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### Early Head Start: Identifying and Serving Children with Disabilities

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# Early Head Start: Identifying and Serving Children with Disabilities

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**E**arly Head Start (EHS) is a comprehensive, two-generation program that provides services to low-income families with children under the age of 3 years. As part of their mandate, staff members of EHS programs collaborate with other service providers in their local communities, including Part C and childcare providers. The incidence of disabilities among low-income children was tracked as part of the EHS Research and Evaluation Project. The incidence of indicators of disabilities (or potential disabilities) was extremely high (87%) among these very young children living in poverty; however, only 99 participating families (4.7% of the sample) received Part C services. Receipt of Part C services was related negatively to specific family characteristics (e.g., mother less well educated, being of color, not speaking English). Participation in EHS had a positive impact on receipt of Part C services.

Children living in poverty, especially preschool-age children, are at great risk for poor developmental outcomes. Poverty has been associated with lower levels of development in cognition (Korenman, Miller, & Sjaastad, 1995), language (Walker, Greenwood, Hart, & Carta, 1994), and social skills (McLeod & Shanahan, 1993; Peisner-Feinberg et al., 2001); poorer physical health (Miller & Korenman, 1994); increased rates of learning disabilities and developmental delays (Brooks-Gunn & Duncan, 1997); and poor adult outcomes across many life domains (Kokko & Pulkkinen, 2000). Young children in the United States are more likely to experience poverty than are their counterparts in other developed countries

(Lewit, Terman, & Behrman, 1997), and children below age 3 years experience higher rates of poverty than any other age group in the United States (National Center for Children in Poverty, 2002). In fact, poverty rates among young children began to rise in 2001, following several years of decline (Lu & Koball, 2003), despite steady economic growth over most of the previous two decades (Conte & Karr, n.d.) and a growing awareness that early development is the foundation for later development (Shonkoff & Phillips, 2000).

Beginning with Head Start in the mid-1960s, early childhood education has been viewed as one intervention for enhancing the later academic success of young chil-

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dren (Zigler & Styfco, 2000), especially children who are at risk due to poverty or developmental disabilities (Shonkoff & Meisels, 2000). Evidence regarding the efficacy of a variety of early interventions continues to accumulate (Lipsey & Wilson, 1993). Early intervention programs have (a) improved cognitive and social-emotional outcomes for children at risk due to poverty (Devaney, Ellwood, & Love, 1997), (b) positively influenced school participation and outcomes for children with a variety of disability conditions (Farran, 2000), and (c) improved parenting and adult outcomes among participating families (Brooks-Gunn, Berlin, & Fuligni, 2000).

## DEVELOPMENT OF EARLY HEAD START

Early Head Start (EHS) is one of the most recent and extensive responses of the federal government to the needs of very young children living in poverty. This comprehensive, two-generation program provides services to low-income families beginning as early as during a woman's pregnancy and continuing until her child reaches the age of 3 years. As a two-generation program, EHS is designed to enhance children's development while simultaneously providing support services to the entire family and assisting parents in achieving self-sufficiency. Early Head Start has expanded dramatically since the first 68 programs were funded in 1996; today, 62,000 children are participating in 708 programs in every U.S. state and territory.

The services in EHS programs are designed to meet the needs of the local community; thus, services are provided through home-based or center-based options—or some combination of these. Regardless of which program option is implemented, it must meet the *Head Start Performance Standards* mandated by the U. S. Department of Health and Human Services (1998). These standards are also applied to preschool Head Start programs, the counterpart for older children. All EHS programs must address goals in each of the following areas: child development, family development, community development, and staff development. As part of the mandate to provide the comprehensive services that low-income families often need, staff of EHS programs collaborate with other service providers in their local communities, including Part C Early Intervention (Part C) programs serving families who have infants and toddlers with disabilities and childcare providers.

## PART C EARLY INTERVENTION SERVICES

Legislation encouraging early intervention for infants and toddlers with disabilities was enacted in 1986 when the Education for All Handicapped Children Act, the predecessor to the Individuals with Disabilities Educa-

tion Act (IDEA) was amended. Part C programs, as they are known today, serve children in all 50 states. The Part C system was designed to serve children with established developmental delays and children at risk for developmental problems. The broad language used in IDEA to describe Part C services and the broad parameters that allow each state to shape its service system and eligibility criteria to meet the needs of its own population present both opportunities and challenges in regard to implementation.

The first challenge is identifying children who may be entitled to Part C services. Various conditions may put children at an increased risk for developmental problems. Specific conditions may be identified at different times during a child's life, and various levels of risk are associated with different conditions in different circumstances. Some risks are due to health-related conditions that can be identified at birth (e.g., low birth weight, microcephaly, prenatal substance abuse) and are associated with increased rates of disability or developmental delay (Dolk, 1991; Fattal-Valevski et al., 1999; Hack et al. 1991; Watemberg, Silver, Harel, & Lerman-Sagie, 2002). Other health-related conditions are often identified during the first year of life (e.g., hydrocephalus, epilepsy, ear infections, anemia). For example, children with epilepsy have associated brain problems and an increased rate of developmental problems (Besag, 2002; Parkinson, 2002). Children with recurrent ear infections may be slightly more likely than their same-age peers to have delays in expressive language (Feldman et al., 1999; Paradise et al., 2003). Several studies have found correlations among iron-deficiency anemia, poor cognitive and motor development, and behavioral problems (Grantham-McGregor & Ani, 2001; Sherriff, Emond, Bell, Golding, & ALSPAC Study Team, 2001).

The biological risk inherent in certain health conditions is one of the anchoring concepts of eligibility for Part C services. Even when these conditions do not cause brain or developmental problems per se, their continued presence may interfere with a child's development by decreasing opportunities for nurturing, language stimulation, socialization, and interaction with peers and family members. For instance, children with recurrent ear infections or asthma may attend child development programs (e.g., EHS or childcare) less frequently and participate less in activities if they do attend a program, potentially reducing the developmental benefit they may get from such programs.

Even when developmental delay is suspected very early in a child's life, confirmation more commonly comes during the second year. First, parents and professionals have had time to observe a child's developmental trajectory over the first year of life and report their concerns. Also, standardized testing of cognitive and language development is more reliable and predictive of true developmental delays when gathered after the first year of life

(Cohen & Parmelee, 1983; Infant Health and Development Program, 1992).

Clearly, an awareness of developmental risks associated with many health conditions, an ability to recognize these conditions and associated risks, and a broad knowledge of the service delivery system are necessary if comprehensive services are to be provided to all families who need them. Efforts to identify children who are eligible for Part C services may be insufficient, because referral rates for Part C and Part B services increase with each additional year of child age, even into early elementary school, when referral and service rates peak between the ages of 9 and 11 years (U.S. Department of Education, 2002). Only 15% of children who receive special education services during their school years have received Part C services as infants or toddlers (Wolery & Bailey, 2002). In addition, children in families most likely to need comprehensive services are among those least likely to get them. Unfortunately, families facing risks associated with poverty, low levels of parental education, or minority status are less likely than other families to receive Part C services (Bailey, Scarborough, & Hebbeler, 2003).

Mandates for both EHS and Part C programs regarding collaboration with community partners are intended to facilitate identification of children in need of services and increase participation rates of vulnerable families in Part C services. Early Head Start programs must make 10% of their funded enrollment opportunities available to children with disabilities; referral may originate from either side of this service partnership. Children with previously identified disabilities whose families are already receiving Part C services may be referred to EHS, or children's disabilities may be identified after enrollment in EHS; however, EHS programs face a number of challenges in serving this population.

The first—and most immediate—challenge is appropriate and timely identification of those children. All families served by EHS are living in poverty; thus, all children from these families are potentially vulnerable to a variety of risks. For example, some children may be at increased risk for developmental problems due to health conditions, whereas other children may have mothers who are depressed or live in families or neighborhoods experiencing high levels of violence. Unfortunately, many children are exposed to several risks simultaneously. Of course, risks are not synonymous with disability; EHS program staff members may need to track a number of variables that could help them identify children who may be at an especially high risk for experiencing developmental problems, to facilitate timely referrals to Part C providers.

Additional challenges EHS programs face in serving children who have disabilities include parents' potential need for support during the process of identifying their child's special needs; staff members' needs for training to

guide and support parents through this identification process; lack of a community infrastructure to ensure collaboration across appropriate service sectors, including health, Part C, EHS, and other social services; as well as potential lack of awareness among parents, EHS staff members, or community members about early development and the potential benefits for children and families of Part C services (Summers et al., 2001). The powerful opportunity to influence child development positively during the early years makes it important to determine the percentage of children in EHS who are identified as having disabilities, whether these children receive Part C services, and the service experiences of families enrolled in EHS.

This study, which was nested within the EHS Research and Evaluation Project, was designed to examine the characteristics and experiences of young children with disabilities and their families. Specifically, the following questions were addressed:

1. What indicators of disability were found among children in the EHS Research and Evaluation Project?
2. How were the demographic characteristics of families with children who have various types of disability indicators related to their receipt of Part C services?
3. Did gaps exist between identification of disability (various levels of disability indicators) and receipt of Part C services?
4. What was the impact of EHS on receipt of Part C services?
5. Among families enrolled in EHS, what were the relationships between disability indicators and involvement in the EHS program?

## METHOD

The EHS Research and Evaluation Project ("the Project") enrolled 3,001 families in a rigorous random-assignment experimental design study to evaluate the impacts of EHS programs. The Project was conducted by Mathematica Policy Research, Inc.; Columbia University's National Center for Children and Families; and researchers at 15 universities under the direction of the Child Outcomes Research and Evaluation Division, Office of Planning, Research and Evaluation, in the Administration for Children and Families (ACF), U.S. Department of Health and Human Services. This group was known as the EHS National Research Consortium. The study began in 1996 and continued through 2001. Several reports arising out of the Project describe the first 3 years of life for all participating children, portray and evaluate

the EHS programs that served them, and present the impact of EHS on these children and their families (go to <http://www.acf.hhs.gov/programs/core/index.html>). A broad array of positive, albeit modest, impacts were associated with enrollment in EHS programs. Participating children displayed significantly more advanced development in cognitive, language, and social skills than did their control group peers; in addition, their families received a broader array of services and had more positive parenting and self-sufficiency outcomes than did control group families living in the same communities (Administration for Children and Families, 2002b).

All children, including children with disabilities, who participated in the Project had an equal chance of being assigned to either the EHS program group or the control group. This report includes information describing the incidence of indicators of disability among all children participating in the Project, as well as information about the impact of EHS on eligibility for and receipt of Part C services by comparing program group children to control group children. Also, we examined the EHS program group to include information about relative receipt of a variety of services, such as Part C, among families parenting children with and without disabilities.

### Participants

All participating families qualified for EHS services at the time of enrollment into the EHS Research and Evaluation Project. The primary family enrollment criteria were family income at or below the federal poverty level and inclusion of a pregnant woman or child below the age of 1 year (the age criterion for participation in the Project). Families were enrolled between July 1996 and September 1998. Demographic data for the families participating in the Project are presented in Table 1.

### Data Collection Procedures

Data for this study were collected via parent interviews and direct child assessments. These instruments were completed at various times throughout the duration of the family's enrollment in the Project. Information regarding family demographic characteristics was collected at the time of enrollment. Information regarding parent's needs for and participation in services, including EHS and Part C; education and employment; and family experiences was collected during interviews conducted, on average, at 7, 16, and 28 months postenrollment in the Project. Information regarding parenting attitudes and experiences and parent-child activities, as well as direct assessments of children's developmental status, were collected during birthday-related assessments at child ages of 14, 24, and 36 months. For each family, a primary caregiver (usually the mother) was identified; that indi-

**TABLE 1. Key Characteristics of Families Participating in the Early Head Start Research and Evaluation Project**

Characteristic	% of sample
Primary caregiver (applicant) is a woman	99
Primary caregiver is a teenager (under age 20)	39
Primary caregiver is married and lives with spouse	25
Primary caregiver's race/ethnicity	
African American	35
Hispanic	24
White	37
Other	5
Primary caregiver's main language is not English	21
Primary caregiver does not speak English well	12
Primary caregiver lacks a high school diploma	48
Primary caregiver's main activity	
Employed	23
In school or training	22
Other	55
Primary caregiver receives welfare cash assistance (AFDC/TANF)	35

*Note.* AFDC = Aid to Families with Dependent Children; TANF = Temporary Assistance for Needy Families. From Head Start Family Information System application and enrollment data. *N* = 3,001 for families participating in the project.

vidual provided informed consent for his or her family's participation. All reasonable efforts were made to communicate with that same individual at all assessment points to maximize data consistency. Every effort was made to interview participants in their preferred language, and assessment materials were translated as necessary. All families (program or treatment group families receiving EHS services and control group families) participated in all data collection efforts, including the parent interviews and direct child assessments. For program group participants, EHS staff members reported data regarding children's eligibility for Part C services at the end of the Project. Table 2 presents a summary of the measures and data collection procedures used. Information regarding the psychometric properties of all measures used is available in reports of the EHS Research and Evaluation Project (Administration for Children and Families, 2002b).

### Measures

**Demographic Characteristics and Service Receipt.** The Head Start Family Information System (HSFIS) Application and Enrollment Forms were used to obtain

TABLE 2. Measures and Data Collection Schedule

Construct	Measure	Data collection method	Data collection schedule
Demographic characteristics	Head Start Family Information System (HSFIS) enrollment forms	Parent report	At enrollment
Family characteristics, activities, and service participation	Parent Services Interviews (PSIs) and exit interview	Parent interview	PSI conducted 7, 16, and 28 months post-enrollment; exit interview at exit
Receipt of Part C services	PSIs and exit interview	Parent interview	PSI conducted 16 and 28 months postenrollment; exit interview at exit
Eligible for Part C services (program group children only)	EHS staff interview	EHS staff report	2001—at end of EHS Research and Evaluation Project
Disability indicators—physical health—related	PSI	Parent interview	PSI conducted 16 and 28 months postenrollment
Expressive language development	MacArthur CDI	Parent report	Child ages 14 and 24 months
Receptive language development	PPVT-III	Direct child assessment	Child ages 24 and 36 months
Cognitive development	Bayley MDI	Direct child assessment	Child ages 14, 24, and 36 months
Behavior problems	CBCL	Parent report	Child age 36 months

Note. MacArthur CDI = *MacArthur Communicative Developmental Inventories* (Fensen et al., 2000); PPVT-III = *Peabody Picture Vocabulary Test* (3rd ed.; Dunn & Dunn, 1997); Bayley MDI = *Bayley Mental Development Index from Bayley Scales of Infant Development* (Bayley, 1993); CBCL = *Child Behavior Checklist—Aggressive subscale* (Achenbach & Rescorla, 2000).

baseline demographic data from parents. Additional information regarding family characteristics (e.g., family composition) and service participation (e.g., activities related to self-sufficiency, participation in EHS or Part C services) was collected during parent services interviews (PSIs), which were conducted at approximately 7, 16, and 28 months after enrollment. An exit interview conducted with parents when their children were approximately 36 months of age contained questions similar to those on the PSIs.

**Indicators of Disability or Potential Disability.** Both parents' and EHS staff members' report data, as well as direct child assessment data, were used to identify children who had disabilities or potential disabilities. During the PSIs, the parents were asked a series of questions regarding indicators that their children might have had disabilities or needed health and disability services (e.g., "Does your family receive early intervention services from Part C?" "Has a professional ever diagnosed your child as having a vision problem?" "Does your child have asthma or experience wheezing?"). During the 14-month and 24-month birthday-related interviews, parents com-

pleted the *MacArthur Communicative Developmental Inventories* (CDI; Fensen et al., 2000) to assess their child's verbal language development. Parents also completed the *Child Behavior Checklist—Aggressive subscale* (CBCL; Achenbach & Rescorla, 2000) to describe their children's social development or behavior problems when the child was 36 months old.

Early Head Start staff members were asked whether children enrolled in their programs were eligible for Part C services. Staff members answered this question in 2001, after most families had left EHS. This measure thus indicated whether families were ever determined to be eligible for Part C during their EHS enrollment.

In addition, each child's developmental status was tested directly during birthday-related assessments. Trained and certified assessors used the *Bayley Scales of Infant Development* (Bayley, 1993) to test the child's cognitive development at approximately 14, 24, and 36 months of age, deriving a Bayley Mental Development Index (MDI) at each of these age points. These same assessors also administered the *Peabody Picture Vocabulary Test—3rd Edition* (PPVT-III; Dunn & Dunn, 1997) when the children were 24 and 36 months old.

## **Definitions for Disability Indicator Categories**

The Disability Work Group of the EHS National Research Consortium established four categories of disability indicators, which were based on conceptualizations of related risk factors. Several practical and conceptual considerations were used in creating these categories. Examining child development outcomes, rather than disability identification, was the major criterion guiding selection of measures for the Project. Thus, in developing the disability indicator categories, the Disability Work Group used variables in the Project data set that are known to be associated with disabilities or developmental delays. The resulting categories of disability indicators reflect conceptualizations of disability and/or developmental risk outlined in IDEA. The first category includes children whose families actually received Part C services; the remaining three categories represent a continuum of likelihood that the child would be considered eligible for Part C services. Appropriate variables from the data set were selected and assigned to one of these four categories, which then were used to identify children as having indicator(s) of a disability.

**Children Who Received Part C Services.** The first category contained children whose families reported ever having received Part C services. Parents were first asked about receipt of these services during the parent interview conducted approximately 16 months after enrollment in the Project; this question was asked again approximately 28 months after enrollment and during the exit interview. A positive response at any of these times resulted in this classification.

**Children Who Had Diagnosed Conditions.** The second category consisted of children who had been evaluated and deemed eligible for Part C services and children with established medical conditions that probably would have made them eligible for these services if they had been referred. Children whose diagnosed conditions had very strong relationships with developmental delays (e.g., HIV positive, sensory impairment, chromosomal abnormality or other birth defect) were part of this group. This category corresponds generally with the “at-risk” specification in Part C of the IDEA, where the term *at risk* refers to an individual under 3 years of age who (a) has a diagnosed physical or mental condition that has a high probability of resulting in developmental delay and (b) thus would be at risk of experiencing a substantial developmental delay if early intervention services were not provided. During the parent interviews conducted 16 and 28 months postenrollment, parents were asked if a doctor had diagnosed any of these conditions; a “yes” response to any of these questions resulted in this classification. Also,

EHS staff members were asked to indicate whether each program group child participating in the Project had ever been determined to be eligible for Part C services. The children whom staff members identified as eligible were placed in this category also.

**Children Who Had Suspected Delays.** The third category consisted of children with a developmental or behavioral problem suspected by a parent or identified via developmental assessment. Children were included in this category if the parents indicated that a health professional had reported suspicions of difficulties in vision, hearing, communication, use of arms or hands, or use of legs or feet, or suggested having the child use equipment to get around. Children were also included in this category if they had one or more health conditions or sensory impairments that involved the brain or central nervous system (e.g., crossed eyes, epilepsy, hyperactivity, being “slow”) and were moderately associated with developmental delay (Besag, 2002; Parkinson, 2002). A third group placed in this category were children who had obtained a Bayley MDI score below 77 (1.5 SDs below the mean or scored below the 10th percentile on the MacArthur CDI among children enrolled in the EHS Research and Evaluation Project.

**Children Who Had Biological Risks.** The fourth category covered children with chronic health conditions that have a fairly low association with developmental problems, either individually or in combination with other risk factors. Conceptually, this category is based on the “biological risk” category specified in Part C of IDEA. Health conditions included in this category (e.g., diabetes, anemia, congenital heart disease) involve different body systems but not primarily the brain or central nervous system. Children whose parents reported that they had asthma, high lead levels, low weight, or “fair or poor” health; had had a serious illness since birth; or had been on prescription medication for longer than 30 days were assigned to this category. For instance, children with asthma are 1.7 times more likely to have learning disabilities than healthy children, and children with “fair” or “poor” health are twice as likely to have learning disabilities as children reported to have good health (Fowler, Davenport, & Garg, 1992).

## **RESULTS**

### ***Incidence of Disability Indicators***

The incidence of disability indicators among the low-income children participating in this study was alarmingly high, despite the very small number of families (99) who actually received Part C services. Altogether, more than 87% of the children who participated in the Project

were identified as having at least one disability indicator. Table 3 presents the total numbers of children who were identified as having one or more of the selected disability indicators within each indicator category. Table 4 presents the total number of times any child was identified as having a specific disability indicator, as well as the numbers and percentages of children with each specific indicator who actually received Part C services. Clearly, many children were identified as having multiple disability indicators, but having an indicator was not necessarily associated strongly with receipt of Part C services.

Large numbers of children identified as having disability indicators were part of the suspected delays or biological risks categories. These categories are closer to the end of the continuum that indicates less certainty regarding the child's eligibility for Part C services; nonetheless, concerns regarding health and development had been identified for a very large percentage of these children. In addition many children had disability indicators in more than one category.

### **Demographics, Disability, and Service Relationships**

Although the proportion of families receiving Part C services was very low, the likelihood of services receipt was related strongly to several specific demographic characteristics. Table 5 presents information regarding the strength of the relationship between demographic characteristics and receipt of Part C services by disability indicator category. Across all the categories, being of color and having a mother who did not graduate from high school were associated with a decreased likelihood that a family would receive Part C services. For children included in the suspected delays category, not speaking English was also associated with a decreased likelihood that a family would receive Part C services. Among these families, those with some specific characteristics (e.g., lower income) were somewhat less likely to receive Part C services. Children in families of Hispanic background, with teen and less well-educated parents, or whose parents had at least three indicators on an index of cumulative demographic risks at the time of enrollment in the Project were least likely to receive Part C services. The parent cumulative risk index score was based on the number of risks from the following factors: teenager at the time of the child's birth, did not graduate from high school, unmarried, participation in cash assistance program, not working or in school.

### **Gaps Between Disability Identification and Part C Services**

Many more families in the Project could have been receiving Part C services than actually were, and a variety

**TABLE 3. Total Number of Children Identified as Having Disability Indicators**

Category of disability indicator for child	<i>n</i>	% of sample
Part C services	99	4.73
Diagnosed conditions	286	14.37
Suspected delays	1,173	64.42
Biological risks	1,421	61.38

of different kinds of gaps between eligibility and service receipt were identified. First there was a gap between the percentage of children reported as eligible by their parents and the percentage actually served. For example, 7% of parents in the EHS program group and 6% of parents in the control group reported during interviews that they were eligible for Part C services. For both groups, this is a significantly higher percentage than the percentage of parents who reported these services. An even bigger discrepancy existed between reports of EHS staff members regarding eligibility for Part C services and actual parent report of receiving those services. According to the former, 13% of children enrolled in EHS had been identified as eligible to receive Part C services by the time their families left the program.

Second, gaps existed between identified or suspected delays in a variety of developmental areas (e.g., cognitive, language, behavior) and Part C service receipt. Cognitive delays as assessed using the Bayley MDI were fairly common (about 17% of the sample when *delay* was defined as ever having received an MDI score below 70 by age 3; Administration, 2002b). This level of delay is consistent with Part C eligibility criteria outlined by every state (Shackelford, 2004). However, only approximately one third of children enrolled in EHS who had scores below 70 were identified as eligible for Part C services by any of the other means used (e.g., parent report, staff report), and this percentage was even lower among children in the control group. Cognitive delays were highest among children whose parents had the highest number of demographic risk factors (26%; Administration for Families and Children, 2003c). As noted previously, these families were among those least likely to receive Part C services, and many parents might have been unaware of their children's cognitive delays. Despite nearly universal receipt of well-child health examinations across the entire sample, less than 1% of parents reported that a doctor had told them their child was developmentally slow (Administration for Families and Children, 2003a).

Many children with language delays also did not receive Part C services. Analyses of child assessments showed that 26% of the children had delays in receptive language skills (received a score lower than 77 or 1.5 *SD* below the mean on the PPVT-III; Administration, 2002a), but

**TABLE 4. Numbers of Children Who Had Specific Disability Indicators and Relations Between Indicators and Receipt of Part C Services**

Disability indicator	Total (n)	Part C services (n)	Children with indicator in Part C (%)
Level 2—Children who had diagnosed conditions	286		
Child was eligible for early intervention services	148	99	66.89
Dr. ever said child had difficulty hearing/was deaf	55	10	18.18
Professional diagnosed child with a hearing problem	30	5	16.67
Child has a severe/profound hearing loss	1	1	100.00
Dr. ever said child had difficulty seeing/was blind	32	12	37.50
Professional diagnosed child with vision problem	39	15	38.46
Dr. ever said child had a speech problem	119	45	37.82
Dr. ever said child had a mobility problem	36	20	55.56
Dr. ever said child had a serious condition	31	12	38.71
Dr. ever said child had mental retardation	11	7	63.64
Dr. ever said child had an emotional disturbance	25	11	44.00
Dr. ever said child had a cleft palate	5	0	0.00
Level 3—Children who had suspected delays	1173		
Child ever scored < 70 on Bayley MDI	187	28	14.97
Child ever scored < 77 on Bayley MDI	463	46	9.94
Child ever scored < 10% on CDI or < 70 on PPVT-III	494	47	9.51
Child ever scored < 10% on CDI or < 77 on PPVT-III	669	51	7.62
Child is very hard for others to understand	231	19	8.23
Child has a lot of trouble communicating or doesn't communicate	69	21	30.43
Child has behavior problems at 36 months	108	13	12.04
Dr. ever said that child was hyperactive	44	4	9.09
Parent strongly agreed child is a slow learner	109	23	21.10
Parent strongly agreed child can do less than expected	80	13	16.25
Dr. ever said that child was developmentally slow	20	15	75.00
Child might have/does have a hearing problem	77	13	16.88
Child might have/does have a vision problem	56	17	30.36
Dr. ever said child had crossed eyes/nearsightedness	52	16	30.77
Child has trouble using, or can't use, arms or hands	9	8	88.89
Child has trouble using, or can't use, legs or feet	15	12	80.00
Child uses special equipment to get around	14	12	85.71
Level 4—Children who had biological risks	1,421		
Dr. ever said child had recurrent ear infections	1,046	56	5.35
Dr. ever said child had asthma/wheezing	563	39	6.93
Dr. ever said child had respiratory problems	47	3	6.38
Dr. ever said child had a heart defect	104	8	7.69
Child diagnosed as having a high level of lead in blood	92	6	6.52
Dr. ever said child had epilepsy/seizures	50	7	14.00
Dr. ever said that child had reflux/gastrointestinal problems	34	6	17.65
Dr. ever said child had anemia problems	16	0	0.00
Dr. ever said child had foot or leg problems	14	3	21.43
Dr. ever said child had ear tube problems	10	2	20.00
Dr. ever said child had low weight problems	9	0	0.00
Dr. ever said child had diabetes	3	0	0.00

Note. Bayley MDI = Bayley Mental Development Index from *Bayley Scales of Infant Development* (Bayley, 1993); CDI = *MacArthur Communicative Developmental Inventory* (Fensen et al., 2000); PPVT-III = *Peabody Picture Vocabulary Test* (3rd ed.; Dunn & Dunn, 1997).

TABLE 5. Relationships of Disability Indicators, Demographic Characteristics, and Receipt of Part C Services

Demographic characteristic	Child group			
	All ( $\chi^2$ )	Diagnosed conditions ( $\chi^2$ )	Suspected delays ( $\chi^2$ )	Biological risks ( $\chi^2$ )
Family does not speak English	5.24**	2.78*	6.28**	3.22*
Ethnic group membership	29.16***	8.29**	33.55†	17.42**
Mother did not graduate from high school	6.94***	3.96**	11.98***	4.77**
Income	6.43*	1.42	6.38*	4.12

\* $p < .10$ . \*\* $p < .05$ . \*\*\* $p < .01$ . † $p < .001$

only about 20% of these children were receiving Part C services. Parents seemed somewhat more aware of their children's language delays than of their cognitive delays. Approximately half the parents of children who had delays in receptive language development also reported that their child had a communication difficulty. Parents with fewer demographic risk factors were more aware of their children's communication difficulties than were parents facing more risks, and the children of the former were more likely to be receiving Part C services.

Finally, based on parents' reports, scores on the CBCL in the clinical range for 9% of the children, but only slightly more than 25% of these families were receiving Part C services. Parents indicated that health-care professionals had identified behavior problems for even fewer children. Only 1% of parents reported that a physician had pointed out behavior problems to them.

### Impact of EHS on Receipt of Part C Services

Of the children enrolled in the Project, 87% were identified as having at least one disability indicator, but a very small percentage of the families actually received Part C services. Two impact findings from the larger study have particular relevance to identification of disabilities among participating children. First, children enrolled in EHS were significantly more likely to receive Part C services than were children in the control group (Administration, 2002b). Approximately 5.7% of families enrolled in EHS reported receiving Part C services and having Individualized Family Service Plans (IFSPs), which contrasts with 3.7% for the control group. Higher rates of identification are attributed to program screening and support of parents through referral, eligibility, and IFSP development, as well as to coordination with Part C service providers (Administration, 2002b). Table 6 presents comparisons among rates of Part C service receipt for all children participating in the Project and for the children within each disability indicator category.

Equally important, children enrolled in EHS were less likely to have delays in cognitive and language functioning (Administration, 2002b). At 36 months of age, 27% of children in the EHS program group had Bayley MDI scores below 85, compared to 32% of children in the control group. Similar effects were found for language delays. Fifty-one percent of children in the EHS program group, compared with 57% of children in the control group, had PPVT-III scores below 85 at 36 months of age.

### Disability Indicators and EHS Service Participation

Among families enrolled in EHS, those who were receiving Part C services or whose children would likely have been eligible for Part C services (the diagnosed conditions category) were highly involved in a variety of specific services provided through their EHS programs. EHS staff members rated these families as highly involved in the program much more frequently (50%) than they did other families (35%). Families receiving Part C services or whose children probably were eligible for Part C services also remained enrolled in their EHS programs longer (27 months, on average, compared with 22 months for other families) and had greater rates of EHS service participation, including parent-child socialization activities, parenting education activities, and parent support groups.

## DISCUSSION

Since its inception in 1996, EHS has expanded dramatically, and EHS programs serve some of our country's most vulnerable children and families. The findings presented here highlight the alarmingly high level of vulnerability for disabilities that children living in poverty experience, beginning very early in life. In addition, these findings help explain the range and types of potential developmental challenges the children may face.

TABLE 6. Children Receiving Part C Services, by Disability Indicator Category

Disability indicator category	Total sample		EHS program group		Comparison group		$\chi^2$
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)	
All children	2093	4.7	62	5.7	37	3.7	4.97*
Children who had diagnosed conditions	250	39.6	62	43.4	37	34.6	1.97
Children who had suspected delays	995	8.3	54	10.8	29	5.9	7.94**
Children who had biological risks	1163	6.8	49	7.9	30	5.5	2.64

\* $p < .05$ . \*\* $p < .01$ .

Early Head Start programs and Part C providers are both mandated to identify children with disabilities and serve families collaboratively; yet, significant gaps in service continue to exist. These gaps include underidentification of children who would be eligible for Part C services, lack of awareness of children's delays, and possible time delays in getting families enrolled in Part C services. Together, these findings suggest that community partners should examine how the overall service system might be better coordinated to serve most effectively and efficiently the broad range of families who could benefit from a variety of services.

In this study, the proportion of children identified as having some indicator of disability is very high; however, this finding must be interpreted with some caution. Presence of a disability indicator may not always be synonymous with eligibility for Part C services. Some specific disability indicators identified in the study have relatively low rates of association with actual developmental delay and should be viewed as *risks* or indicators of a *potential* disability. Low scores on developmental assessments must also be viewed with some caution. Although cognitive delays are generally accepted as an important criterion for eligibility for Part C services, performance on a single measure is usually considered in combination with other available data. Similarly, it should not be assumed that all the children who were identified as having receptive language delays necessarily would have qualified for Part C services. The PPVT-III is not universally accepted as an assessment of children's language development when considering eligibility for Part C programs; even when it is, a score of 1.5 *SD* below the mean would not qualify a child for Part C services in every state.

Examination of the relationships among a variety of disability indicators, including developmental delays, demographic characteristics, and service participation, did point to some additional concerns. For example, children whose parents were part of the group facing the greatest number of risks or who had specific demographic characteristics (e.g., Hispanic background) were among the children most likely to have delayed cognitive or lan-

guage development, but their families were among the families least likely to receive Part C services. Because every child enrolled in the Project began participation before his or her first birthday, recognized needs for speech and language intervention motivated parents with fewer risks to enroll. Parents with fewer demographic risks may have sought some type of services if their child had multiple disabilities that could have affected language capacity.

Overall, these findings illustrate some lack of agreement between parent report of disability indicators and other evidence of these indicators (e.g., report of professionals, assessment identification of developmental delays). Discrepancies between parent report of eligibility for Part C services and reported receipt of those services, as well as between reports of eligibility from parents and EHS staff members, were found. Staff members' reports of service eligibility may have been greater than parents reports because some parents may have been unaware of their children's eligibility; it may even be that some of these families were dually enrolled but failed to distinguish between Part C services and EHS services. Staff members reports corresponded to levels of Part C service receipt reported in the Hilton Foundation study of EHS programs (Sonoma State University, 2002) and recent *Head Start Program Information Reports* (Administration, 2002a, 2003b, 2004). In addition, the gap between eligibility and service receipt may have been due to time lags in getting families into services, the possibility that parents did not understand that they were enrolled in Part C services, or Part C services were declined by parents because they did not believe the additional services would be helpful for their children or themselves (Summers et al. 2001).

Parents also indicated that discussions with their child's physicians did not ameliorate a great lack of awareness regarding developmental delays. Although communication gaps (American Academy of Pediatrics, Committee on Children with Disabilities, 2001; Liptak, 1995), as well as different interpretations of data (La Paro, Olsen, & Pianta, 2002) among the medical community,

other service providers, and parents may not be new, these findings highlight the importance of continued attention to increasing communications among all community partners. Not surprisingly, these efforts may be especially important in facilitating effective communications between service providers and those families most at risk. Although families in the EHS program were highly likely to have had a regular health-care provider (94%–98% at different assessment points), the kinds of contacts children may have had with physicians varied considerably. For example, Hispanic children were less likely than other children to have received regular health care in a private doctor's office (24% vs. 41% of African American children and 48% of White children). Hispanic children were also less likely to have received screening tests (including hearing tests and lead screenings) than other children (59% vs. 77% of African American children and 63% of White children; Administration, 2003a).

Early Head Start programs follow the HS Performance Standards of Head Start in identifying children for Part C services. Furthermore, many EHS programs have undertaken community collaboration efforts or been involved in training activities that have resulted in enhanced integration between EHS and Part C programs at the community level (Administration, 2003c; Sonoma State University, 2002; Summers et al., 2001). For example, staff members at a number of the research sites completed SpecialQuest training. SpecialQuest, also known as the Hilton/EHS Training Program, is a new initiative sponsored by the Conrad Hilton Foundation in partnership with the Head Start Bureau to help communities refine coordination between EHS and Part C providers. SpecialQuest trains community teams to develop systems to identify, refer, and serve children with special needs while remaining sensitive to the specific community context.

The programs participating in the EHS Research and Evaluation Project had established policies for staff members to follow if they identified a concern about a child, and many EHS programs and community partners have also used a variety of strategies to support individual families in seeking or using Part C services. For example, EHS staff members helped parents interpret the required regulations and access Part C services, provided emotional and/or logistical support for families during Part C evaluations and the Individualized Family Service Plan planning process, and also worked directly with Part C professionals to help them establish rapport with families and coordinate their services (Summers, et al., 2001; Wall, 2002). The medical community also has taken steps to impress upon pediatricians the importance of screening for developmental delays, helping their colleagues learn about tools to assist with this process, helping families understand their children's development, and helping their colleagues learn about the early intervention service system (Glascoe & Shapiro, n.d.).

Many families who received Part C services or whose children were eligible for these services were highly engaged in their EHS programs. In the future, EHS program staff members may be able to build on this strength by working with families and the broader service community to identify and further develop the supports that programs can provide—either individually or collectively—to help families who have children with disabilities. For example, EHS program staff members may be able to help families understand the overall early intervention service system and facilitate their participation so as to receive the maximum benefit.

To accomplish this, EHS programs and Part C partners will need to evaluate together how the needs of children with early delays are addressed. The EHS Research and Evaluation Project demonstrated that EHS had positive impacts on participating children and their families. Although the size of these impacts was generally modest, their broad range is encouraging, and the findings from this study point to specific issues that could be addressed. For example, differences between the program group and the control group Bayley MDI scores, which were attributed to program services, were significant but small; it is possible these effects could be enhanced with a greater and earlier focus on developmental delays. Current theory and research on early brain development has emphasized that adequate nutrition, appropriate stimulation; stress reduction; relationship support; and screenings for general health, sensory problems, or motor problems all could help maximize a child's developmental potential (Shonkoff & Phillips, 2000). A very large percentage of the infants and toddlers participating in the Project presented some level of disability indicator; although some of these children would not have qualified for Part C services, it is notable that only a very small proportion of them did receive these services. The fact that larger percentages of children are identified for special education services at later ages (Wolery & Bailey, 2002) raises questions as to whether a much more aggressive approach to early identification needs to be adopted by Part C staffers, EHS staff members, health providers, and other professionals who are offering a variety of services to low-income families with infants and toddlers.

Working together, staff members of EHS programs and Part C partners might take specific steps to work with parents to closely monitor children's development and identify potential delays in cognitive, language, or motor development; sensory impairments; or social-emotional disorders as early as possible during the infant/toddler years. Programs could actively promote child-find efforts to reach underrepresented groups by monitoring screening and assessment efforts and guarding against biases in any aspect of the identification and enrollment process. Specifically, these efforts could include ensuring that all community service providers have access to valid mea-

asures for establishing child eligibility and understanding how to use them. These efforts could also include ensuring that community service providers receive the training and support needed to conduct culturally competent assessments and to communicate effectively with all families. Furthermore, all Part C partners, including EHS program staff members, might work jointly to (a) eliminate barriers to enrolling those families who are at greatest risk and (b) facilitate their sustained participation in services crafted to meet the needs of both child and family. ♦

### AUTHORS' NOTES

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