N H S A

NATIONAL HEAD START ASSOCIATION

Data Design Initiative
Practitioner-driven. Smarter Data. Better Outcomes.

Data Design Initiative Progress Update – Fall 2018

Overview   September 2018

In January 2016, NHSA and three other organizations[1] released the [Moneyball for Head Start](#) report, outlining a vision for a continuous improvement approach using data, evidence, and evaluation to improve outcomes at all levels of the Head Start program. Among other recommendations, the report called for major changes in the way we collect, use, and share data and evidence. Since the release of the report, the federal government has updated the Head Start Program Performance Standards (HSPPS), which now embrace many of the principles recommended in the Moneyball report.

In December 2017, NHSA convened a two-day Data Design Huddle in Austin, TX, to examine the current state of Head Start data and data systems, identify barriers impeding their use for continuous improvement, and brainstorm specific projects to bring about needed short and long-term change. The Data Design Huddle proposed more than a dozen possible actions to improve the way Head Start generates, organizes, shares, and analyzes data. These were assigned, flexibly, to five categories:

- **People Projects**: Improving the capacity of Head Start staff and others to use data to find ways to improve on multiple dimensions to better serve Head Start children and their families
- **Data Improvement Projects**: Improving the meaningfulness, quality, and ease of using data and other information
- **Information System Improvement Projects**: Improving technology and the systems for collecting, communicating, interpreting, and applying insights available from data
- **Knowledge and Learning Enhancement Projects**: Finding, sharing, and building knowledge about effective practices and programs
- **Policy Projects**: Finding and implementing effective ways to encourage and support continuous improvement

This document provides an update on those projects, now collectively referred to as the Data Design Initiative. For more background, see notes from the first Data Design Huddle and other information at: https://www.nhsa.org/our-work/initiative/data-design-initiative.

NHSA seeks partners to advance this mission and vision. We welcome suggestions, feedback, and involvement from those who see opportunities to refine this strategy and want to contribute to bringing this vision to life. We also seek leaders from the greater Head Start community interested in moving move specific projects forward. To get involved, please email: vjones@nhsa.org.

---

[1] Bellwether Education Partners, Results for America, and the Volcker Alliance

Objectives

Head Start seeks to help children currently living in poverty to succeed in school and thrive in life. Toward that end, Head Start grantees collect, analyze, and share data and other evidence to help teachers, programs, and families learn from their own and others' experience and collaborate to discover increasingly effective and cost-effective practices.

Head Start programs generate a significant amount of data. Much of it, unfortunately, is not readily accessible, understandable, and easy-to-use. This is, in part, because many of these data systems were developed before recent, transformative innovation in data analytics, visualization, and sharing. New technologies make it more feasible and affordable than ever to gather, analyze, and communicate data in ways that make data more useful. The most recently issued performance standards from the Office of Head Start in the U.S. Department of Health and Human Services also encourage increased use of data, analysis, and evaluation to achieve continuous quality improvement.

The Data Design Initiative projects described below seek to tap new technologies and bolster Head Start's capacity for using data and other evidence to improve on multiple dimensions now and in the future.

Project Status

People Projects: Those who work to support Head Start children and families need data management, analytic, and evaluation skills. The Data Design Initiative is working on 4 projects to strengthen the capacity of those working in and with Head Start programs to handle and interpret data and apply data-enabled insights.

- "Developing Data Capacity" Hiring Guide
  A group of expert practitioners developed a hiring guide to assist Head Start programs in decisions about employing or contracting people with data handling and analytic skills. The hiring guide is designed to be dynamic and will be continually updated based on user feedback. It includes valuable resources for hiring or contracting for data work, including skills to look for in candidates for various positions, boilerplate job descriptions, questions to ask when interviewing, an assessment of organizational capacity for data analysis, and language for RFPs to retain analytic services. The first version can be found at:
  www.nhsa.org/files/resources/hiring_guide-developing_data_capacity.pdf

- Data Training and Data Analytics Network
  NHSA is exploring several paths for developing data training curricula and capacity, including: data visualization fellowships using tools such as Tableau or Power BI; a data training curriculum delivered via webinar; curated "hit lists" of videos, readings, on-line courses, and other resources that teach data analysis skills; and a networked community of data analysts that help each other identify and work on common problems, solutions, and opportunities. Data Design Huddlers are currently providing feedback on a proposed webinar training curriculum and are outlining a strategic plan for a data visualization fellowship.

- Outcomes-Oriented Management Training
  NHSA is working with Data Design Huddlers to identify examples of successful outcomes-oriented management approaches. The goal is to identify relevant, high-quality training programs, research, and readings in this area and eventually increase adoption of this management style in Head Start programs.

- T/TA Systems and National Centers
  NHSA reached out to the National Center on Program Management and Fiscal Operations (NCPMFO) to introduce the Data Design Initiative and discuss ways the T/TA system and national centers could enhance analytic and outcomes-management capacity in the Head Start field. NHSA continues to explore ways the T/TA system and national centers can help Head Start operators learn to use goals, data, and other evidence to improve on multiple dimensions and (as described under "Improve Incentive Structures" below) refine current policy and oversight mechanisms.

Data Projects: Data in Head Start serves many purposes, from determining community needs and service gaps to setting priorities, mentoring and coaching teachers and other staff, and selecting effective curricula and other interventions for children. Those who work in and fund Head Start need meaningful, timely, accessible, accurate, and safely sharable data in order to serve children and families. The Data Design Initiative is working on multiple projects to identify more useful indicators and better, simpler ways to generate and collect data.

- Useful Outcomes and Other Indicators for Improvement, Benchmarking, and Evaluation
  A working group of Data Design Huddlers is working to identify outcomes and other indicators that Head Start programs can and will use to learn (from their own and from others' experiences) how to improve on multiple dimensions – including but not only child development, health, safety, and cost – and to assess and increase program impact. To hone in on potentially useful indicators, NHSA is currently developing "use cases" as part of a multi-site pilot (more details under "Multi-Site Pilots" below.) An abundance of indicators exist, but the field needs to sort out which are not only valid and reliable, but useful, easy-to-use, readily accessible, and cost-effective. Beyond that, more thought needs to go into thinking about suites of indicators that increase insights when used together, as well as identifying knowledge gaps where new indicators may be needed. Similarly, NHSA intends to work to identify and build consensus around how indicators should NOT be used.

- Safely Interconnected Data and Compliance Systems
  K-12 assessment data are one likely source of long-term outcome indicators that would be beneficial to the Head Start field. Starting with the "Multi-Site Pilot" project (described below) and building off of other efforts around the country to integrate data from multiple systems (such as the Actionable Intelligence for Social Policy network,) NHSA and other experts are exploring opportunities for safely connecting Head Start data systems with K-12 and other data systems to improve the ability to track children's long-term success in order to inform selection of programs, services, and practices. This project will also look for opportunities to connect with state and local early childhood compliance systems to lessen the reporting and monitoring burden on programs and licensing agencies.

- Better, Simpler Assessments
  Good assessment and screening tools are essential to effective early learning programs. Concerns exist about the amount of time required for training and conducting screenings and assessments, as well as the fidelity of implementation, accuracy of results, and validity of some assessment tools. To make early childhood assessment tools better and simpler – more useful, less burdensome, more actionable, and more affordable – NHSA is pursuing multiple paths:

  - *Better, Simpler Challenge* – NHSA has drafted a one-page overview laying out the desired characteristics for better, simpler assessments. NHSA is encouraging current and future researchers, vendors, and others to embrace this vision and take needed actions to bring it to life, and some assessment vendors have already begun to pilot abbreviated assessments that can take less time without losing critical information. NHSA invites comments on the draft, which can be found at: www.nhsa.org/files/better_simpler.pdf
  - *Technology-aided Assessment Tools* – Data Design Huddlers are exploring the possibility of using technology-aided tools that can reduce demand on teacher time while providing teachers better insights they can use to help children. This exploration includes outlining when and for whom technology-aided assessments are and are not appropriate, and guidelines for their use. Thus far, NHSA has identified several technology-aided assessment tools that seem to demonstrate proof of concept. NHSA seeks Head Start operators interested in trying these tools and sharing their experience with the developers and other Head Start operators.

- Data Errors and Validation
  Data Design Huddlers highlighted significant concern over various glitches or system structures that allow Head Start staff to enter inaccurate information in their software systems. A better process or mechanism is needed to identify error-prone areas of data entry and get them fixed in a timely manner. At this time, it is anticipated that the "Yelp for Head Start" project (described below) may address this problem. If it does not, this project will be revisited.

Information Systems Improvement Projects: Data relevant to the Head Start field is currently collected in a variety of siloed systems even within a single Head Start site, much less across sites and across the country. Being able to analyze data across systems in real time and across multiple years is essential to identifying promising practices, testing for replicability, studying long term impacts, and more. Data sharing must be feasible in timely, understandable, accurate, and affordable ways. The Data Design Initiative is currently working on 5 projects to understand and advance agreement on data system design features to facilitate sharing and learning over time:

- "Helping Children Thrive" Multi-Site Pilots
  NHSA, in partnership with a company named BrightHive, won the Early Childhood Innovation Prize for a project to begin to tackle critical data infrastructure needs in Head Start. NHSA, BrightHive, and four pilot sites are working to identify important outcome metrics, evaluate the existing data infrastructure in the field, write up use cases, and develop open-source interoperable data modules that will allow Head Start to pull together data from multiple sources to answer pressing questions. As a first step,

this project is developing four "use cases" to understand the kinds of data and analyses needed, when and where the data and analyses are needed, who needs the information, and how to protect privacy. NHSA is currently seeking additional funding to cover the development of the data modules.

- Yelp and Amazon.com-like Functionality for Head Start
  Head Start programs make significant purchasing decisions every year, from their software to curricula to professional development activities. To improve their purchasing decisions, NHSA is working on developing a platform with some of the consumer review features of Amazon and Yelp. The online platform will describe the functionality of goods and services offered to Head Start operators, and invite user comment on that functionality as well as feedback on the strong and weak features of the products and services they use and use tips. Shared feedback could help Head Start colleagues make smarter purchasing decisions, spotlight common complaints and tech-glitches to encourage faster fixes, and facilitate exchange of troubleshooting and value-enhancing tips. NHSA will soon release an RFI to identify possible platform vendors and gather information about likely cost and possible start-up strategies, user outreach approaches, and sustainable financing and governance mechanisms.

- Information System Needs, Principles, and Data Standards
  Some of the features and functionality that Head Start practitioners wish were available in their existing information systems are technically possible, but not currently available. Several vendors attending the first DDH indicated that they can, and would be willing to, address some of these wishes. Similarly, there are no accepted nationwide standards for data and data accessibility. NHSA is working with experts in data systems thinking and user-centered design to develop a set of principles and data standards that will govern all data systems in Head Start. The principles and data standards will require feedback from the field and, eventually, full buy-in. A current draft is available for comment at: www.nhsa.org/files/principles.pdf

- Data-Sharing Agreement Repository
  To reduce the time programs need to spend working on sound data-sharing agreements, NHSA is assembling a repository of boilerplate language. The repository will hold sample agreements that can be adapted to meet nation, state, and grantee-level needs. NHSA is currently collecting sample agreements and resources to develop the repository, both from Head Start operators and others.

- Data Storage and Sharing Options
  NHSA will eventually explore ways that Head Start programs can safely and efficiently share protected, useful child-level data in a timely manner, whether through data warehousing, blockchain technology, or other means. This future work will build off of the lessons learned from the currently active projects.

Knowledge and Learning Enhancement Projects: Significant resources have been devoted to research about Head Start and early childhood programs. As programs strengthen their data generation and analytic capacity, useful insights worth sharing across program operators will become increasingly available. Unfortunately, the system for sharing vetted results from the field and for translating research to Head Start practitioners in ways they can easily use, understand, access, and apply is not strong. The Data Design Initiative has identified two projects to strengthen the ability to share knowledge across the Head Start field.

- <u>Knowledge and Tool Sharing</u>
  NHSA is constantly trying to improve the various methods it uses to communicate with the field. It will soon be adopting an online user platform that will allow for more efficient and effective sharing of knowledge and resources throughout the field. This may include a resource center for sharing best practices, useful tools, and perhaps eventually, relevant research.

- <u>Research Repository: Connecting Research to Practice</u>
  Several sources exist for accessing relevant research, but most target an academic audience and are not easily accessible for practitioners. NHSA is considering possibilities for improving existing research repositories or building a new one in order to make relevant research affordable, easily accessible, and understandable for Head Start practitioners.

  Similarly, researchers and Head Start grantees are connected in many ways, but there is no easy way to find researchers working with Head Start programs, Head Start programs working with researchers, or any of their research findings. NHSA is considering how to improve the connection between researchers and practitioners.

Policy Projects: Measurement and other forms of monitoring should incentivize and support continuous quality improvement of all grantees, both higher and lower performing ones. They should be used to flag areas needing attention and motivate everyone to use data and other relevant evidence to find ways improve. They should not be used in ways that create fear of data because of fear that data will be used for punishment. NHSA is identifying ways to incentivize and support continuous quality improvement, with minimal dysfunctional side effects.

- <u>Improve Incentive Structures</u>
  NHSA has begun to identify functional and dysfunctional incentive structures in Head Start, as well as key attributes of effective motivational systems in other fields. NHSA will build on this work to figure out ways to inspire a change in the culture of Head Start that successfully encourages data-informed decision-making and quality improvement efforts, while taking care to dismantle and otherwise avoid perverse incentives.