

EXECUTIVE SUMMARY

The Early Head Start Family and Child Experiences Survey (Baby FACES) is a descriptive study of Early Head Start programs designed to inform policy and practice at both national and local levels. In 2007, the Office of Planning, Research & Evaluation (OPRE) in the Administration for Children and Families (ACF), U.S. Department of Health and Human Services, contracted with Mathematica Policy Research and its partners to implement this longitudinal study in 89 Early Head Start programs around the country. Baby FACES followed two cohorts of children, newborns and 1-year-olds, through their time in Early Head Start. The Newborn Cohort includes pregnant mothers and newborn children (194 are in this group) and the 1-year-old Cohort includes children who were approximately age 1 (782 were aged 10 to 15 months) at study enrollment in 2009. Data collection started in the spring of 2009 and ended for the 1-year-old Cohort in spring 2011 and for the Newborn Cohort in spring 2012, when both cohorts were 3 years of age. This is the third and final report describing the experiences of families and children in Early Head Start. The first report provides in-depth information about the sample design, the measures used, and the baseline findings (Vogel et al. 2011) and the second report describes findings from the second wave of data collection focused primarily on children who were 2 years old in 2010 (1-year-old Cohort only) (Vogel et al. 2015). This report describes the experiences of children in both cohorts through age 3 and focuses on understanding program participation and predictors of participation, service quality and predictors of quality, and associations between receiving services at different levels of intensity and quality and child and family outcomes.

Research questions for Baby FACES address three primary aims: (1) describing Early Head Start and program services and staff, (2) describing the population served by the program, and (3) associating program services with child and family outcomes. Specific questions addressed by this report include:

- What is Early Head Start? What are the program models employed, staff qualifications, and other important program features and characteristics?
- What specific services are delivered to families and what is their quality?
- What are the characteristics of the families Early Head Start serves in terms of their demographic, household, and family characteristics; their needs; and their risk factors?
- How are Early Head Start children and families faring over time?
- What are the predictors of home visit and classroom quality?
- What are the predictors of program participation?
- How do family characteristics, program experiences, and quality relate to outcomes?

Box 1 includes brief information on the data sources and measures used at age 3 and Table II.1 provides additional detail.

Box 1. Overview of Baby FACES Data Sources at Age 3

Parent Interview. This telephone interview asked the person primarily responsible for the care of the study child about demographic characteristics, their service needs and use, and their well-being and that of the child. It also asked about the child's exposure to environmental health risks and environmental and routine supports for the child's growth and development. Parents were also asked to rate their child's development and behavior.

Direct Child Assessment and Home Observation. The assessments include administration of the Preschool Language Scale-4 Auditory Comprehension subscale (PLS-4; Zimmerman et al. 2002), the Peabody Picture Vocabulary Scale-Fourth Edition (PPVT-4; Dunn and Dunn 2007), and measurement of height and weight. While in the home, the field assessor also observed the child's ability to focus on the tasks, the interactions between the child and parents, and the quality of the home environment using the Bayley Behavior Rating Scale (BRS) (Bayley 2006), the Home Observation for Measurement of the Environment (HOME) (Caldwell and Bradley 2003), and scales drawn from a study of neighborhoods in Chicago (Ross et al. 2008).

Parent Self-Administered Questionnaire. Parents were asked to rate their child's development and behavior using the Ages & Stages Questionnaires, Third Edition [ASQ-3] (Squires et al. 2009), MacArthur-Bates Communicative Development Inventories [CDI] (Fenson et al. 2000), the Brief Infant Toddler Social Emotional Assessment [BITSEA] (Briggs-Gowan and Carter 2006), and the Behavior Problems Index (Zill and Peterson 1986). They also rated the quality of their relationship with the child's home visitor or teacher.

Parent-Child and Assessor-Child Interaction. Children participated in two semi-structured interaction activities that involve playing with two different sets of toys. Parents interacted with children using the Two-Bag task protocol, an adaptation of the parent-child interaction task used in the Early Head Start Research and Evaluation Project (EHSREP) and the Early Childhood Longitudinal Study-Birth Cohort (ECLS-B). The videos were coded using two coding schemes: Parent-Child Interaction Rating Scales for the Two-Bag Assessment (Mathematica Policy Research 2010) and an adaptation of the Parenting Interactions with Children: Checklist of Observations Linked to Outcomes (PICCOLO; Roggman et al. 2009). The field assessors also interacted with children following the Early Communication Indicator (ECI) protocol (Greenwood et al. 2006), that was later scored from videos.

Staff-Child Report. Home visitors and teachers of study children completed child-specific ratings of the participation of families in the program, the behavior of children using the Behavior Problems Index (BPI; Zill and Peterson 1986), and the quality of their relationship with the parents of study children.

Home Visitor/Teacher Interview. We interviewed either the child's home visitor or the child's teacher to determine her demographic characteristics, tenure working for the program, and well-being, as well as training and education experiences provided by the program and the work environment.

Classroom Quality Observation. Observers rated classrooms with the CLASS-T (Pianta et al. 2010) which measures the quality of teacher-child interactions in center-based settings and includes two subscales: Engaged Support for Learning and Emotional and Behavioral Support.

Home Visit Quality Observation. Field assessors observed the home visitors who provided services to children in the study sample using the Home Visit Rating Scales-Adapted (HOVRS-A) (Roggman et al. 2009) and a form that assessed the content and characteristics of the visit.

Family Services Tracking (FST). Early Head Start home visitors and teachers of study children completed a weekly service tracking form that detailed the number of service experiences (home visits or days in care) study children were offered and the number received.

What Are the Program Models Employed, Staff Qualifications, and Other Important Program Features and Characteristics?

Prior reports provide a more detailed answer to this question (see Vogel et al. 2011 and Vogel et al. 2015). At age 3, information was collected on staff qualifications and experience.

Staff Have Extensive Early Head Start Experience

Services are provided by diverse and experienced teachers and home visitors, usually in children’s home language. Baby FACES children are served by teachers and home visitors who usually provide services in the child’s home language—78 percent of children from Spanish speaking homes have a home visitor who speaks Spanish, and 82 percent of such children in center-based services have a teacher or another adult Spanish speaker in the classroom. Children’s staff have on average 6 to 7 years of experience in Early Head Start and some have a college degree (37 percent of children have teachers with a B.A. or higher and 59 percent of children had home visitors with this level of education). Further, staff reported positive feelings about their jobs and low levels of depressive symptoms and experienced low turnover rates.

What Specific Services are Delivered to Families and What is Their Quality?

Programs Deliver Services of Mid-range Quality

Home visit quality is in the mid-range. Using the 5-point HOVRS-A observational measure, home visit quality scored in the mid-range both overall (mean total score 3.4), and on two subscales focused on engaging the family in the visit (Visitor Effectiveness; mean 3.8), and in their responsiveness and skill in facilitating parent-child interaction (Visitor Strategies; mean 3.2). Most of the time during visits was spent on a variety of child-focused activities (57 percent of the visit on average).

Classroom quality is moderate. Observed quality scores on the 7-point CLASS-T are highest in the area of Emotional and Behavioral Support (5.3), and lowest in the area of Engaged Support for Learning (3.3).

How are Early Head Start Children Faring over Time?

Children are Faring Well and Showing Improvement over Time

The Baby FACES study team followed children and families throughout their enrollment in Early Head Start, collecting data each year through age 3 by observation, parent and staff report, and direct assessments with standardized instruments. Although there was some sample attrition over the course of the study (approximately one-third of all families exited the program before children were 3—See Box 2), we did not see large differences in the characteristics of those who left the program early compared to those who stayed. (See Appendix D.) Overall we found that children are making good developmental progress by most measures.

Parents rate children highly on physical health, general development, and language. Parents report that their children are in very good or excellent health as well as have access to regular health care and high rates of insurance coverage. However, similar to national rates, measurements of height and weight show that overweight and obesity are a concern, with about one-third of the children falling into one of these groups by age 3. Parents rate children’s speaking ability, vocabulary and comprehension of their home language as strong.

Box 2. Baby FACES Sample, Response Rates, and Analytic Approaches

In spring 2009 there were 976 children who were eligible and consented to be in the study. By the time the children were three years old, 253 families out of 782 originally enrolled in the 1-year-old Cohort children left Early Head Start and 109 families out of 194 originally enrolled in the Newborn Cohort did so. Children who left the Early Head Start program from which they were sampled were considered no longer eligible at follow-up, and this was by far the main driver of sample attrition over time.

Eligible and Consented Sample Sizes at Baseline and Follow-Up by Year

Cohort	2009	2010	2011	2012
Newborn	194	140	100	85
1-Year-Old	782	602	469	n.a.
Combined	976	742	569	85

Response Rates Are High Across Study Waves

Despite difficulties in maintaining high response rates in a longitudinal study, the study achieved high rates of completion for each of the data collection instruments over time. The Family Services Tracking (FST) data analyzed for this report covers a 104-week period from the spring of each child’s age 1 year to the spring of his/her age 3 year. On average, from age 1 to age 2, reports were submitted for 73 percent of eligible weeks. From age 2 to 3, reports were submitted for 69 percent of eligible weeks.

Baby FACES Response Rates 2009–2012

Instrument	2009 Number Completed (Percentage)	2010 Number Completed (Percentage)	2011 Number Completed (Percentage)	2012 Number Completed (Percentage)
Staff-Child Report	933 (95.5)	703 (95.6)	538 (96.2)	82 (97.6)
Parent Interview (CATI)	894 (91.7)	583 (79.3)	445 (79.6)	61(72.6)
Parent Self-Administered Questionnaire (SAQ)	n.a.	537 (89.5)	481 (86.0)	70 (83.3)
Child Assessment	n.a.	547 (91.2)	503 (90.0)	76 (90.5)
Caregiver Interview	229 (93.1)	267 (98.9)	232 (98.7)	44 (100)
Home Visitor Interview	323 (96.7)	225 (97.0)	174 (99.4)	29 (100)
ITERS-R	223 (94.9)	53 (98.1)	n.a.	n.a.
CLASS-T ^b	n.a.	220 (98.7)	231 (99.1)	42 (95.5)
HOVRS-A	242 (89.3)	193 (83.2)	139 (84.2)	20 (87.0)
Program Director Interview	89 (100)	89 (100)	89 (100)	n.a.
Program Director SAQ	86 (96.6)	83 (93.3)	n.a.	n.a.
Exit Interview ^a	62 (54.9)	76 (38.3)	98 (57.9)	337 (72.8)

Source: Baby FACES Sample Management System (SMS).

Note: Percentages are of those still enrolled in Early Head Start and therefore still eligible for the study at each wave. Exit interviews are of those who were reported to have left the program at each time period.

^aAdministered to parents of children who left the program by each round of data collection. Round 1 was administered between October and December 2009. Round 2 was administered between April and June 2010; Round 3 was administered February to June 2011. The total number of cases released for Round 2 includes the 51 incomplete responses from Round 1. Overall, between Rounds 1 and 2, we released a total of 258 unique cases. The combined response rate of Rounds 1 and 2 is 54 percent. The final round was administered to parents of 1-year-old Cohort children who remained enrolled through age 3, when the children were 3 1/2 years old (August through October 2011).

^bAdministered in classrooms of 2- and 3-year-olds. The ITERS-R was used to rate classrooms of 1-year-olds.

ITERS-R = Infant Toddler Environment Rating Scale-Revised; HOVRS-A = Home Visitor Rating Scale-Adapted; CLASS-T=Classroom Assessment Scoring System-Toddler version; n.a. = not applicable.

Analytic Approaches

In this final report we use data on children’s entire experience in Early Head Start to examine longitudinal development and relationships among program and family characteristics, Early Head Start experiences (participation in and quality of services), and outcomes. We use simple descriptive statistics such as

means/percentages and standard errors (weighted as appropriate) to depict 3-year-old children and their families in our sample. For analysis of growth over time, predictors of home visit and classroom quality, and predictors of Early Head Start participation we created Hierarchical Linear Models (HLM). To analyze relationships between participation and outcomes we first assess the bivariate relationship between each participation and outcome measure. For significant associations, we proceeded with multivariate analyses that include a comprehensive set of child, family, and program characteristics as covariates. Detailed information of the analytics approached are provided in Chapter II, Chapter IX, and Appendix D.

Children are continuing to develop their language skills at age 3 but are not quite at national norms. Direct child assessment suggests that Early Head Start children’s auditory comprehension as measured by the PLS-4 is approaching national norms, while receptive vocabulary as measured by the PPVT-4 and expressive language skills as measured by the ECI have some catching up to do with their same-aged peers.

When looking over the course of children’s participation in the study, we see nonlinear growth in children’s English vocabulary with a rapid increase at age 1 that slows down between ages 2 and 3, following a similar patter as a normative sample on the CDI. English vocabulary growth trends of dual language learners (DLLs) are similar to children from English speaking homes, although these children display a smaller English vocabulary, on average. When just focusing on Spanish speaking children assessed using the Spanish CDI, we see linear Spanish vocabulary growth, indicating a consistent rate of growth over time.

Although multiple data sources present a mixed picture of children’s social-emotional development at age 3, children’s social-emotional skills improve over time. Parents report significantly more social-emotional problems for children than do Early Head Start staff based on the BITSEA; however, parents report slightly but significantly fewer behavior problems for children than do Early Head Start staff based on the BPI. Assessor observations of children’s task engagement and emotional regulation are approaching national norms. Additionally, the majority of children display some positive behaviors in video-recorded play interactions with their parents on the Parent Child Interaction Rating Scales and display few negative behaviors. Estimates are comparable to those reported in other large-scale studies with children of similar ages.

When looking at children’s growth from age 1 to age 3, parent reports of social-emotional competence on the BITSEA (empathy, prosocial behavior, and compliance) increased in a linear fashion over time.

Parents provide supportive and cognitively stimulating environments, although often families reside in neighborhoods with poor conditions. On average, the home environments that parents provide are rated as emotionally supportive, cognitively stimulating, and well organized as measured by the HOME. Parents provide high levels of emotional support and rarely show harsh or punitive parenting behaviors. Additionally, on average, parents provide environments with cognitively stimulating books, toys, and other materials and assessors rate the interior of the homes as generally clean and well organized. In contrast to the interior of the homes, observers rate the neighborhoods in which families live as being in poor condition, indicating environments that in general have rundown housing, are strewn with litter and other trash, and have an unsafe atmosphere.

Parents report better mental health and lower stress over their enrollment in Early Head Start. Parent depressive symptoms on the CESD-SF and levels of parenting stress on the PSI-SF

improve over enrollment in Early Head Start. Depressive symptoms decrease in a nonlinear manner, with the largest decrease between birth and age 2. Parenting stress declines in linear fashion.

What Are the Predictors of Home Visit and Classroom Quality?

Family, Staff, and Program Characteristics Associated with Quality Differ for Home and Classroom Services

We constructed multi-level hierarchical linear models (HLM) to examine whether the home visit or classroom quality provided by a particular home visitor or teacher changes over time (between 2009 and 2012 for home visit quality and 2010 and 2012 for classroom quality). We also examine whether particular staff or program characteristics are associated with quality (see Chapter II for additional details on the analytic approach).

Most aspects of quality are stable over time. For home visiting, the quality provided by home visitors is stable over time. For classrooms, we observe different patterns of quality provided by teachers across the two classroom quality domains: Emotional and Behavioral Support and Engaged Support for Learning. Specifically, we observe stability in Emotional and Behavioral Support and a decline in Engaged Support for Learning over time.

Home visit content and characteristics are associated with home visit quality over time, but few staff or program characteristics are associated with quality. Specifically, the amount of time spent on parent-child activities, the alignment of the visit with the visitor's plan, and the presence of another adult during the visit are all positively associated with quality as indicated by both subscales of the HOVRS-A, Visitor Strategies and Visitor Effectiveness. Conversely, time spent on staff-parent relationship building is associated negatively with the home visit quality subscales. There are some differences by subscale. For Visitor Strategies there is a positive relationship with job satisfaction, and for Visitor Effectiveness there is a negative association with family focused activities. No other staff or program characteristics related to home visit quality, such as program approach and implementation or staff race/ethnicity, credentials, and language.

Only one child and family characteristic is related to home visit quality over time. Specifically, visits conducted with younger children receive lower quality ratings on both Visitor Strategies and Visitor Effectiveness compared to visits conducted with older children.

Staff characteristics and parent-teacher relationships are associated with classroom quality over time. Some staff characteristics are associated with classroom quality, while program-level characteristics such as program approach, population served, and implementation, are not. Specifically, teacher educational level is associated with classroom quality (Engaged Support for Learning only). Teacher job satisfaction and the quality of teacher-parent relationships are positively associated with classroom quality (Emotional and Behavioral Support and Engaged Support for Learning). Teacher depressive symptoms are negatively associated and percentage of DLLS in the classroom is positively associated with Emotional and Behavioral Support.

What Are the Predictors of Program Participation?

The dimensions of program participation we examined are length of enrollment, staff ratings of family involvement, and service take-up rates (percentage of services offered by programs that were received by families).

Families Enroll for over 2 Years On Average, and Are Highly Engaged While Children Are Young.

Children and families enroll for over 2 years on average, varying by timing of entry. Among all children in the sample, the average length of enrollment is 28 months. However, the average varies by the timing of enrollment. Among families who enrolled during pregnancy, the average length of enrollment is 33 months. In contrast, the average length of enrollment among children whose families enrolled after birth (and by 15 months of age) is 25 months. For families who left before age 3 the average length of enrollment is 17 months.

Staff rated families as demonstrating high involvement at ages 1 and 2. At ages 1 and 2, the majority of families are rated by staff as highly involved. However, by age 3, the percentage of families demonstrating high involvement (among those still enrolled) declined and more families are rated as having inconsistent involvement.

Programs offer home visits and center days at high frequencies. The study asked program staff to track service provision on a weekly basis when children were between 1 and 3 years of age and enrolled in the program. On average, families in the home-based option are offered approximately 1 home visit per week when children are between ages 1 to 3. The average total number of home visits offered each year ranges from 44 to 48 (the OHS recommends programs offer 48 visits per year). The average number of center days offered to families in the center-based option is approximately 4 per week. The average number of center days offered per year is 224 between ages 1 and 2 and 192 days between ages 2 and 3 (the OHS recommends programs offer 240 center days per year).

Service take-up by families is high, on average, but varies by service delivery type. Take-up is defined by the number of home visits and center days offered by programs divided by those received by families over a two-year period. As part of the study, service provision and family receipt were tracked on a weekly basis by program staff when children were between 2 and 3 years of age and enrolled in the program. Rates of take-up differ by the service delivery type (home visits versus center-based care). Families in the home-based option for a full year complete 77 percent of the home visits offered between ages 1 and 2, on average, and 75 percent between age 2 and 3, on average. Children who are in the center-based option for a full year attend 85 percent of center days offered between ages 1 and 2, on average, and 86 percent between ages 2 and 3, on average. Children who left the program before age 3 have lower home visit and center day take-up rates while they are enrolled.

Program Participation Varies by Child and Family Characteristics

We constructed multi-level HLM models to examine participation in Early Head Start as defined by three indicators of participation: length of enrollment, staff ratings of family involvement, and service take-up rate.

Participation does not vary substantially between programs, regardless of the measure of participation. Programs included in Baby FACES are roughly equivalent in levels of family participation, with most of the differences explained by family-level factors. We observe a great deal of within-program variability in family participation. For example, 78 percent of the variability in length of enrollment is due to differences between families. Similarly, half of the variability in involvement ratings within a given program is due to differences between families. Families also differ considerably in terms of their service take-up rates within a given program (more than half of the variability in home visit and center take-up rates is due to between-family differences).

Length of enrollment does not vary by many child, family, or program characteristics. Children who are DLLs stay in Early Head Start longer than children from homes in which English is the

only language spoken. There are no significant associations between length of enrollment and other child and family characteristics, program approach, population served, or program implementation.

Family involvement is associated with some child and family characteristics, but is not associated with program characteristics. Families are more likely to be rated by staff as highly involved when their children are younger (age 1) compared to when their children are older (age 2 and age 3). Families who left the program early are less likely to be rated as highly involved while enrolled compared to families who stay through age 3. Families with medium or high levels of demographic risks are less likely to be rated as highly involved compared to families with lower risks. Family involvement is not related to program approach, population served, or program implementation.

Home visit take-up rates vary by child age while center take-up rates do not. Specifically, we observed that home visit take-up rates between ages 1 and 2 are higher compared to take-up rates between ages 2 and 3. There are no analogous differences by age for center take-up rates.

Child and family language and race/ethnicity are associated with home visit take-up rates. Take-up rates are higher for both home visits and center days for those who stay in the program until age 3 relative to early leavers (while they were enrolled). Similarly, DLLs have higher home visit take-up rates than families who speak English only. However, when looking at home visit take-up by race/ethnicity, Hispanic¹ families have lower home visit take-up rates relative to white families.

Staff race/ethnicity and education but not program characteristics are associated with home visit and center take-up rates. Specifically, families whose home visitors are African American have higher home visit take-up rates compared to those with white home visitors. Children whose teachers have at least a bachelor's degree have higher center take-up rates than children whose teachers have lower levels of education. Program characteristics such as program approach, population served, and implementation are not related to service take-up.

How Do Family Characteristics, Program Experiences, and Quality Relate to Outcomes?

Finally, we examined how factors such as family participation in the program, the quality of the services received over time, and child, family, staff, and program characteristics might be associated with key child and family outcomes.

Some Forms of Program Participation (Family Involvement, Length of Enrollment, and Take-up) Are Associated with Child Outcomes While Others Are Not

- ***Children in highly involved families have better behavioral outcomes at age 3.*** Controlling for a large set of child, family, and program characteristics, children of consistently highly involved (over two years) families exhibit significantly fewer negative and significantly more positive behaviors as rated by their teacher or home visitor using the BITSEA compared to children of less involved families. Children in these families also have better emotional regulation capabilities as rated by observers on the BRS.
- ***Center day take-up is positively associated with age 3 language abilities.*** Total center days attended are positively associated with the children's auditory comprehension as measured by the English PLS-4.

¹ Throughout this report, Hispanic refers to those with a Hispanic or Latino racial/ethnic background.

- ***Enrolling during pregnancy, length of enrollment, and home visit take-up are not associated with age 3 child and family outcomes.***

Associations Between Service Quality and Child Outcomes Are Mixed

- ***Average home visit quality is not associated with age 3 outcomes, but quality thresholds may matter for Spanish language development.*** Spanish speaking children with higher-quality home visits (i.e., those with an average score of 3 or more on the HOVRS-A Visitor Strategies subscale) have significantly higher Spanish PLS-4 scores at age 3.
- ***Center quality is positively associated with age 3 language abilities.*** We find a positive, statistically significant association between the CLASS-T Engaged Support for Learning subscale and receptive vocabulary as measured by the PPVT-4 at age 3.

Next Steps/Looking Ahead

This report is the final in a series of three that describes the children and families who participated in the Baby FACES project. Baby FACES provides a comprehensive longitudinal descriptive look at the Early Head Start program, staff, services, and families and examines the associations among these different factors. In addition to the set of three longer reports, a series of short reports and program-friendly briefs will address topics of interest in more depth and with an eye towards informing local program planning and use of data.