multiple assessment methods? Does the organization have demonstrated experience with evaluating performance-based government contracts?
Evaluation Advisor The evaluation adviser is involved in determining the evaluation approach, defining performance outcomes, monitoring progress, and suggesting course corrections if needed.	Does the organization have a demonstrated track record in coaching partner organizations to more effectively achieve impact? Can the organization translate data into actionable insights?

Source: "Pay for Success Learning Hub, Rapid Suitability Questionnaires," Nonprofit Finance Fund, http://policylinkcontent.s3.amazonaws.com/Rapid_Suitability_Questionnaires_Pay_For_Success.pdf.

Figure B-2. Rapid Suitability Questions

Challenges and Lessons Learned

Implementation challenges for PFS programs include:

- Complexity of implementation
- Limited pipeline of candidates
- Problem of addressing the "wrong pockets"

Complexity of Implementation

One critique of PFS programs is that it is a complicated approach to implement. To participate as a funder, Federal programs may have to (1) change existing procurement procedures to contract for achieved outcomes, (2) enter into contracts with multiple parties, (3) have authority to obligate funds in future years, e.g., for expenditure two to five years later, and (4) identify service providers that have evidence on their effectiveness and are willing to undergo rigorous evaluations.

Developing these contracts may necessitate specific expertise in the general counsel's office, procurement, budget, finance, policy, evaluation, and program offices.

As Anna Fogel of Social Finance observed, "To overcome some of these challenges, significant time is often needed to negotiate the components of the PFS deal. Conducting a cost-benefit analysis can help support agreement for the identified outcomes. Once agreed to, intermediaries must work closely with the government entity to ensure it can enter into the contract—addressing any policy or procedural barriers and making sure that key representatives can and will sign off on the outcomes and negotiated prices."[78]

Limited Pipeline of Candidates

The pipeline of evidence-based programs that document positive, measurable outcomes may be limited. This has been identified as an issue facing evidence-based policy measures across the board, and it is an important factor to consider in the development and implementation of PFS programs.[79] In order to attract investors to these contracts, service providers and other stakeholders generally may need to demonstrate that the program will achieve its expected outcomes and that those outcomes have a monetary value. Performing the cost-benefit analysis to inform development of PFS contracts may be challenging since interventions that have been both well-tested and whose preventative outcomes have cost-savings within a specific domain may be sparse and difficult to identify.

Problem of Addressing the "Wrong Pockets"

An agency may identify evidence-based interventions in which they want to invest, but they may not reap financial savings should the outcomes be achieved. For example, supportive house programs that address chronic homelessness have been shown to improve health outcomes and decrease medical costs, particularly emergency room costs for the treated population, particularly when offered to the most vulnerable homeless populations.[80] While supportive housing programs are typically implemented by HUD, municipal public housing authority, or Veterans Services, the cost savings are experienced by Medicaid, Medicare, or other health service providers and funders. Because of the way agency programs are appropriated, crossing budgetary lines to structure a PFS deal can be highly complex. Federal agencies may establish partnerships to jointly fund a PFS program, such as the joint Department of Justice (DOJ) and HUD PFS pilot program.[81]

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[78] A. Fogel, phone interview, December 12, 2016.

[79] "The What Works Marketplace: Helping Leaders Use Evidence to Make Smarter Choices," Results for America, http://results4america.org/wp-content/uploads/2015/04/WhatWorksMarketplace-vF-1.pdf.

[80] "Health Benefits of Supportive Housing Can Yield Net Savings," How Housing Matters, February 4, 2016, http://howhousingmatters.org/articles/health-benefits-supportive-housing-can-yield-net-savings/

[81] J. Roman, "Solving the Wrong Pockets Problem," Urban Institute, September 2015.

Future Directions

The PFS field is still relatively young, with only a few structured deals currently in place but a robust pipeline of potential deals in development. The pipeline development work has been funded by Federal programs under the auspices of feasibility studies, technical assistance, deal support, and evaluation. In addition, there has been notable public and private interest in the use of PFS to finance outcomes-based contracts that are rooted in evidence, including private supporters ranging from the American Enterprise Institute, to foundations like the Kresge Foundation, and investors like Goldman Sachs and Bank of America.

Evidence of Impact: The Rikers Island Social Impact Bond

The Rikers Island Social Impact Bond project was one of the first PFS pilots in the United States, starting in 2013. This example illustrates a program that was piloted without cost to the taxpayer. The PFS initiative sought to reduce recidivism of adolescents by delivering a cognitive behavioral therapy program within the Riker Island jail, called Moral Reconation Therapy (MRT), which had been successful in other contexts.[82] The project hypothesized that by equipping adolescent inmates with social and decision-making skills, they would develop "skills to help them take responsibility for their actions, avoid rash and impulsive reactions, make more constructive life choices, and, ultimately, avoid a costly return to Rikers."[83]

The stakeholders for this PFS program include:[84]

- Government: The City of New York funded the evaluation and promised to pay the intermediary if recidivism was reduced.
- Intermediary: MDRC served as the intermediary for this project, responsible for the overall implementation of the project and for managing repayments to the lenders.
- Service Providers: The Osborne Association and Friends of Island Academy delivered the MRT training at the Rikers Island jail throughout the program.
- Funders/investors: Goldman Sachs provided a $9.6 million loan to MDRC, and Bloomberg Philanthropies gave a $7.2 million grant as part of a guarantee to Goldman's loan.
- Evaluator: The Vera Institute of Justice conducted an independent quasi-experimental evaluation of the program. The evaluation was funded by the New York City Mayor's Fund to Advance NYC.

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[82] D.B. Wilson, L.A. Bouffard, and D.L. MacKenzie. "A Quantitative Review of Structured, Group-oriented, Cognitive-behavioral Programs for Offenders," *Criminal Justice and Behavior* 32, no. 2 (2005): 172-204.

[83] G.L. Berlin, "Learning from Experience: A Guide to Social Impact Bond Investing," MDRC, March 2016.

[84] Ibid.

As part of its agreement, New York City agreed to pay out fully if recidivism was reduced by at least 10 percent (relative to a comparison group), and partially if recidivism was reduced by at least 8.5 percent. If the project did not reach either threshold, the city would not pay out any money to MDRC and its investors; thus the city would only pay for a successfully implemented project.

An independent evaluation of the program found that the MRT training did not lead to a statistically significant reduction in recidivism rates for participating adolescents.[85] Thus, New York City did not pay out any money to MDRC and its investors. Although the program was unsuccessful at meeting its programmatic goal, the mechanism was successful—a new program was piloted without cost to the taxpayer.

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[85] Vera Institute of Justice, "Impact Evaluation of the Adolescent Behavioral Learning Experience (ABLE) Program at Rikers Island – Summary of Findings," July 2015, http://secondowelfare.it/edt/file/adolescent-behavioral-learning-experience-evaluation-rikers-island-summary.pdf.

Appendix C. Evidence-Based Approaches at the Department of Labor (DOL) and Establishing a Chief Evaluation Officer

This appendix provides information about the development of a Chief Evaluation Officer (CEO) at the Department of Labor (DOL) as a way to institutionalize evidence-based approaches across the department.

DOL has been one of the leading agencies to adopt a robust learning agenda approach. This approach has been multifaceted and resulted in a cultural shift toward staff and programs thinking strategically about program evaluation, evidence, and how staff can use data to meet their own learning and improvement needs.

The CEO, established in 2010, plays a critical role in developing and maintaining a learning culture within DOL. (Refer to Example C-1: Factors for Strengthening the Learning Culture at DOL.) As a part of its primary responsibility to manage DOL's evaluation program, the CEO focuses on a strong commitment to conducting rigorous, relevant, and independent evaluations. The CEO is also committed to identifying and funding research and evaluation priorities established through a collaborative learning agenda process with DOL's various agencies.

These agencies cover a broad range of topics, from employment and training programs to worker protection and enforcement activities. The CEO plays an important role in initiating research that cuts across these agency and program silos. The CEO also serves as an "honest broker" on evidence issues within DOL, and its work is not limited to implementing evaluations. In addition, the CEO participates in the performance management and strategic planning processes, and disseminates the results of evaluations.

Example C-1: Factors for Strengthening the Learning Culture at DOL

Reflecting on key components that drove DOL's learning agenda approach, former Deputy Secretary Seth Harris identified seven key factors—leadership commitment, set-aside funding, establishing a learning agenda, creating a CEO and office, building relationships, connecting performance with evaluations, policy development, and creating a clearinghouse of evaluation information.

- Commitment from leadership—The commitment of the Secretary and Deputy Secretary to build a culture of evidence and learning has been critical. That includes their inclusion of the CEO in key policy and management discussions (e.g., agency performance reviews) so that the CEO is knowledgeable about leadership's priorities.
- Set-aside for program evaluation—The DOL Secretary can set aside funds from specific budget accounts for evaluation. Once set aside, these funds get transferred to the Chief Evaluation Officer's budget. Many of the agencies also have separate evaluation funds.
- Learning agendas—Learning agendas are an important planning tool at DOL. Each operating agency within the Department (there are 15) creates a five-year learning agenda, which gets updated every year. The learning agendas highlight priority questions and/or priority studies that the agencies would like to have done. They may also convey themes for their upcoming evaluation efforts or analysis that might be needed. They draw on a range of learning tools, including rigorous impact evaluation (i.e., randomized controlled trials or well-designed quasi-experiments), basic analysis or research, and performance analysis (looking at factors that are associated with outcomes). Learning agendas are a catalyst for setting priorities for studies and for conceptualizing studies that need to be done. Evaluations that Congress has required of agencies are also included. Importantly, the learning agendas communicate and engage operating agencies to help focus the resources and services of the Chief Evaluation Office.
- CEO (and office)—The CEO's budget includes appropriated dollars for use by the CEO for evaluation, which can be allocated to advance agencies' learning agendas. The CEO role is not designed to direct or centrally control all evaluation at DOL, but rather to encourage good evaluation. As of September 2017, there were more than 30 studies underway and 90 completed. In 2016, the CEO was converted to a career positon from a politically-appointed position to provide stability and institutionalize it within the Department.
- Building strong relationships with operating agencies around relevance of evaluation—The Chief Evaluation Office has worked to create strong and productive relationships with the operating agencies—particularly in terms of showing that evaluation can be useful to those agencies in at least two ways. First, they have framed their office's work around a spirit of collaboration and learning, rather than emphasizing requirements. Second, the focus of the CEO, just like the learning agendas, is primarily on learning and performance improvement, not an "up or down" verdict on particular programs. That has helped build trust with the agencies around evaluation and to see the CEO's office as useful to them.
- Connecting performance and evaluation efforts—Performance and evaluation efforts can sometimes be siloed. DOL has been able to build bridges between these analytical approaches (and between staff in each area). In particular, the CEO sits in all quarterly performance reviews with agencies run by the Deputy Secretary. In most meetings, there is often some discussion of evaluations underway. The CEO also provides input and assistance about existing or proposed performance and outcome measures.
- Departmental evaluation policy statement—The statement posted on DOL's website in 2014 presents the principles that guide DOL's planning, conduct, and use of program evaluations. It emphasizes a commitment to conducting rigorous, relevant evaluations and to using evidence from evaluations to inform policy and practice.
- Clearinghouse of evidence-based approaches—DOL's Clearinghouse for Labor Evaluation and Research (CLEAR) is designed to make research on labor topics more accessible to practitioners, policymakers, researchers, and the public more broadly so that it can inform their decisions about labor policies and programs.

Source: Modified from S. Harris, "Innovation Exchange 2015," p. 17, ED, July 10, 2015, https://www2.ed.gov/about/offices/list/ods/evidence/innovation-exchange-2015-innovation-guide.pdf.

Appendix D. Facilitating Learning of Evidence-Based Approaches through the Department of Education's What Works Clearinghouse

This appendix provides a summary of the What Works Clearinghouse established by the Department of Education to enable understanding of effectiveness across education programs.

When describing the optimal development and use of evidence, OMB encourages building an evidence infrastructure that "requires coordination between those managing the operations of a program, including administrative data collection and maintenance, and those responsible for using data and evaluation to understand program effectiveness."[86] OMB further elaborates that clearinghouses could be used to enable this process. Clearinghouses or online repositories of information can help practitioners and policymakers learn from the evidence base that has accumulated for specific programs or portfolio of programs within and across agencies. The ED Institute of Education Sciences (IES) has been producing evaluation information since its inception in the Education Sciences Reform Act of 2002.[87] Responsible for running the What Works Clearinghouse (WWC) their experience implementing evaluation reviews and creating a public-facing clearinghouse can be informative for other agencies or programs who wish to do so.[88]

Background

In 2002, the No Child Left Behind (NCLB) Act actively encouraged the adoption and funding of scientifically based research educational programs.[89] However, practitioners were challenged to identify educational programs with evidence of effectiveness and how to interpret the wide ranging quality of existent evaluations. With a limited time period for implementation and lacking the training to evaluate research quality, practitioners found it difficult to identify and implement evidence-based programs as NCLB instructed. Agency staff and appropriators identified this challenge and worked to address it. As a part of the Education Sciences Reform Act, the ED

86 "Building and Using Evidence to Improve Government Effectiveness," Office of Management and Budget, Analytical Perspectives, Budget of the United States Government, Fiscal Year 2018, pp. 55–58, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/ap_6_evidence.pdf.

87 Public Law 107–279, https://ies.ed.gov/pdf/PL107-279.pdf.

88 Institute of Education Studies, "What Works Clearinghouse," https://ies.ed.gov/ncee/WWC/.

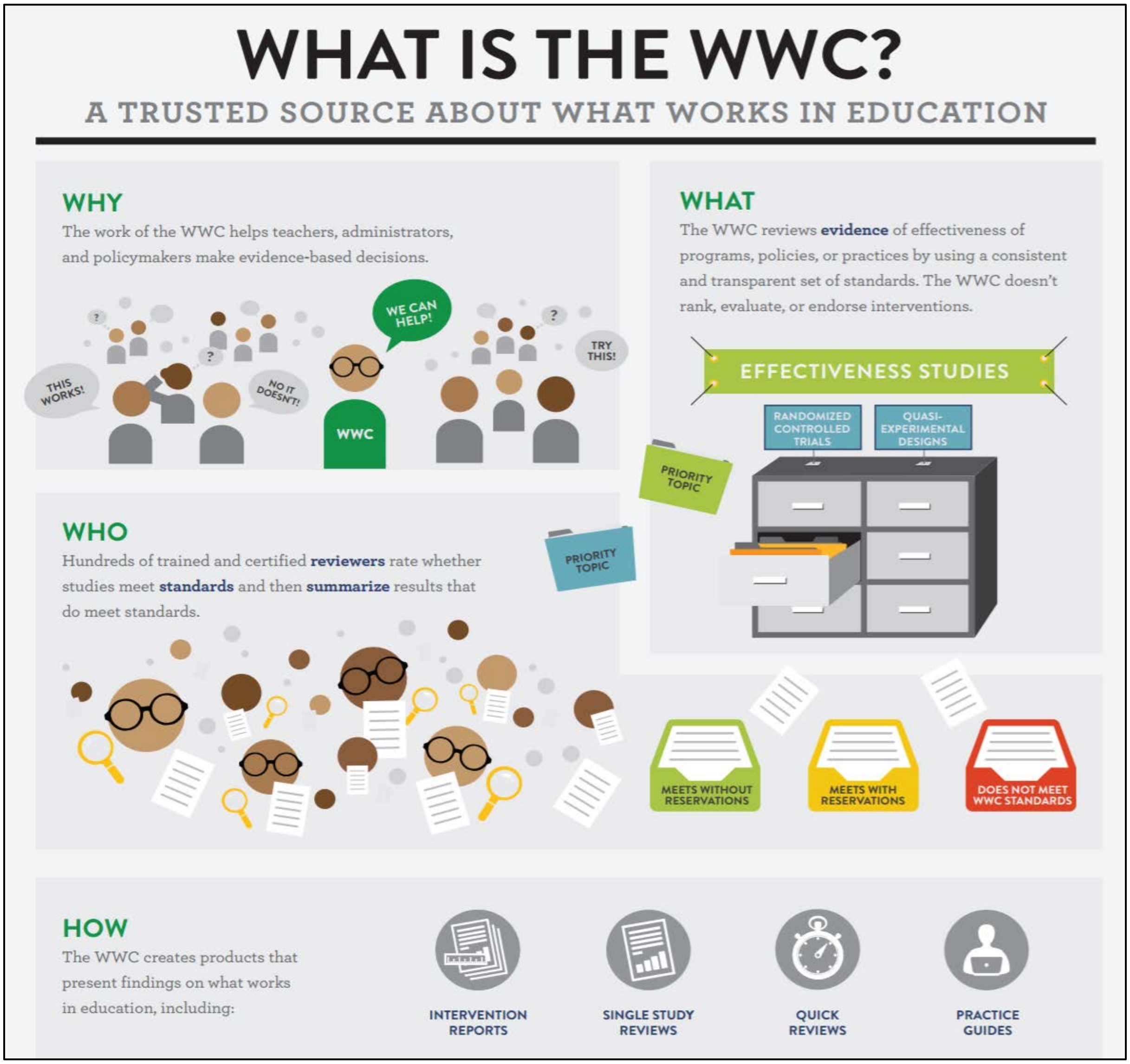
89 Public Law 107–110, https://www.gpo.gov/fdsys/pkg/PLAW-107publ110/content-detail.html.

Institute of Education Sciences created the WWC. (Refer to Figure D-1.) An initiative of the National Center for Education Evaluation and Regional Assistance, the mission of the WWC is to "be a central and trusted source of scientific evidence for what works in education."[90] WWC is now one of the longest-running Federal clearinghouses and has served as a model for other searchable evidence databases, such as Teen Pregnancy Prevention[91] and Opportunity Youth[92] Programs.

90 N. Seftor, "Raising the Bar," Evaluation Review, 2016.

91 "Evidence Based TPP Programs," Health and Human Services, https://www.hhs.gov/ash/oah/oah-initiatives/tpp_program/db/index.html.

92 "Evidence & Innovation," Youth.gov, http://youth.gov/evidence-innovation.



Source: "What Works Clearinghouse,"
http://ies.ed.gov/ncee/wwc/Docs/referenceresources/wwc_info_what_061015.pdf.

Figure D-1. What Works Clearinghouse

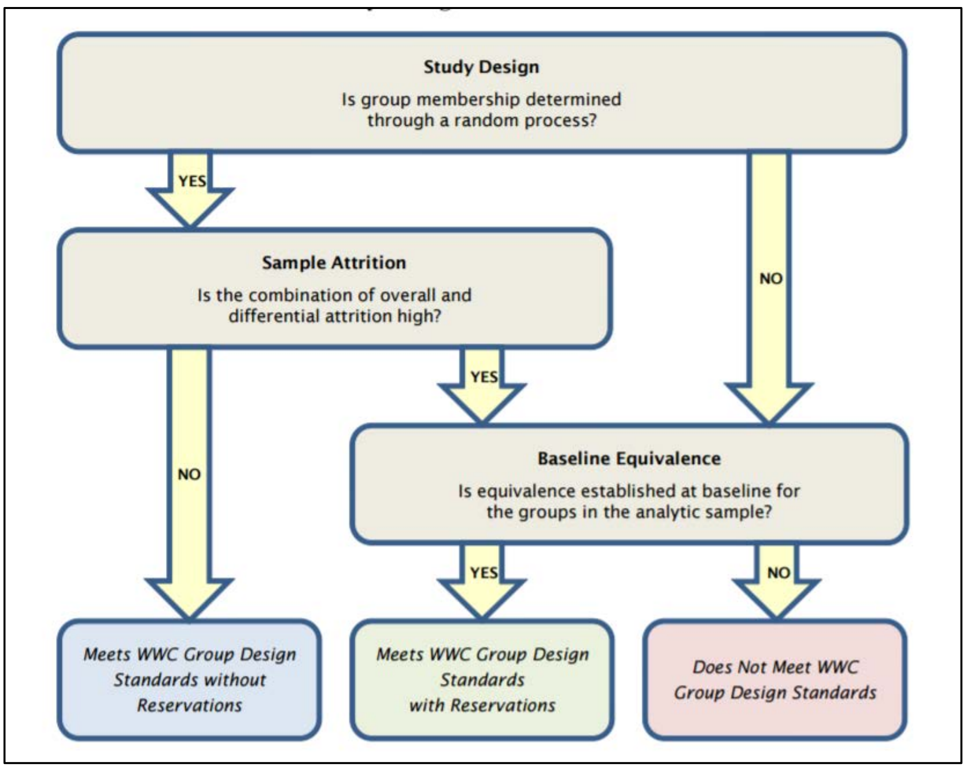
Development of WWC

In developing the WWC, ED worked to build staff capacity and established a review process to vet evaluations featured on the website.

- Staffing and capacity building—ED used contractors to enhance capacity and capabilities to produce and run a robust clearinghouse. The contractor scope for the backbone components of the WWC included helping to set standards and review protocols, conducting reviews, and synthesizing and reporting results. The Institute of Education Sciences is implementing its third five-year contract to manage and run the

WWC and has expanded it to include additional contractors that handle other related scopes of work.

- Develop and implement a review process—Staff developed a systematic review process that defined the purpose, process, and outcomes the WWC aimed to achieve. As several types of programs are included in the WWC, the review process allowed each program to develop its own tailored protocol. The bulk of the systematic review process is focused on the quality, methodology, and rigor of the evaluation process, not on the outcomes of the evaluations. Also, external contractors are responsible for the reviews and report writing so a detailed process was important to ensure consistency and continuity across rotating contracted staff. Studies are gathered through a comprehensive search of published and unpublished publicly available research literature using electronic databases, outreach efforts, and public submissions. Studies are also screened for eligibility against the criteria specified in the review protocol, and each eligible study is reviewed against WWC standards. (Refer to Figure D-2.)[93]



Source: "Procedures and Standards Handbook Version 3.0," What Works Clearinghouse, March 2014.

Figure D-2. WWC Systematic Review Process

[93] N. Seftor, "Raising the Bar," Evaluation Review, 2016.

- Reporting—The details of the review and its findings are summarized in a report, which may synthesize findings from multiple studies. Reports cover students from pre-kindergarten through postsecondary schooling and span a range of education topics, including academic achievement, behavior, and progress through school, as well as programs targeting specific populations, such as students with learning disabilities and English language learners. The WWC produces three types of main reports:
  - Intervention reports that summarize the findings of the highest quality research that examines the effectiveness of a program, practice, or policy in education.
  - Practice guides which contain practical recommendations that educators can use to address specific challenges in their classrooms and schools.
  - Quick reviews that contain briefs and timely assessments of education research garnering notable mention in the press.

Insights from Implementation

Neil Seftor, Director at the WWC, identified the following challenges in implementation: [94]

- Availability of rigorous research—One issue that the WWC encountered was the relative lack of available rigorous research in the education field. In the first few years of the WWC reviews, 23% of studies met the WWC criteria.[95] This number has steadily gone up as studies submitted are increasingly meeting the review criteria. In addition, according to the RCTs conducted by IES, 12% of evaluations showed projects produced positive impacts. While this is in line with other sectors who rely on rigorous evaluation, for a clearinghouse hoping to promote and encourage adoption of effective programs, this number of effective interventions is relatively low.
- Limited awareness for clearinghouse products—The WWC aims to provide resources for policymakers, practitioners, and funding organizations—from philanthropic to individual school districts. However, user information and the extent to which external groups use the WWC has been hard to identify. In the beginning stages of implementation, staff across ED were not familiar with the WWC or its definitions and protocols. However, with the implementation of tiered-evidence grant programs within ED, this has changed and now the use of the WWC has expanded throughout agency programs. The number of visitors to the WWC website has increased and usability has improved greatly with a recent redesign. However, it is not yet clear if users, such as external evaluators or private philanthropies, are leveraging the potential value of the knowledge base curated by the WWC.

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[94] N. Seftor, phone interview, December 6, 2016.

[95] N. Seftor, “Raising the Bar,” Evaluation Review, 2016.

Appendix E.
Supporting Policies Related to Evidence-Based Approaches

Select policies, including legislation as well as Executive and OMB guidance, related to evidence-based approaches are included below. Additional resources regarding policies and information for agencies can be accessed via the Office of Management and Budget (OMB) memoranda webpage.[96]

Legislation

- Foundations for Evidence-Based Policymaking Act of 2017—Mandates the designation of a Chief Evaluation Officer, establishment of an Interagency Council on Evaluation Policy to support OMB in government-wide evaluation activities and policies, and the development of a unified evidence-building plan including "(1) a list of policy-relevant questions for developing evidence to support policymaking, and (2) a list of data for facilitating the use of evidence in policymaking," among other requirements.
- Evidence-Based Policymaking Commission Act of 2016—Established a commission to "conduct a comprehensive study of the data inventory, data infrastructure, database security, and statistical protocols related to Federal policymaking and the agencies responsible for maintaining that data" in order to make recommendations on "how best to incorporate outcomes measurement, institutionalize randomized controlled trials, and rigorous impact analysis into program design" among other areas.[97]
- The Consolidated Appropriations Act, 2012—Granted authority to the Department of Labor to run PFS Programs.[98]
- The Consolidated Appropriations Act, 2014—Granted authority to the Corporation for National and Community Service and the Department of Justice to run PFS Programs.[99]

96 "Memoranda," White House, https://www.whitehouse.gov/omb/information-for-agencies/memoranda#memoranda-2018.

97 P.L. 114-140, March 30, 2016, https://www.congress.gov/114/plaws/publ140/PLAW-114publ140.pdf.

98 P.L. 112-74, December 23, 2011, https://www.gpo.gov/fdsys/pkg/PLAW-112publ74/pdf/PLAW-112publ74.pdf.

99 P.L. 113-76, January 17, 2014, https://www.gpo.gov/fdsys/pkg/PLAW-113publ76/pdf/PLAW-113publ76.pdf.

- Workforce Innovation and Opportunity Act, 2014—Granted authority to the Department of Labor to pilot PFS programs.[100]
- Every Student Succeeds Act (ESSA), 2015—Authorized the EIR program, requires low-performing schools to carry out evidence-based school improvement plans, and grants authority to states and school districts to use existing funds for Pay for Success initiatives.[101]

Executive and OMB Guidance

- President's Management Agenda (2018)[102]
- Fiscal Year (FY) 2020 Administration Research and Development Budget Priorities—OMB M-18-22 (July 2018)[103]
- Fiscal Year (FY) 2019 Research and Development Budget Priorities—OMB M-17-28 (July 2017)[104]
- Guidance for Providing and Using Administrative Data for Statistical Purposes—OMB M-14-06 (February 2014)[105]
- Next Steps in the Evidence and Innovation Agenda—OMB M-13-17 (July 2013)[106]
- Use of Evidence and Evaluation in the 2014 Budget—OMB M-12-14 (May 2012)[107]
- Evaluating Programs for Efficacy and Cost-Efficiency—OMB M-10-32 (July 2010)[108]

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100 P.L. 113-128, July 22, 2014, https://www.gpo.gov/fdsys/pkg/PLAW-113publ128/pdf/PLAW-113publ128.pdf.

101 P.L. 114-95, December 10, 2015, https://www.congress.gov/114/plaws/publ95/PLAW-114publ95.pdf.

102 President's Management Agenda (2018), https://www.whitehouse.gov/wp-content/uploads/2018/03/Presidents-Management-Agenda.pdf

103 Fiscal Year (FY) 2020 Administration Research and Development Budget Priorities—OMB M-18-22 (July 2018), https://www.whitehouse.gov/wp-content/uploads/2018/07/M-18-22.pdf

104 "Fiscal Year (FY) 2019 Budget Guidance," OMB, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2017/M-17-28.pdf.

105 "Guidance for Providing and Using Administrative Data for Statistical Purposes," OMB, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2014/m-14-06.pdf.

106 "Next Steps in the Evidence and Innovation Agenda," OMB, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2013/m-13-17.pdf.

107 "Use of Evidence and Evaluation in the 2014 Budget," OMB, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2012/m-12-14_1.pdf.

108 "Evaluating Programs for Efficacy and Cost-Efficiency," OMB, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2010/m10-32.pdf.

- Increased Emphasis on Program Evaluations—OMB M-10-01 (October 2009)[109]

Agency Policy and Guidance

"Rules and Regulations" in the *Federal Register*, Vl. 78, No. 59, Wednesday, March 27, 2013, Department of Education—For an example of a framework to assess evidence levels, see the regulations for the Investing in Innovation (i3) program at the ED, page 18683, which discuss criteria for development, validation, and scale-up grants.[110]

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109 "Increased Emphasis on Program Evaluations," OMB, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2010/m10-01.pdf.

110 *Federal Register*, Vol. 78 No. 59, Department of Education, https://www.gpo.gov/fdsys/pkg/FR-2013-03-27/pdf/2013-07016.pdf.

Appendix F.
Additional Resources Related to Evidence-Based Approaches

This appendix provides additional resources on topics—including existing communities of practice and general resources, such as related books, multimedia, articles and reports and information on low-cost randomized control trials, tiered-evidence, pay for success, and toolkits—to support the implementation of evidence-based approaches in the Federal Government.

Communities of Practice

- Federal Interagency Tiered Evidence Grants working group—Community OMBMax page—"3B. Workgroups–Tiered Evidence." Max.gov https://community.max.gov/x/xAysSg.
- Federal Evidence and Evaluation Community Homepage—Community OMBMax page—"Evidence and Evaluation Community Homepage." Max.gov. https://community.max.gov/display/OMB/Evidence+and+Evaluation+Community+Homepage
- Pay for Success Interagency Learning Network—Community OMBMax page—"Pay for Success Interagency Learning Network." Max.gov. https://community.max.gov/pages/viewpage.action?pageId=951681986
- Science of Science Policy Interagency Working Group (IWG)—Established in 2006 by the National Science and Technology Council. In 2008, the IWG published a roadmap that outlined recommendations to advance evidence-based science and innovation policy. The IWG continues as an informal community of interest, led by the National Science Foundation, and is focused on ways to improve administrative data on research awards across government and the non-Federal evaluation community.
- U.S. Government Accountability Office (GAO): Government Data Sharing Community of Practice—According to the Community's website, "Federal government agencies face challenges in sharing information, using data analytics, and leveraging resources that could assist them in their missions. This community brought together officials from all levels of government to overcome these challenges." Government Accountability Office. "Government Data Sharing Community of Practice." https://www.gao.gov/aac/gds_community_of_practice/overview.

- Data.gov—This community is home of the United States government's open data initiative. The website includes data, tools, and resources that can be used to conduct research, develop web and mobile applications, design data visualizations, and more. Data.gov is managed and hosted by the U.S. General Services Administration, Technology Transformation Service—Data.gov. “The Home of the U.S. Government’s Open Data.” *Data.gov*. www.data.gov.

General Resources

Books

- K. Ayotte, et al, “Moneyball for Government,” Disruption Books, 2014. http://moneyballforgov.com.
- R. Haskins and G. Margolis, “Show Me the Evidence,” Brookings Institution Press, 2014. https://www.brookings.edu/book/show-me-the-evidence.
- J. Nussle and P. Orszag, “Moneyball For Government,” Disruption Books, 2015. http://moneyballforgov.com/moneyball-for-government-the-book.

Multimedia

- Podcasts from GovInnovator.com: Conversations on evidence-based policy from public sector innovators and experts, hosted by Andy Feldman, a Visiting Fellow at the Brookings Institution and former Special Advisor for Evidence-Based Policy at OMB. http://govinnovator.com.
  - J. Brown, “Harnessing Silicon Valley funding approaches to drive breakthrough solutions in the public sector,” Jeffrey Brown, U.S. Agency for International Development (USAID)–Episode #28. August 25, 2013. http://govinnovator.com/jeffrey_brown.
  - M. Turner, “Important tools for evidence-based decision-making,” Margery Turner, Urban Institute–Episode #30. October 3, 2013. http://govinnovator.com/margery_turner.
  - S. Hurley, “A provider’s perspective on random assignment evaluation,” Sarah Hurley, Youth Villages–Episode #30. October 5, 2013. http://govinnovator.com/sarah_hurley.
  - C. Spera, “Building an evidence base for agency programs,” Chris Spera, Corporation for National and Community Service–Episode #34. October 31, 2013. http://govinnovator.com/chris_spera.

- D. Nightingale, “The role of a Chief Evaluation Officer,” Demetra Nightingale, Chief Evaluation Officer, U.S. Department of Labor–Episode #42. March 23, 2014. http://govinnovator.com/demetra_nightingale.
- K. Fitzsimmons, “Becoming an evidence focused grant-making organization,” Kelly Fitzsimmons, Edna McConnell Clark Foundation–Episode #60. September 4, 2014. http://govinnovator.com/kelly_fitzsimmons.
- J. Shelton, “Strengthening evidence-based grant-making at the U.S. Department of Education,” Jim Shelton, Deputy Secretary of Education–Episode #69. December 24, 2014. http://govinnovator.com/jim_shelton.
- R. Haskins, “The federal evidence agenda and lessons for state and local leaders,” Ron Haskins, Brookings Institution–Episode #70. January 2, 2015. http://govinnovator.com/ron_haskins.
- E. Kappeler, “Insights for evidence-based grant-making from the Teen Pregnancy Prevention Program,” Evelyn Kappeler, U.S. Department of Health and Human Services–Episode #77. February 15, 2015. http://govinnovator.com/evelyn_kappeler.
- D. Epstein and C. Ganie, “How one federal agency, the Corporation for National and Community Service (CNCS), strengthened the role of evidence in a key grant program, AmeriCorps,” Diana Epstein and Carla Ganiel, CNCS–Episode #125. June 6, 2016. http://govinnovator.com/americorps.

- Videos from GovInnovator.com. http://govinnovator.com.
  - A. Feldman, “Performance management & program evaluation: A video overview,” Andy Feldman, Visiting Fellow at the Brookings Institution and former Special Advisor for Evidence-Based Policy at OMB–Episode #43. May 4, 2014. http://govinnovator.com/perf-mgt-eval-101.
  - A. Feldman, “Creating outcome focused grant programs known as tiered-evidence grant programs or innovation funds: A video overview,” Andy Feldman, Visiting Fellow at the Brookings Institution and former Special Advisor for Evidence-Based Policy at OMB–Episode #44. May 14, 2014. http://govinnovator.com/tiered-evidence-grants.
- Other multimedia
  - Webinar: “How to Create a Culture of Evidence in Your Community/Organization,” MBK “What Works” Technical Assistance Session, My Brother’s Keeper, Office of Social Innovation and Civic Participation, The White House of President Barack Obama, May 25, 2016, 12:00-1:30 PM.

https://obamawhitehouse.archives.gov/sites/default/files/video/mbk_webinar_recording_52516.mp4.

- Webinar: “Evaluation and Evidence-Based Decision-Making,” MBK “What Works” Technical Assistance Session, My Brother’s Keeper, Office of Social Innovation and Civic Participation, The White House of President Barack Obama, July 20, 2016, 12:00-1:30 PM ET. https://obamawhitehouse.archives.gov/sites/default/files/video/webinar_recording_7.20.16.mp4.
- Webinar: “Innovative Funding Models to Advance ‘What Works’,” MBK “What Works” Technical Assistance Session, My Brother’s Keeper, Office of Social Innovation and Civic Participation, The White House of President Barack Obama, August 17, 2016, 12:00-1:30 PM ET. https://obamawhitehouse.archives.gov/sites/default/files/video/webinar_recording_8.17.16.mp4.

Articles and Reports

- Program evaluation, and research design resources
  - J. Baron. “What Constitutes Strong Evidence of Program Effectiveness?,” Sputnik: Advancing Education through Innovation and Evidence, October 8, 2012, 9:10 AM. http://coalition4evidence.org/wp-content/uploads/2012/12/What-Constitutes-Strong-Evidence-of-Program-Effectiveness-Sputnik-blog.pdf.
  - A. Resch, J. Berk, and L. Akers, “Recognizing and conducting opportunistic experiments in education: a guide for policymakers and researchers," Mathematica Policy Research, U.S. Department of Education, April 2014. http://rpp.wtgrantfoundation.org/library/uploads/2016/01/Opportunistic-Experiments-REL_2014037.pdf.
  - “Key Items to Get Right When Conducting Randomized Controlled Trials of Social Programs,” Laura and John Arnold Foundation, February 2016. http://www.arnoldfoundation.org/wp-content/uploads/Key-Items-to-Get-Right-in-an-RCT.pdf.
  - K. Walker and K.A. Moore, “Performance Management and Evaluation: What’s the Difference?,” Publication #2011-02, Research-to-Results Brief, Child Trends, January 2011. https://www.childtrends.org/wp-content/uploads/2013/06/2011-02PerformMgmt.pdf.
  - R. Shea et al., “Using Evidence-Based Approaches to Improve Program Performance,” Transition 2016, National Academy of Public Administration. http://www.napat16.org/images/EvidenceBasedRecsFINAL.pdf.

- “Introducing the Impact Evaluability Assessment Tool,” Corporation for National & Community Service, Social Innovation Fund. https://www.nationalservice.gov/sites/default/files/resource/SIF_Impact_Evaluability_Assessment_Tool_Final_Draft_for_Distribution.pdf.
- M. Keegan, “Invest in What Works: A Conversation with John Bridgeland and Bruce Reed,” IBM Center for the Business of Government, April 22, 2016. http://www.businessofgovernment.org/blog/business-government/invest-what-works-conversation-john-bridgeland-and-bruce-reed.
- D. Bornstein, “The Dawn of the Evidence-Based Budget,” The Opinion Pages, The New York Times, May 30, 2012. https://opinionator.blogs.nytimes.com/2012/05/30/worthy-of-government-funding-prove-it/?_r=2.
- “Evidence-Based Policymaking: A Guide for Effective Government,” Pew-MacArthur Results First Initiative, The PEW Charitable Trusts, November 13, 2014. http://www.pewtrusts.org/en/research-and-analysis/reports/2014/11/evidence-based-policymaking-a-guide-for-effective-government.
- Numerous useful checklists and forms from Coalition for Evidence-Based Policy: “Rigorous Program Evaluations on a Budget: How Low-Cost Randomized Controlled Trials Are Possible in Many Areas of Social Policy,” Coalition for Evidence-Based Policy, March 2012. http://coalition4evidence.org/wp-content/uploads/2012/03/Rigorous-Program-Evaluations-on-a-Budget-March-2012.pdf.
- Hierarchy of Study Designs for Evaluating Effectiveness
    - “Which Study Designs Are Capable of Producing Valid Evidence About A Program’s Effectiveness?: A Brief Overview,” Coalition for Evidence-Based Policy, October 2014. http://coalition4evidence.org/wp-content/uploads/2014/10/Which-Study-Designs-are-Capable-of-Producing-Valid-Evidence-of-Effectiveness.pdf.
    - “Hierarchy of Study Designs for Evaluating the Effectiveness of a STEM Education Project or Practice,” Coalition for Evidence-Based Policy, 2007. http://coalition4evidence.org/wp-content/uploads/2009/05/study-design-hierarchy-6-4-09.pdf.
- Checklists for Reviewing Evaluations of Program Effectiveness
    - “Which Comparison-Group (“Quasi-Experimental”) Study Designs are Most Likely to Produce Valid Estimates of a Program’s Impact?: A Brief Overview and Sample Review Form,” Coalition for Evidence-Based Policy, January 2014.

http://coalition4evidence.org/wp-content/uploads/2014/01/Validity-of-comparison-group-designs-updated-January-2014.pdf.

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Abbreviations

ABLE	Adolescent Behavioral Learning Experience
ACF	Administration for Children and Families
ARRA	American Recovery and Reinvestment Act
CEO	Chief Evaluation Officer
CEP	Commission on Evidence-Based Policymaking
CLEAR	Clearinghouse for Labor Evaluation and Research
CLI	Children's Literacy Initiative
CNCS	Corporation for National and Community Service
DHHS	Department of Health and Human Services
DIV	Development Innovation Ventures
DOJ	Department of Justice
DOL	Department of Labor
ED	Department of Education
EIR	Education and Innovation Research
ESSA	Every Student Succeeds Act
FY	fiscal year
GAO	Government Accountability Office
GHHI	Green and Healthy Homes Initiative
HHS	Health and Human Services
HUD	Housing and Urban Development
i3	Investing in Innovation
IES	Institute of Education Sciences
IWG	Interagency Working Group
MBK	My Brother's Keeper
MRT	Moral Reconation Therapy
NCEE	National Center for Education Evaluation and Regional Assistance
NCLB	No Child Left Behind
NFP	Nurse Family Partnership
OAH	Office of Adolescent Health
OMB	Office of Management and Budget
PAF	Pregnancy Assistance Fund
PART	Program Assessment Rating Tool
PFS	Pay for Success
RCT	randomized control trial
SFA	Success for All
SIF	Social Innovation Fund
SSIR	Social Spending Innovation Research
STEM	science, technology, engineering, and mathematics
TANF	Temporary Assistance for Needy Families

TFA	Teach For America
TPP	Teen Pregnancy Prevention
USAID	U.S. Agency for International Development
WIOA	Workforce Innovation and Opportunity Act
WWC	What Works Clearinghouse

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14. ABSTRACT
In March 2016, the Office of Science and Technology Policy (OSTP) requested that the IDA Science and Technology Policy Institute (STPI) describe a set of approaches to improve innovation in and the effectiveness of the Federal Government. The innovative approaches identified create new processes, products, services, and methods of delivery; have been implemented or are in the initial stages of implementation; and have led to improvements in outcomes, efficiency, effectiveness, or quality related to Federal Government activities. The objective of this project was to describe the lessons learned from the implementation of innovative approaches and identify opportunities for how to support the scaling up of these approaches throughout the Federal Government. The Evidence-Based Approaches for Improving Federal Programs and Informing Funding Decisions report describes approaches to identify or develop evidence and how evidence could be used to improve Federal programs and inform funding decisions.

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