



## Methods and Measures in Head Start Research

### *What Data Are Available to Evaluate Head Start?*

Availability of data, the timing of data collection, the representativeness of the study sample, and the measurement of program components and outcomes can influence which aspects of a program are evaluated, the quality of the evidence, and the resulting interpretation of a program’s effectiveness. Therefore, the type of data sources, the sampling methods, and the measures of important program features and outcome areas can have a significant influence on the information available to answer, “What works, for whom, and under what conditions?” Compared to many social programs, Head Start’s effectiveness has been widely studied using a variety of methods and measures. However, even with the considerable amount of data and multitude of research designs, there are still **unanswered questions** about Head Start, particularly with regard to program implementation. Below is a selection of Head Start data sources and evaluation studies with their corresponding methods and measures.

Source	Sampling Methods and Measures
<p><b>Program Information Report (PIR)</b></p>	<p>First initiated in the late 1970s,<sup>1</sup> the Program Information Report (PIR) is an annual census of all Head Start agencies including all four types of programs: Head Start (for preschoolers ages three to five years old), Early Head Start, Migrant and Seasonal Head Start, and American Indian/Alaska Native Head Start. All Head Start agencies must complete surveys for every program they administer.</p> <p><b>Sampling:</b> As the PIR is an annual census of all Head Start agencies, it does not employ any sampling methods. PIR data is collected at the program level, so programs are the smallest units of analysis possible (e.g. center level data is not available).</p> <p><b>Data collection measures:</b> The PIR survey collects descriptive data at the program level on child enrollment and characteristics, staff qualifications and demographic characteristics, and service provision including health, disabilities and educational services. The data is publicly available.<sup>2</sup></p>

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## Family and Child Experiences Survey (FACES)

The Head Start Family and Child Experiences Survey (FACES) provides a detailed picture of Head Start programs, classrooms, teachers, and participants every three years. The survey is administered to a nationally representative sample of three- and four-year old children entering Head Start for the first time and follows them through the end of kindergarten. Migrant and Seasonal Head Start (MSHS) and American Indian-Alaska Native Head Start (AI/AN) programs are not included in the study. Five FACES studies have been fielded to date: 1997, 2000, 2003, 2006 and 2009. A redesigned FACES survey will be fielded in fall 2014, spring 2015 and spring 2017.

### Sampling (2003-2009):

- FACES employs a complex, multi-stage sampling design, whereby programs are sampled from the current PIR listing, centers are sampled within programs, classrooms are sampled within centers and children are then sampled within classrooms.
- Sampled children were divided into a three-year old cohort and a four-year old cohort and participate in FACES for two or three years depending on their age at Head Start entry. For both cohorts, data was collected at baseline, at the end of the first year in Head Start, and at the end of kindergarten. Additionally, data was collected once at the end of the second year in Head Start for the three-year old cohort only.
- Sample sizes in the different FACES studies have ranged from 2,457 to 3,349 three- and four-year old children.<sup>3</sup>

### Sampling (2014-2017):

- In fall 2014 and spring 2015, the school readiness skills of a new cohort of 2,400 Head Start children will be assessed. In spring 2015 and 2017, the number of programs in the FACES sample will increase from the 60 used to assess school readiness to 185 for the purpose of conducting observations in 720 Head Start classrooms.<sup>4</sup>

### Data collection measures:

The FACES survey consists of 1) one-on-one child assessments of developmental and school readiness skills (e.g. language, literacy, and mathematics), 2) parent, teacher and Head Start program staff interviews about child health and development, social skills and behavior, family life, program experiences, program policies and practices, and teacher credentials, and 3) classroom observations to measure quality.<sup>5</sup> FACES data is restricted due to privacy concerns and can be only obtained with an application and signed Restricted Data Use Agreement.

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## Head Start Impact Study (HSIS)

The Head Start Impact Study was a randomized controlled trial that began in 2002 to assess the impact of an offer of Head Start services (treatment) compared to no offer of Head Start services (control). Head Start eligible children were randomly assigned to the treatment or control group and followed through the end of third grade. A nationally representative sample of 383 centers within 84 agencies in 23 states participated in the study.

### Sampling:

- HSIS employed a complex, multi-stage sampling design, whereby Head Start agencies were geographically stratified, clustered and then sampled, centers were stratified within agencies and then sampled, and finally children were sampled within centers. To be included in the study, Head Start programs had to be in communities where there were more eligible children than the program could serve (i.e. the programs had waitlists).
- The baseline sample consisted of 4,667 Head Start eligible children who were separated by age into two cohorts: the first cohort was comprised of 2,108 four-year-olds, and the second cohort was comprised of 2,559 three-year-olds. Within each cohort, children were randomly assigned to a treatment group which was offered Head Start services, or a control group which was not.
- The sampling excluded Migrant and Seasonal, American Indian/Alaska Native and Early Head Start programs. The sampling also excluded “saturated” Head Start centers, that is, centers with fewer eligible applicants in the community than available slots. Saturated centers were excluded because the study needed centers with more eligible applicants in the community than available slots (i.e. waitlists) in order to create a control group. Due to the elimination of saturated centers, approximately 15% of children served by Head Start nationally were not represented in the study. In other words, the HSIS represents about 85% of children served by Head Start centers in 2002.

### Data collection measures:

- Data collection began in 2002 and continued through the end of participants’ third grade year (spring 2007 for four-year olds and spring 2008 for three-year olds). Data collection components were as follow: direct child assessments, child surveys, parent interviews, teacher assessments of the child, preschool teacher and center director surveys on ECE educational settings, and direct observations of ECE settings during the intervention (including observations of **process** and **structural quality**, using measures such as the ECERS-R and child/staff ratios). Data on elementary school settings were collected from elementary teachers and secondary data sources. These data included quality measures such as elementary school teacher education and experience, presence of teaching assistants in the classroom, and frequency of language, literacy, and math activities.

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- The control group of the three-year old cohort was not denied Head Start in second year of the study, due to ethical considerations. Therefore, for both age cohorts, the study assessed the impact of one program year of Head Start.<sup>6</sup>
- HSIS data is restricted due to privacy concerns and can be only obtained with an application and signed Restricted Data Use Agreement.

The final report of the Head Start Impact Study analyzed the data to discern average school readiness impacts across all children who received an offer of Head Start (**intent-to-treat analysis**). This intent-to-treat analysis was then repeated for specific subgroups of children such as whether the child was a Dual Language Learner at intake, whether the child had special needs, and the race/ethnicity of the child’s parent. Given that some children who were offered Head Start services did not enroll in the program, while some control group children managed to receive Head Start services outside of the study, HSIS researchers also analyzed the school readiness impacts for all children who actually received Head Start services (**treatment-on-treated analysis**).

A secondary analysis of HSIS data, conducted by the Secondary Analysis of Variation in Impacts of Head Start Centers, reanalyzes the HSIS data by looking at moderators of child school readiness outcomes, such as neighborhood poverty and community crime rates, and integrating program implementation into the analysis of impact findings. This secondary analysis considers the “nature, quality, and timing of developmental, health, and other services and benefits received by Head Start participants” in its assessment of Head Start impacts. Measures of service implementation identified in the HSIS dataset include parent reports of the type and stability of early education and care settings, director reports of structural quality, observer ratings of classroom process quality, and elementary school data on teacher education and experience as well as classroom characteristics and activities.<sup>7</sup>

**Head Start Research-Based, Developmentally Informed (REDI) Intervention**

The Head Start REDI program was designed to promote both children’s social-emotional skills and language and emergent literacy skills by integrating a research-based enrichment curriculum and teacher professional development in Head Start programs that used either High/Scope curriculum or Creative Curriculum. The intervention included curriculum-based lessons and center-based extension activities for children, as well as training for teachers in teaching strategies to use daily. Funded by the Interagency School Readiness Consortium to generate evidence-based practices about what works in Head Start, the REDI project conducted a randomized controlled trial from 2002 to 2004 to assess the school readiness impacts for four-year olds participating in the REDI program compared to four-year olds participating in “usual” Head Start programs with the basic High/Scope or Creative Curriculum.

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**Sampling:**

- Within three counties in Pennsylvania, 44 Head Start classrooms in 24 centers using either the High/Scope or Creative Curricula were stratified based on student demographics, classroom location and length of school day.
- Within these stratified groups, centers were randomly assigned to intervention or control conditions. Classrooms in the same center were always assigned to the same condition, to avoid contamination between intervention and control classrooms.
- Two cohorts of four-year olds, totaling 356 children, participated in the study. For both cohorts, the study assessed the impact of one program year of enriched intervention.

**Data collection measures:**

- Data collection occurred at the beginning and end of the school year for each cohort of four-year olds. Students were also assessed during the kindergarten year in 202 classrooms at 82 schools in 33 school districts. Data collection components included child assessments, teacher ratings, parent ratings, and direct observations. Outcome measures assessed language development, emergent literacy, social-emotional skills, social behavior, and learning engagement.<sup>8</sup>

**Head Start Hip-Hop to Health Jr. Intervention**

Hip-Hop to Health Jr. was a randomized controlled trial from 1999 to 2003 that assessed the impact of an obesity prevention program for minority preschoolers on health outcomes of Head Start three- to five-year olds. Twenty-four Head Start programs in Chicago, IL were randomly assigned to an intervention group which experienced the Hip-Hop to Health Jr program, or a comparison group which received a general health intervention. At baseline, 778 preschoolers were recruited for the study.

**Sampling:**

- The intervention was staggered into two waves. During the first year, the intervention took place in 12 sites (six intervention sites and six control sites) in primarily black communities. During the second year, the intervention took place in the 12 remaining sites in primarily Latino communities.
- The intervention consisted of three 45-minute classes every week for 14 weeks. The classes included instructional activities about health and nutrition as well as intensive exercise. Parents received health information, homework assignments and coupons for healthy food.
- The control group received a general health intervention consisting of 20-minute classes once a week for 14 weeks. These classes included

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instructional lessons on subjects like dental health and obtaining health care. Parents received information on what their children were learning.

**Data collection measures:**

Data collection occurred at the start of the intervention (baseline), post-intervention (after the 14 week program was completed) and 1 and 2 years after the intervention began.

- Data were collected on body weight, height, BMI, parent-reported diet recall, child physical activity levels and knowledge of healthy eating and exercise.<sup>9</sup>

**I Am Moving I Am Learning (IM/IL) – Head Start Implementation Evaluation Project**

I Am Moving I Am Learning (IM/IL) is an obesity prevention approach intended to increase and improve Head Start children’s daily physical activity and healthy food choices. The initiative is designed to be implemented by training Head Start educators on how to integrate obesity prevention activities into their existing practices. In 2007, the IM/IL Implementation Evaluation Project was conducted to evaluate the degree to which Head Start grantees who had received IM/IL training were implementing the IM/IL approach in their programs. Importantly, the IM/IL Implementation Project was not intended to evaluate program impacts on children, only the implementation of the approach. The evaluation was conducted in three stages.

- Stage 1 (March and April 2007): Questionnaires were mailed to 53 Head Start programs in Virginia and West Virginia who had participated in IM/IL trainings in 2006. Fifty questionnaires were returned, yielding a response rate of 94%. The questionnaire included measures of perception of the importance of the IM/IL goal, type and intensity of IM/IL training provided to staff, and the types of IM/IL enhancements implemented with children.
- Stage 2 (June through August 2007): In-depth telephone interviews were conducted with IM/IL coordinators, teachers and home visitors from 26 purposively selected programs that completed the Stage 1 questionnaire. The interviews included measures of the planning and design of IM/IL enhancements, type and intensity of IM/IL enhancement activities, the type and intensity of IM/IL training for classroom teachers and home visitors, and types of family outreach strategies to promote IM/IL enhancements.
- Stage 3 (November 2007 through January 2008): Site visits consisting of classroom observations (one per program) and teacher and parent focus groups were conducted with a purposeful sample of 12 programs interviewed in Stage 2. Classroom observations included measures of

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meals and snacks, physical activity (opportunities for physical activity and staff behaviors), and center environment (physical activity equipment and space). Teacher focus groups included measures of IM/IL sustainability and resources, types and intensity of enhancement activities, and type of outreach to families. Parent focus groups included measures of perceptions of healthy weight, attitudes on healthy eating, and opinions on IM/IL enhancements.<sup>10</sup>

**Head Start Classroom-based Approaches and Resources for Emotion and Social skill promotion (CARES) Demonstration**

Head Start CARES is a large-scale, group-randomized controlled trial conducted from 2009 to 2012 to assess the impacts of three different social-emotional enhancement programs on the social-emotional outcomes of Head Start children. The three enhancement models are:

- **Incredible Years Teacher Classroom Management Program:** “Promotes positive teacher/child relationships, evidence-based classroom management and coaching strategies, and teacher/parent partnerships.”
- **Preschool PATHS (Promoting Alternative Strategies):** “Enhances social-emotional development through explicit lessons and a set of generalized teaching strategies.” The Head Start CARES evaluation of the social emotional impacts of Preschool PATHS will present further evidence on PATHS effectiveness, in addition to the Head Start REDI intervention which also included the PATHS curriculum.
- **Tools of the Mind:** “Focuses on mature make-believe play and specific learning activities to foster cognitive, self-regulation, and executive function skills.”

One hundred and four Head Start centers in 17 sites across the country were randomly assigned to receive one of the three different one-year enhancement programs, or to a comparison group that continued with usual classroom practices. Across the participating centers, 3,927 three- and four-year olds were observed in 307 classrooms.

- The three enhancement programs were intended to complement, not replace, usual classroom practices.
- Teachers in the intervention groups were trained and coached in one of the enhancement programs throughout the school year

Data collection began in Spring 2009 and follow-up data was collected in Spring 2012 when the children were in kindergarten. A report on program enhancement implementation and an impact report will be published by 2014.<sup>11</sup> The study children will continue to be tracked through the end of third grade.<sup>12</sup>

Although there is no available report on program enhancement implementation or impact, a report has been published on the planning and implementation of Head Start CARES program enhancement *coaching* for teachers. Coaching on specific program enhancements was one of the

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primary methods through which Head Start CARES trained teachers in intervention classrooms. This report collected data from over 300 interviews with Head Start teachers, enhancement developers, program administrators, and Head Start CARES coaches. Implementation measures collected included coaches' knowledge of the program enhancement and early childhood development, frequency, consistency, and timing of coaching sessions, and Head Start administrator involvement and support in the coaching process.<sup>13</sup>

#### Sources & notes

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