

# Multi-State Studies of Transition during the Early Childhood Years for Young Children with Disabilities and their Families

## Technical Report 7

Katherine M. McCormick, Ph.D.

Teri Nowak, Ph.D.

Megan Cox, Ph.D.

Sarintha Stricklin, Ph.D.

Sharon Rosenkoetter, Ph.D.

Rena Hallam, Ph.D.

Beth Rous, Ed.D.

Caroline Gooden, M.S.

© 2011 Human Development Institute

For additional copies, contact:

University of Kentucky, Human Development Institute, Early Childhood  
(859) 257-2081

Suggested citation:

McCormick, K., Nowak, T., Cox, M., Stricklin, S., Rosenkoetter, S., Hallam, R., Rous, B., & Gooden, C. (2011). *Multi-State Studies of Transition during the Early Childhood Years for Young Children with Disabilities and their Families. Technical Report 7*. Lexington: University of Kentucky, Human Development Institute, National Early Childhood Transition Center.

NECTC was funded by the [U.S. Department of Education, Office of Special Education Programs](#), Cooperative Agreement # H324V020031. However, the contents do not necessarily represent the positions or policies of the U.S. Department of Education, Office of Special Education Programs, and you should not assume endorsement by the federal government.

## Table of Contents

<b>Abstract</b> .....	<b>7</b>
<b>Introduction</b> .....	<b>8</b>
Research Questions.....	11
<b>Methods</b> .....	<b>11</b>
Sampling Procedures.....	11
Participating States.....	11
Sample Selection Criteria.....	11
Selection of Programs and Providers.....	12
<i>Kentucky</i> .....	51
<i>Louisiana</i> .....	51
<i>Michigan</i> .....	51
<i>Wisconsin</i> .....	52
<i>Selection and Exclusion Criteria of Programs and Providers</i> .....	13
Selection of Children and Families.....	14
<i>For Studies 1 and 5</i> .....	14
<i>For Studies 3 and 4</i> .....	15
<i>For Studies 2 and 4</i> .....	15
Instrumentation.....	15
Project-Developed Tools.....	16
Published Instruments.....	18
Child Assessment Instruments.....	19
Family and Provider Instruments.....	20
Data Collection Procedures.....	22
Data Collectors.....	22
Training for Data Collectors.....	23
Initial Reliability Procedures.....	23
Ongoing Reliability Procedures.....	23
Data Collection.....	24
<i>Child Data</i> .....	24
<i>Family Data</i> .....	24
<i>Provider Data</i> .....	25
<i>Community Data</i> .....	25
Data Analysis.....	25

<b>References</b> .....	<b>26</b>
<b>Acknowledgements</b> .....	<b>34</b>
<b>Appendix A</b> .....	<b>35</b>
Conceptual Model .....	35
Figure 1. NECTC Contextual Factors and Associated Instruments.....	36
<b>Appendix B</b> .....	<b>37</b>
Sampling .....	37
<i>B-1: Description of State Systems during Data Collection         (2003-2007)</i> .....	37
<i>B-2 Description of States</i> .....	38
B-2a: Kentucky .....	38
B-2b Louisiana .....	40
B-2c Michigan.....	42
B-2d Oregon .....	44
B-2e Wisconsin .....	46
<i>B-3: Sampling Frame (Proposed)</i> .....	48
<i>B-4: Sampling Frame (Obtained)</i> .....	49
<b>Appendix C</b> .....	<b>50</b>
Administrative Organization.....	50
<i>Figure 1. Administrative Organization</i> .....	50
<b>Appendix D</b> .....	<b>51</b>
Recruitment .....	51
<i>Figure 4. Recruitment Contacts and Response Rates</i> .....	13
<i>D-1 Sample Initial Mailing Cover Letter (KY)</i> .....	53
<i>D-2 Sample Second Mailing Cover Letter (KY)</i> .....	54
<b>Appendix E</b> .....	<b>55</b>
Advisory Groups .....	55
<i>E-1: Expert Panel</i> .....	55
<i>E-2: Advisory Council</i> .....	57
<i>E-3: Diversity Workgroup</i> .....	58
<b>Appendix F</b> .....	<b>60</b>
Assessment Matrix.....	60
<i>Figure 1: Assessment Instruments</i> .....	60
<b>Appendix G</b> .....	<b>62</b>
Child Measures .....	62

Behavior Assessment System for Children (BASC).....	62
<i>Description</i> .....	62
<i>Published Data</i> .....	62
<i>Normative Samples</i> .....	63
Dimensions of Temperament Scale – Revised (DOTS-R)63	
<i>Description</i> .....	63
<i>Published Data</i> .....	64
<i>Normative Samples</i> .....	64
Dynamic Indicators of Basic Early Literacy Skills (DIBELS)	
.....	65
<i>Description</i> .....	65
Early Math Skills Test .....	66
<i>Description</i> .....	66
<i>Published Data/Normative Sample</i> .....	66
Emergent Literacy Measure (ELM) .....	66
<i>Description</i> .....	66
<i>Published Data/Normative Sample</i> .....	67
Individual Growth and Development Indicators (IGDIs) ...	67
<i>Description</i> .....	67
<i>Published Data</i> .....	67
Merrill-Palmer-Revised (MP-R) .....	68
<i>Description</i> .....	68
<i>Normative Sample</i> .....	68
Peabody Picture Vocabulary Test – III (PPVT-III).....	69
<i>Description</i> .....	69
<i>Published Data</i> .....	69
<i>Normative Samples</i> .....	70
Pediatric Evaluation of Disability Inventory (PEDI).....	70
<i>Description</i> .....	70
<i>Published Data</i> .....	70
Alternative Child Assessment Procedures.....	71
Parent Measures .....	71
Center for Epidemiologic Study Depression Scale (CES-D)	
.....	71
<i>Description</i> .....	71
<i>Published Data</i> .....	71

Early Intervention Services Assessment Scale (EISAS) ..	72
<i>Description</i> .....	72
Family Empowerment Scale (FES) .....	72
<i>Description</i> .....	72
<i>Published Data</i> .....	74
Family Support Scale (FSS) .....	75
<i>Description</i> .....	75
Transition Perceptions of Parents – Adapted (TPP) .....	77
<i>Description</i> .....	77
Project Developed Instruments .....	77
Ecomap .....	78
<i>Description</i> .....	78
Family Interview.....	78
<i>Description</i> .....	78
<i>Published Data</i> .....	80
Provider Measures .....	80
Provider Surveys .....	80
<i>Description</i> .....	80

---



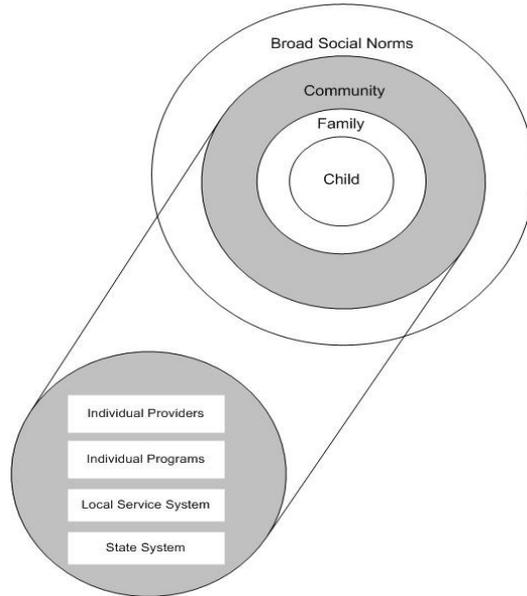
## Abstract

Through funding from the United States Department of Education's Office of Special Education, the National Early Childhood Transition Center (NECTC) began a series of studies to investigate the variables which influence transition during the early childhood years. These factors include child characteristics, family perceptions, community efforts, and program policies that interact to affect the child's adjustment, family's involvement, and the child's early performance in schools. This report includes information regarding recruitment of the sample, instrumentation, data collection procedures, and data analysis for studies across five points in time. From 2003 – 2007, data were collected in multiple states at critical points in the transition process for five cohorts of children with disabilities, their families, and providers. The first four cohorts were collected at exit from early intervention, entry to preschool, exit from preschool, and entry to kindergarten. A fifth cohort included a small longitudinal sample of children, families, and providers for whom data were collected across each of the transition points.

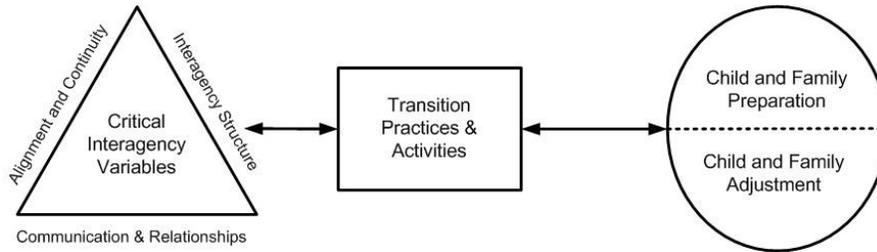
Previous research in transition has demonstrated positive effects resulting from transition policies, procedures, and activities for families, personnel, and programs (Rosenkoetter, Hains, & Fowler, 1994). Child and family adjustment to the transition process appears to be influenced by three broad and critical variables: (a) communication and relationships among people and organizations; (b) transition infrastructure including policies, agreements, procedures, and linkages; and (c) alignment and continuity of services among sending and receiving agencies (Harbin, McWilliam, & Gallagher, 2000; Pianta & Cox, 1999; Ramey & Ramey, 1998; Rosenkoetter et al., 1994; Rous, Hallam, Harbin, McCormick, & Jung, 2007). To date, little research has examined the relationship between the transition experiences of young children with disabilities and later child outcomes or school readiness. It is unclear how factors such as child characteristics, family perceptions, provider attributes, and program policies interact to impact the three critical variables listed above, and in turn, affect the child's adjustment, the family's engagement and involvement, and the child's early performance in school. Even less is known about how these variables influence the transition of children and families from potentially vulnerable populations, such as children from culturally diverse backgrounds or children with significant disabilities.

The National Early Childhood Transition Center (NECTC) conducted a series of multi-state research studies to measure these important dimensions for three groups of children with disabilities: children who transitioned from early intervention to preschool; children who transitioned from preschool to kindergarten; and a longitudinal group of children who transitioned across both of these age periods (age 3 and kindergarten). The studies were designed to describe children, their families, and providers as they exited early intervention (Study 1), entered preschool (Study 2), exited preschool (Study 3), and entered kindergarten (Study 4). A fifth study (Study 5) described the context and transition experiences for a group of children who participated in the study across both transitions. The designs and instrumentation for these studies were guided by the conceptual framework developed by project staff (Rous, Hallam, Harbin, McCormick, & Jung, 2007). A brief description of that framework is described in the next paragraphs and in Figures 1, 2, and 3. For a more detailed description, refer to Rous, Hallam, et al. (2007).

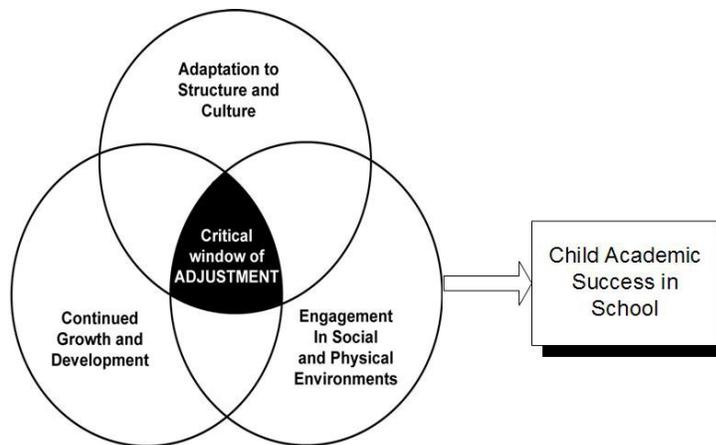
**Figure 1. Ecological Contextual Factors**



**Figure 2. Transition Process**



**Figure 3. Child Adjustment During and After Transition**



Throughout the project, the initial conceptual framework proposed by NECTC researchers was reviewed and refined using published literature in early childhood and early childhood special education. As the project progressed, findings from NECTC studies were also used to inform the conceptual framework. The framework uses Bronfenbrenner's ecological model (1979), which indicates multiple levels of influence on the child's development (Figure 1). This broad framework was further specified by the use of complementary theories: (a) the transactional nature of the child's development (Sameroff & Chandler, 1975; Sameroff & Fiese, 2000); (b) family systems theory (Bowen, 1961); (c) family empowerment theory (Dunst, Trivette, & Deal, 1994); and (d) organization systems theory (Lambert, Collay, Dietz, Kent, & Richert, 1997; Senge, 1990). These theories, along with current research, provided the basis for the framework, which in turn, guided the identification of variables, instrument selection and development, and data collection for all NECTC research activities. This same approach was used for the multi-state studies described here.

The conceptual framework illustrates that characteristics of both the child and family contribute to the proximal outcomes of child and family adjustment and the more distal outcomes of school readiness, family engagement, and family involvement. The conceptual framework also includes contextual and environmental factors (provider, program, and community) that influence the transition process, as well as transition planning and practices. These latter activities are hypothesized to impact the preparation and adjustment of the child and family (Figure 2)). Finally, the contextual and environment factors illustrated in Figure 1 and the transition practices and processes illustrated in Figure 2 influence child outcomes (adaptation to structure and culture, continued growth and development, and engagement in social and physical environments) and academic success in school (Figure 3).

Development and refinement of the conceptual model continued as NECTC project findings were generated, resulting in a final model in January 2008<sup>1</sup>. A graphic representation of the final conceptual model and the instruments used in the current study to measure each of these components is included in Appendix A (Conceptual Model). Congruent with the conceptual framework, four broad research questions guided the study. These questions were grouped using a nested design approach and were aligned with the conceptual framework (child, family, service system-provider and program, and community). The variables within each of the research questions were analyzed both as independent and dependent variables. It was hypothesized that variables might act as both measurable and latent components of the model. In other words, components of the model that were not observed or measured may have affected outcomes for families and children. In cases where latent variables were suspected, proxy measurement variables were computed to analyze the latent concept.

---

<sup>1</sup> Note: The current study and its instrumentation were designed using the initial conceptual model.

## Research Questions

1. What is the relation between *child* factors, transition planning and practices, and child functioning in the post-transition setting?
2. What is the relation between *family* factors, transition planning and practices, and child functioning in the post-transition setting?
3. What is the relation between *provider/program* factors, transition planning and practices, and child functioning in the post-transition setting?
4. What is the relation between *community* characteristics (i.e. metro status, poverty rate), transition planning and practices, and child functioning in the post-transition setting?

## Methods

### Sampling Procedures

**Participating States.** Multi-state studies of transition practices at age 3 and at kindergarten were conducted in five states. These five states were *purposively selected* (Patton, 1990) to represent a diversity of region, size, population density, minority membership, early intervention lead agency, and history of early intervention and special education service provision and delivery. A more detailed description of each state is included in Appendix B (Sampling). The states included were Kentucky, Louisiana, Michigan, Oregon, and Wisconsin. Each state (with the exception of Michigan) was also the home state of a NECTC research team member who coordinated data collection in that state in collaboration with the Co-Principal investigator and project staff at the University of Kentucky (UK). All data collectors were employees of UK or partner institutions (Louisiana State University Health Sciences Center, Oregon State University, and the University of Wisconsin–Milwaukee). Data collection, storage, retrieval, and archival activities were guided by near and far supervision (on-site and at UK) and were completed under written specification and regulation of the Institutional Review Board (IRB) at the partner institutions and at the University of Kentucky. A schematic representation of the administrative organization for the study is included in Appendix C (Administrative Organization).

**Sample Selection Criteria.** Based on the nested research design, recruitment of participants began with the selection of programs and providers to identify a sample pool for a stratified random group of children. Appendix B (Sampling) includes two tables (Tables B-3 and B-4) that show the proposed and obtained sampling frames for all studies. The designation of each cohort is outlined in Table 1.

**Table 1. Cohort Groups**

Study	Children (n)	Families (n)	Providers (n)
Study 1 Exiting EI	206	193	165
Study 2 Entering Preschool	187	187	129
Study 3 Exiting Preschool	333	333	85
Study 4 Entering K	210	210	112
Study 5 Longitudinal	96	90	19

### **Selection of Programs and Providers.**

Recruitment efforts were launched in all states by initial contact with state-level early intervention administrators. This approach allowed project staff to gain state support for data collection efforts as well as to design a recruitment process that was sensitive to variability in state early intervention systems. Each state's early intervention coordinator either provided a list of programs to contact or made an initial contact with the programs via newsletters or other media outlets explaining NECTC's work. This initial contact was followed by mail contact to all early intervention programs and providers within each of the five study states to recruit providers and families. State NECTC research coordinators developed cover letters that were printed on their university letterhead (e.g., Oregon State University). NECTC demographic surveys for providers to disseminate to families were attached (see Appendix D—Recruitment Cover Letter and Survey). During recruitment, state NECTC research coordinators (in collaboration with state agency personnel) made state-specific decisions with regard to the adequacy and representativeness of the sample obtained through individual state mailings. Overall, 1,031 programs/providers were contacted across the five target states with 359 programs agreeing to participate (34.8%). Figure 4 shows the differences in programs/providers initially contacted across states and the resulting response rates<sup>2</sup>. These differences reflect the differences in the state early intervention systems. The individual efforts within each state are described in the Appendix D.

---

<sup>2</sup> Note: during the period of data collection (2003- 2007), Kentucky used a vendor-based early intervention system, while the other states used systems that were more agency-based. Including a vendor system state greatly increased the number of providers who were contacted.

**Figure 4. Recruitment Contacts and Response Rates**

States	Surveys Sent	Surveys Returned	Final Sample Of Programs / Providers
Kentucky	790	63%	53 urban 62 rural
Louisiana	65	35%	14 urban 7 rural
Michigan	66	26%	2 urban 15 rural
Oregon	38	74%	7 urban 13 rural
Wisconsin	72	44%	8 urban 10 rural

*Selection and Exclusion Criteria of Programs and Providers.* From the sampling pool of programs within each state, the NECTC Principal Investigators and coordinator selected the program sample. Program selection for each state was stratified based on community/population size (urban/rural). Selection occurred in 4 of the 5 states during the last week of August 2003, and in Michigan during the last week of November 2003.

The following **selection criteria for programs** were used:

1. Programs serving less than 10 children were excluded from the sample pool.
2. Programs with missing data for the stratification variable (urban/rural) were excluded from the sample pool.
3. Demographic variables of race (Native American, Asian/Pacific Islander, African American, Hispanic and Anglo-European) and community/population size (urban/rural) were used to stratify the sample based on state proportions.

Targeted recruitment began with Study 1 through recruitment of direct service providers using the criteria above. When children exiting preschool were recruited for Study 3, a similar procedure was followed; schools were recruited first to establish a sample pool from which preschool children were then randomly selected. The first schools contacted were those sites where children in the earlier studies were enrolled. In order to respond to participant attrition, a small number of participants were also added from established sites during Studies 2 and 4. Participants in the longitudinal study were selected as they exited from early intervention and followed through each transition to kindergarten.

## Selection of Children and Families

Participation in Study 1 (see Table 1) was limited to those children from established sites who were receiving at least one early intervention service and were eligible for these services based on state disability guidelines, and was used as the basis for sampling in Studies 2, 3, and 4. Eligibility definitions for early intervention for each of the participating states are included in the state profiles in Appendix B (Sampling). Eligible children and their families were randomly chosen from NECTC selected programs based on urbanicity/rurality in each of the five participating states using a stratified random sampling procedure. Participation in Study 2 (entry to preschool) was not contingent on eligibility for preschool special education.

For selected children, race (Native American, Asian/Pacific Islander, African American, Hispanic, and Anglo-European) was used to stratify the child sample based on the most current data at that time (1999-2000) from the Individuals with Disabilities Education Act (IDEA) child count data for each state (IDEA, 2004). The targeted number of children selected in each state was based on an aggregation of demographic information from all five states. To ensure representation across ethnically diverse populations, oversampling percentages were computed for Hispanic/Latino, Native American/Alaskan Native, and Asian/Pacific Islander populations. The proposed and obtained sampling frames are included in Appendix B, Table B-3. The obtained sampling for each cell is included in Appendix B, Table B-4. Two comparisons were made between proposed and obtained samples. First, t-tests were conducted to determine the difference between the targeted state samples (IDEA mean percentages by racial category) and the NECTC obtained sample (mean percentages by racial category). The analysis indicated that oversampling was successful, as the racial composition of the obtained samples was equivalent to the racial composition of each state. However, significant differences existed between the proposed sample and obtained sample when percentages were aggregated across states. Specifically, Native American/Alaskan Native and Hispanic categories were less represented in the obtained sample than in the proposed sample, while the Anglo category was more heavily represented in the obtained sample than the proposed. Because of this discrepancy, case studies were conducted to provide additional information about the transition experience for children of color and their families.

### *For Studies 1 and 5 (Exit from Early Intervention and Longitudinal Study)*

**Selection** criteria were developed by NECTC staff and Research Team members. Initially, five children were drawn from every participating program; additional children were chosen until a representative state sample was obtained. No more than 20% of any single racial group was drawn per program, except when 20% of the total number of children in that group represented less than one child.

Participants for Study 1 (exit from early intervention) were recruited from the pool of children and families identified by participating early intervention providers. Participants for Study 2 were recruited from Study 1 children after their transition to preschool.

Participants for the longitudinal study (Study 5) were recruited for nine months during 2003-2004. Only children whose birthdate occurred before the date each state uses for kindergarten entrance were selected to insure consistent time in study and similar transition dates. The cut-off dates for entrance to kindergarten in each state were as follows:

- Wisconsin and Oregon: September 1
- Louisiana: September 30
- Kentucky: October 1
- Michigan: December 1

*For Studies 3 and 4 (Exit from preschool and entry to kindergarten)*

**Selection** criteria for the children who were exiting preschool (Study 3) and entering kindergarten (Study 4) were as follows:

- 1.) The demographic variables of race (Native American, Asian/Pacific Islander, African American, Hispanic and Anglo-European) and community/population size (urban/rural) were used to stratify the sample based on state proportions as described above.
- 2.) The children who exited early intervention in Study 1 were used as the basis for the sampling for Studies 2, 3, & 4. Specifically, the school districts that served the children who exited early intervention (Study 1) were identified and served as the pool from which the preschool and kindergarten samples were drawn.

Teachers within local school districts were the unit at which the sample was drawn for Study 3 (and consequently Study 4), using a two-pronged approach:

- 1.) Teachers who had served participating children (Studies 1 and 2) were contacted first to determine if they had other 4-year-olds with disabilities in their classroom or on their caseload.
- 2.) If these teachers had less than three 4-year-olds who turned 5 during spring/summer 2005, then the NECTC research coordinator sought other teachers at that same school with 4-year-olds who would transition in the spring/summer 2005.
- 3.) If needed, the NECTC project coordinator also contacted a third group of teachers in neighboring schools who were employed by the same agency/school as the teacher identified in #1. In this way, sample selection moved from the original teacher to her colleagues in the same school, and then to colleagues in the same community/district/agency.
- 4.) Children selected for participation in Studies 3 and 4 were proportionate in number to those for Studies 1 and 2.

*For Studies 2 and 4 (To replenish the sample)*

Data coordinators returned to their original sample pool of programs/providers and contacted those programs/providers between December 2006 and March 2007 to recruit additional participants for Study 2. Sample selection procedures for Study 2 were identical to those used for Study 1. For Study 4, recruitment procedures followed those used in Study 3.

### **Instrumentation**

In the first year of the project, prior to and following the grant award, NECTC research team members collaborated with members from the NECTC Expert Panel, Advisory Council, Diversity Workgroup, Office of Special Education Programs (OSEP) staff, and other experts in early

childhood research and assessment to identify appropriate instrumentation for the study. Please see Appendix E (Stakeholders) for descriptions of these groups and memberships. Attention to instrumentation was particularly important because of the complexity of the state early intervention service delivery systems and the diversity of the population of children eligible for services within each participating state. A complete list of the instruments selected or developed are included in Appendix F (Instrumentation). Also included in Appendix F is a description of each instrument and the study in which it was used.

In the initial phases of the study, NECTC research staff reviewed existing published (e.g., *Peabody Picture Vocabulary Test-Third Edition*, Dunn & Dunn, 1997; *Merrill-Palmer-Revised*, Roid & Sampers, 2004) and project-developed instruments from prior federally-funded projects (e.g., Early Childhood Longitudinal Study, U.S. Department of Education, 1999; National Early Intervention Longitudinal Study, SRI, 1997). Multiple factors influenced instrumentation decisions. First, it was acknowledged that to address the nested research questions, multiple assessment strategies (direct assessment, rating scales, interviews, and surveys) and multiple respondents (parents, providers, program directors, and community representatives) were necessary to provide the most comprehensive and valid information possible. Second, since project resources were limited, some preferred assessment strategies (e.g., observation of child functioning) were replaced by more cost-effective approaches (e.g., survey or interview of knowledgeable source). Third, to ensure fidelity across multiple data collectors, tools with strong psychometric properties and wide-spread use were given first consideration. Fourth, some project-developed instruments were necessary to measure variables not available in published or previously developed research. Fifth, consideration was given to instruments used in previous studies, to enable researchers to compare findings and sample characteristics for a common set of variables (i.e., early intervention services) using a shared set of items.

**Project-Developed Tools.** With permission from their authors, NECTC researchers developed surveys containing selected items from measures used in large scale studies. The studies included the Early Childhood Longitudinal Study (ECLS Birth & Kindergarten Cohorts; USDOE, 1999); the Head Start Family and Child Experiences Survey (FACES; U.S. Dept of Health and Human Services, 2000); the National Early Childhood Development and Learning (NCEDL, 2001); the National Early Intervention Longitudinal Study (NEILS; SRI, 1997); and the Pre-Elementary Education Longitudinal Study (PEELS, NCSER, 2002). Additional items for project-developed surveys were identified from measures developed for research studies and included *My Thinking About Inclusion Scale* (Stoiber, Gettinger, & Goetz, 1998); the *Berkeley-Yale Telephone Interview for Child Care Centers* (Holloway, Kagan, Fuller, Tsou, & Carroll, 2001); the *Student-Teacher Relationship Scale* (Pianta, 1992); and the *Teacher Rating Scale of School Adjustment* (Birch & Ladd, 1997).

Participant Individualized Family Service Plans (IFSPs) and Individual Education Programs (IEPs) were collected and coded to provide information about the process of service decisions, providers and delivery of services. An IFSP Coding Form was developed to evaluate each IFSP as it related to supporting the child and family through the transition from early intervention into early childhood special education services. The Coding Form (1) specified the number of long term and short term objectives across developmental domains, (2) noted whether there was documentation of a transition meeting, (3) verified the presence of a transition plan and (4)

examined the mandated components: (a) family involvement, (b) child preparation and adjustment, (c) knowledge of program options, and (d) transfer of records and planning for official referral to next environment. These mandated components were coded using three responses: 1) Yes, explicitly stated; 2) Unclear, incomplete, or not explicitly stated; 3) No, not included in the IFSP.

Project-developed instruments were first piloted by consumers (i.e., family members and providers), revised based on their feedback, and disseminated to state NECTC research coordinators in August 2003. A comprehensive Family Interview Survey was developed to gather family demographics and families' perceptions of their transition experience. The last section of the Family Interview changed with each study (at exit from early intervention, entry to preschool, exit from preschool, and entry to kindergarten) to reflect the changes in the environment and the maturation of the child. Revisions in formatting (e.g., addition of more engaging graphics) were made to selected project-developed surveys. Specifically, the family interview was revised in 2004 and in 2005. The provider surveys were revised in May 2006.

Table 2 provides a list of the project-developed tools used to gain information for child, family, provider, and community variables. Many surveys had two parts: Part A included information about the provider and program, while Part B included information specific to the target child.

**Table 2. Project-Developed Instruments Summary**

Family Forms	
<p><b>Family Interview</b></p> <ul style="list-style-type: none"> <li>• <i>About Your Family: Adults</i></li> <li>• <i>About Your Family: Children</i></li> <li>• <i>Foster Care</i></li> <li>• <i>About Your Child's Health and Well Being</i></li> <li>• <i>Child Care Arrangements</i></li> <li>• <i>About Child and Family Needs</i></li> <li>• <i>Income and Public Support</i></li> <li>• <i>Evolving Section; Study-Specific</i></li> </ul>	<p><b>Family Interview Components</b></p> <ul style="list-style-type: none"> <li>• <i>Child Care, Preschool and Other Programs</i></li> <li>• <i>Child's Mobility and Plans to Move</i></li> <li>• <i>Family Services and Perceptions</i></li> <li>• <i>Inclusion</i></li> <li>• <i>Income and Public Support</i></li> <li>• <i>IFSP Process and Early Intervention Services</i></li> <li>• <i>Transition Processes, Practices, and Perceptions</i></li> </ul>
Provider Forms	
<p><b>Provider Survey A, Center-Based Care</b></p> <ul style="list-style-type: none"> <li>• <i>Program Characteristics</i></li> <li>• <i>Transition Processes, Practices, and Perceptions</i></li> <li>• <i>Program Quality</i></li> <li>• <i>Caregiver Beliefs and Attitudes</i></li> <li>• <i>Provider Characteristics</i></li> </ul>	<p><b>Provider Survey B, Center-Based Care</b></p> <ul style="list-style-type: none"> <li>• <i>Care for Focal Child</i></li> <li>• <i>Family Involvement</i></li> <li>• <i>School Adjustment</i></li> </ul>

## Provider Forms

<p><b>Family Child Care Provider Survey A</b></p> <ul style="list-style-type: none"> <li>• <i>Program Characteristics*</i></li> <li>• <i>Transition Processes, Practices, and Perceptions</i></li> <li>• <i>Caregiver Beliefs and Attitudes</i></li> </ul>	<p><b>Family Child Care Provider Survey B</b></p> <ul style="list-style-type: none"> <li>• <i>Care for Focal Child</i></li> <li>• <i>Family Involvement</i></li> </ul>
<p><b>Early Intervention Provider Survey A</b></p> <ul style="list-style-type: none"> <li>• <i>Client Characteristics</i></li> <li>• <i>Early Intervention Services</i></li> <li>• <i>Transition Practices and Perceptions</i></li> <li>• <i>Caregiver Beliefs and Attitudes about Inclusion</i></li> <li>• <i>Provider Characteristics</i></li> </ul>	<p><b>Early Intervention Provider Survey B</b></p> <ul style="list-style-type: none"> <li>• <i>Care for Focal Child</i></li> <li>• <i>Family Involvement</i></li> </ul>
<p><b>Service Coordinator Survey A</b></p> <ul style="list-style-type: none"> <li>• <i>Program Characteristics</i></li> <li>• <i>Transition Processes, Practices, and Perceptions</i></li> <li>• <i>Caregiver Beliefs and Attitudes</i></li> <li>• <i>Provider Characteristics</i></li> </ul>	<p><b>Service Coordinator Survey B</b></p> <ul style="list-style-type: none"> <li>• <i>Care for Focal Child</i></li> <li>• <i>Other Issues</i></li> <li>• <i>Family Involvement</i></li> </ul>

## Administrator Forms

### Administrator Survey

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• <i>About Your Center/Program</i></li> <li>• <i>About the Services Your Center/Program Provides</i></li> <li>• <i>About the EI Services at your Center/Program</i></li> <li>• <i>About Your Transition Process and Practices</i></li> </ul> | <ul style="list-style-type: none"> <li>• <i>About Your Philosophy on Inclusion</i></li> <li>• <i>About Your Staff</i></li> <li>• <i>About EI Services in Your Area</i></li> <li>• <i>About You as the Administrator</i></li> </ul> |
|---|--|

\* Instrument used across studies if children did not exit family child care

**Published Instruments.** Many of the instruments in the current study are standardized norm-referenced tools which provide a high level of psychometric integrity and allow multiple comparisons across ages, children, and programs. NECTC staff and experts representing multiple disciplines (i.e., school psychology, child development, and early childhood special education) provided input in selecting the child assessment tools using expertise in (a) assessment of young children with disabilities, (b) available tools for this population, and (c) measurement attributes of tools selected. Staff and experts met over a number of months (before and following proposal development, submission, and funding) to select the assessment

tools and procedures to be used in the study. The resulting test battery represents the best available tools at the time and within the resource limitations of the project.

A comprehensive battery of assessments was administered at two data points; at exit from early intervention and exit from preschool to document child status across developmental domains (cognition, communication, social-emotional, adaptive, and physical) and to provide a standardized metric to establish the status of participants, regardless of reported disability status. It was determined by NECTC researchers and assessment consultants that general child status would not be influenced or changed substantially by the transition process, nor would significant changes occur in growth and development during the period of transition (3 to 6 months); therefore, this battery of assessments was not repeated following transition (Studies 2 & 4). However, in congruence with the conceptual model, communication, social-emotional, and adaptive skills were hypothesized to be influenced by the transition process. Therefore, these domains were assessed for each of the studies, both before and after transition (exit from early intervention, entry to preschool, exit from preschool, and entry to kindergarten).

**Child Assessment Instruments.** At exit from early intervention, the *Merrill-Palmer Scales of Development-Revised* battery (MP-R; Roid & Sampers, 2004) was administered to all participating children. This assessment provided a comprehensive evaluation of child functioning and was not administered at subsequent data points. Three additional assessments were administered across the transition process, including (a) the *Peabody Picture Vocabulary Test, Third Edition* (PPVT-III; Dunn & Dunn, 1997); (b) *Merrill-Palmer Expressive Language* (Roid & Sampers, 2004); and (c) a project-developed literacy measure (*Emergent Literacy Measure*) adapted from the FACES battery (USDHHS, 2000). Three tools were added to the battery for Studies 3 and 4 (at kindergarten) to assess the more complex language, literacy, and mathematical skills found at this age. These tools were the (a) *Individual Growth and Development Indicators* (IGDIs; ECRI - MGD, 2004); (b) *Early Math Skills Test* (Zill, 2003); and (c) *Letter Naming Fluency subtest of the Dynamic Indicators of Basic Early Literacy Skills* (DIBELS; Kaminski & Good, 1996). In addition to these direct child assessment tools, family members and providers completed two rating scales to assess children's behavior and temperament: the *Behavior Assessment System for Children* (BASC) Teacher Rating Scale (TRS) and Parent Rating Scale (PRS) (Reynolds & Kamphaus, 1992); and the *Dimensions of Temperament – Revised* (DOTS-R; Windle & Lerner, 1999). Questions describing child behavior and attributes also were included in the family and teacher/provider interviews and surveys. An overview of this set of measures is included in Table 3. These tools are also described in detail in Appendix G (Assessment Instruments).

**Table 3. Child Assessment Instruments**

Instrument	<sup>1</sup> Location of Administration	Type of Administration	Reported in Study
<i>Behavior Assessment System for Children, Parent Report Scales</i> (BASC - PRS; Reynolds & Kamphaus, 1992)	Home	Norm-referenced survey	Studies 1-5

Instrument	<sup>1</sup> Location of Administration	Type of Administration	Reported in Study
<i>Dimensions of Temperament-Revised</i> (DOTS-R, Child; Windle & Lerner, 1999)	Home	Survey	Studies 1, 3, & 5
<i>Early Math Skills Test</i> (Zill, 2003)	Home or Center	Performance-based assessment	Studies 3, 4, & 5
<i>Emergent Literacy Measure</i> (ELM; NECTC, 2003, adapted from Print and Story Concepts, HHS, 2000)	Home or Center	Project- developed tool (adapted from FACES; HHS, 1998)	Studies 1- 5
<i>Individual Growth and Development Indicators</i> (IGDIs; Early Childhood Research Institute on Measuring Development and Growth, 2004)	Home or Center	Performance measures	Studies 3, 4, & 5
<i>Letter Naming Fluency subtest of the Dynamic Indicators of Basic Early Literacy Skills</i> (DIBELS; Kaminski & Good, 1996)	Home or Center	Performance measures	Studies 3, 4, & 5
<i>Merrill Palmer Scales of Development -Revised</i> (MP-R; Roid & Sampers, 2004) Cognitive	Home or Center	Norm-referenced direct child assessment tool	Studies 1 & 5
<i>Merrill Palmer Scales of Development –Revised</i> (MP-R; Roid & Sampers, 2004) Self-Help	Home	Norm-referenced direct child assessment tool	Studies 1 & 5
<i>Merrill Palmer Scales of Development -Revised</i> (MP-R; Roid & Sampers, 2004) Expressive Language Evaluator Report	Home or Center	Norm-referenced observation by examiner	Studies 1 - 5
<i>Merrill Palmer Scales of Development -Revised</i> (MP-R; Roid & Sampers, 2004) Expressive Language Parent Form	Home	Norm-referenced survey	Studies 1 - 5
<i>Merrill Palmer Scales of Development –Revised</i> (MP-R; Roid & Sampers, 2004) Motor	Home or Center	Norm-referenced tool	Studies 1 & 5
<i>Peabody Picture Vocabulary Test-Third Edition</i> (PPVT-III; Dunn & Dunn, 1997)	Home or Center	Norm-referenced direct assessment tool	Studies 1 - 5

<sup>1</sup> Instruments administered at home unless parent indicated need or preference for other arrangements.

**Family and Provider Instruments.** A second set of tools was used to provide information about family and provider variables. With the exception of one tool (the *Ecomap*) and one interview, these consisted of self-report rating scales. The *Ecomap* (Hartman, 1978) was administered in a semi-structured interview and was part of the first visit with families. This tool provides a mechanism for the family member to share information about their family with the data collector through the use of a graphic illustration. This activity provided an opportunity to establish rapport and to gain knowledge of the social support and network available to the family in a format which was not solely dependent on oral language. A coding form was developed by

NECTC research staff to quantify family responses obtained using the *Ecomap*. The coding form included information for 3 categories: (a) relationship of the person providing the support (e.g., father, grandmother, friend, physician, primary early intervention or special education provider); (b) type of support (e.g., formal kinships, social organizations, professional services); and (c) frequency of support (e.g., daily, weekly, monthly, as needed). Interrater reliability of coding was maintained at greater than 80% between two coders for a sample of 20%.

After completing the *Ecomap*, families completed the *Early Intervention Services Assessment Scale* (EISAS; Aytch, Cryer, Castro, & Selz-Campbell, 2004), the *Family Support Scale* (FSS; Dunst, Trivette, & Jenkins, 1988), the *Family Empowerment Scale* (FES; Koren, DeChillo, & Friesen, 1992) and the *Center for Epidemiological Studies – Depression Scale* (CES-D; Radloff, 1977). A family interview (developed by project staff and researchers) was also completed with family members. An adapted form of the *Transition Perceptions of Parents* (TPP; adapted from Innocenti, Judd, & Taylor, 1998) was used to gain specific information about transition practices. Providers also completed alternate forms of many of the same rating scales such as the *Behavior Assessment Scale for Children – Teacher Report Scale* (BASC - TRS; Reynolds & Kamphaus, 1992) the *Transition Perceptions of Providers* (TPP; Innocenti, Judd, & Taylor, 1998) and the *Early Intervention Services Assessment Scale* (EISAS; Aytch, Cryer, Castro, & Selz-Campbell, 2004). Most often, providers completed these rating scales and surveys independently and returned them by mail or hand delivery. These instruments are listed in Tables 4 and 5.

**Table 4. Family Instruments**

Assessment Tool	<sup>1</sup> Location of Administration	Type of Administration	Reported in Study	
<i>Ecomap</i> (Hartman, 1978)	Home	Semi-structured interview	Studies	1 & 5
<i>Early Intervention Services Assessment Scale</i> (EISAS; Aytch, Cryer, Castro, & Selz-Campbell, 2004)	Home	Survey	Studies	1, 2, & 5
<i>Family Support Scale</i> (FSS; Dunst, Trivette, & Jenkins, 1988)	Home	Survey	Studies	1 - 5
<i>Family Interview</i> (NECTC, 2003)	Home	Semi-structured interview	Studies	1 - 5
<i>Family Empowerment Scale</i> (FES; Koren, DeChillo, & Friesen, 1992)	Home	Survey	Studies	1 - 5
<i>Center for Epidemiological Studies Depression Scale</i> (CES-D; Radloff, 1977)	Home	Survey	Study	1 & 5
<i>Transition Perception of Parents</i> (TPP; adapted from Innocenti, Judd, & Taylor, 1998)	Home	Survey	Studies	2, 4, & 5

<sup>1</sup> [Note: Administered at home unless parent indicated need or preference for other arrangements.]

**Table 5. Provider Instruments**

Instrument	Type of Administration	Reported in Study
<i>Behavior Assessment Scale for Children, Teacher Report Scales</i> (BASC-TRS; Reynolds & Kamphaus, 1992)	Norm referenced survey	Studies 1 - 5
<i>Dimensions of Temperament – Revised, Adult</i> (DOTS-R, Adult; Windle & Lerner, 1999)	Survey	Studies 1, 2*, & 3
<i>Early Intervention Services Assessment Scale</i> (EISAS; Aytch, Cryer, Castro, & Selz-Campbell, 2004), <i>Assessment Services</i>	Survey	Studies 1, 2, & 5
<i>Early Intervention Provider Survey A</i> (NECTC, 2003)	Project-developed Survey	Studies 1 & 5**
<i>Early Intervention Provider Survey B</i> (2003)	Project-developed Survey	Studies 1 & 5**
<i>Pediatric Evaluation of Disability Inventory</i> (PEDI; Haley, Coster, Ludlow, Haltiwanger, & Andrellos, 1992).	Norm referenced survey	Studies 3 – 5***
<i>Provider Survey A, Center or Teacher/Provider Survey A</i> (NECTC, 2003)	Project-developed Survey	Studies 1 – 5**
<i>Provider Survey B, Center or Teacher/Provider Survey B</i> (NECTC, 2003)	Project-developed Survey	Studies 1 – 5**
<i>Provider Survey A, Family Child Care</i> (NECTC, 2003)	Project-developed Survey	Studies 1, 2, 5**
<i>Provider Survey B, Family Child Care</i> (NECTC, 2003)	Project-developed Survey	Studies 1, 2, & 5**
<i>Special Needs Provider Survey, A</i> (NECTC, 2003)	Project-developed Survey	Studies 2 & 5**
<i>Special Needs Provider Survey, B</i> (NECTC, 2003)	Project-developed Survey	Studies 2 & 5**
<i>Transition Perceptions of Providers</i> (TPP; Innocenti, Judd, & Taylor, 1998)	Survey	Studies 2, 4, & 5

\*[Note: DOTS-R not given in Study 2 if provider did not change from Study 1]

\*\*[Note: Only one provider survey was given per study, except when child received services from more than one provider (e.g., Head Start in the morning and family child care in the afternoon)]

\*\*\*[Note: PEDI used only with children with significant cognitive and/or physical disabilities]

## Data Collection Procedures

**Data Collectors.** NECTC research coordinators recruited data collectors from each state. The training backgrounds of data collectors were most often from the disciplines of early childhood, early childhood special education, family studies, human development, school psychology, and speech and language pathology. Across five states, a total of 32 data collectors were trained; 28 collected data in their respective states beginning December 2003 and concluding February 2007. Two NECTC research team members also participated in data collection.

**Training for Data Collectors.** Data collection training was held for NECTC research coordinators from each state and conducted by NECTC research team members in August 2003 and September 2004. The first training was 2 ½ days and focused on a review of the data collection manual including procedures, forms, and assessment instruments for Studies 1 and 2. Following training, the NECTC research coordinators returned to their respective states to become proficient in the reliable administration of each assessment instrument. Once reliable, they then trained data collectors in their states. The Wisconsin NECTC research coordinator also trained data collectors in Michigan. The second training (instrumentation for Studies 3 and 4) was conducted across 1 ½ days and included data collection updates of procedures, forms, and the addition of literacy and math instruments. All NECTC research coordinators met criteria for reliability on the two additional instruments by the end of the training. Both training sessions included participation from instrument authors and researchers familiar with the tools.

**Initial Reliability Procedures.** Each NECTC research coordinator acted as anchor for data collectors in their respective state(s) and participated in initial and ongoing reliability procedures. To ensure that accurate standardized procedures were followed, the research coordinators and data collectors submitted taped administrations of the instruments to NECTC staff at UK who were skilled in the administration of the assessments. Videotapes typically contained a recording of the administration of (1) *The Peabody Picture Vocabulary Test-Third Edition* (PPVT-III; Dunn & Dunn, 1997), (2) *Merrill-Palmer-Revised* (MP-R; Roid & Sampers, 2004) *Cognitive and Motor*, and the (3) *Emergent Literacy Measure* (ELM; NECTC, 2003) for a child between the ages of 2 ½ to 3 years of age. For Studies 3 and 4, the video included the (1) PPVT-III (Dunn & Dunn, 1997); (2) ELM (NECTC, 2003), (3) *Individual Growth and Development Indicators* (IGDIs; Early Childhood Research Institute on Measuring Growth and Development, 2004); (4) *Early Math Skills Test* (Zill, 2003), and (5) *Letter Naming Fluency* subtest of the *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS; Kaminski & Good, 1996). Research coordinators alternated methodology between directly observing data collection, and viewing a videotape of the data collector to independently score the protocol prior to sending it to UK for reliability checks. State research coordinators provided technical assistance to the data collector as needed. The criterion for adequate initial and ongoing reliability was 90%. The data collection reliability forms included multiple items related to test administration (e.g., “put the child at ease and developed rapport with child”, “began at correct points in subtest”, “timed items correctly”), and are available upon request at <http://www.hdi.uky.edu/NECTC/Home.aspx>. The rating scale for each item was: 1 (*needs improvement*), 2 (*adequate*), and 3 (*excellent*). Space was provided on the form for written comments.

**Ongoing Reliability Procedures.** Standardization practices are vulnerable to a number of threats; thus, it was anticipated that data collector test administration could change over time. Data collectors might develop standardization procedures unique to their state (based on their interactions/answers to procedural questions) or sites, forget specific standardization procedures, or simply neglect to follow them. Some of these threats cannot be controlled; however, NECTC research staff developed and utilized multiple techniques to respond quickly to correct procedures back to standardization level.

The protocols of data collectors across sites and across time were randomly sampled to assess procedural drift. During data collection, each NECTC research coordinator collected reliability data for a sample of 10% of the children per data collector per study, using a random start from a table of random numbers. If reliability was maintained, no further steps in the ongoing reliability process were needed. If reliability was not maintained (i.e., a score of 89% or lower on any of the measures), the research coordinator and data collector developed a specific, written plan of action that identified actions the data collector needed to take to regain reliability. In addition to random reliability checks, the NECTC project coordinator visited each state and site multiple times and maintained communication with research coordinators and collectors through monthly conference calls, web-based training, and various modes of technical assistance. The data collection manual also provided resources for fidelity in data collection and procedures. The manual was developed for the initial training in August 2003 and was amended with each study. The complete Data Collection Manual is available upon request.

## Data Collection

*Child Data.* Data were collected for the five studies across two transitions (exit from early intervention and entry to preschool; exit from preschool and entry to kindergarten). The longitudinal study data (Study 5) were collected across all four of these data collection points (exit and entry following transition at 3 and kindergarten). For Study 1, data collection occurred prior to the child's third birthday (between 2 year, 6 months and 2 years, 9 months of age, when the transition process should have been initiated). Study 2 data collection began approximately 3 months after the participant's third birthday (between 3 years, 3 months and 3 years, 6 months) so that children would have time to adjust to their new environments/programs. Although children who celebrate their birthdays in the spring and summer often do not receive services until the fall, data for these children were collected using the same timeline (between 3 to 6 months after the third birthday) to potentially capture any problems related to this delay (e.g., disruption of services, adjustment to new environments). For children participating in Study 3, data were collected approximately 3 months prior to participants' exit from preschool; and for Study 4 (entering kindergarten) data were collected between 3 to 4 months after participants began attending kindergarten.

For data collection prior to the child's third birthday (Study 1), early intervention programs and providers were the first point of contact. For the post 3-year-old transition (Study 2) and the pre-kindergarten transition (Study 3), preschool personnel served as the point of contact. Finally, data collectors worked with kindergarten teachers for the post-kindergarten transition (Study 4). Data were collected for child, family, services, and community variables from multiple data sources including children, their family members or primary caregivers, service providers, and administrators.

*Family Data.* Data were collected from children and families in a face-to-face approach, while data from providers and administrators were obtained through surveys and questionnaires. In order to maintain confidentiality and compliance with IRB restrictions, NECTC data collectors did not have access initially to children's and families' names or contact information. Thus, families were first contacted by the child's service provider who provided a brief description of the project, a letter explaining the study, and a release of information form. Once NECTC staff

received signed release of information forms from parents, data collectors contacted families directly to discuss the study and to schedule a visit. The early intervention provider in Study 1 was invited to accompany the data collector on the first visit to assist the family with feeling comfortable about their participation in this study. Written scripts for the initial telephone call and for the first visit promoted a consistent data collection process across multiple sites, and are available upon request. If the family agreed during the first visit to participate in the study (by signing the consent form), the data collector began obtaining information. Data collectors began with the rapport-building activity of developing an *Ecomap* with the parent or primary caregiver (see <http://www.hdi.uky.edu/NECTC/Home.aspx> for script). Due to the amount of data collected from families and children, data collection most often occurred across two visits, typically in the child's home. To facilitate data collection and transfer of data from each state data collector, a child booklet (available on website) was used to provide a mechanism for managing multiple protocols. Incentives were offered to participating families as a token of appreciation. Families received a \$10.00 check and children received age-appropriate books. Other project-endorsed items (e.g. magnets, pens, post-it notes) also were given to participating families and providers.

**Provider Data.** The data coordinator in each state was responsible for collecting provider data; in some states, data collectors carried out this activity. Initial contact was typically by telephone to discuss the project, request participation, and provide information about the materials to be completed. A script was developed to provide uniformity in data collection across states (available upon request). Once providers verbally agreed to participate, a packet containing a cover letter, surveys, and a postage-paid return envelope was sent. A second phone call was made approximately one week later, to guide providers through the packet, to answer any questions, and to serve as a reminder to complete the packet. For Studies 3, 4, and 5, when schools were in session, data collectors were many times physically present for data collection, and were able to encourage teachers to complete the study packets. When a completed packet was returned, it was reviewed for completeness. The provider was sent a thank-you card and their name was entered into a monthly drawing for a box of early childhood materials valued at \$100.00. Additional contacts with service providers were made (e.g., visits and emails) to obtain other information (e.g., IFSPs, program transition documents for each data collection point before and after transitions) once parent permission was obtained.

**Community Data.** NECTC staff used extant documents (federal, state, and local) and census data to provide a contextual description of the communities in which participants lived. This information included population data for race, unemployment, poverty, and urbanicity.

**Data Analysis.** Following data collection, data were mailed to UK project staff according to procedures approved by the IRB at UK and each university partner. All assessments were scored at UK to facilitate reliability in scoring. State identifiers were removed from the data and all data were compiled into one database. Quantitative data were entered into Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL). Data were also analyzed qualitatively, using NVivo (QRS International, 2003). For each of the standardized instruments (PPVT-III, MP-R, BASC), standard scores were calculated by NECTC staff using published data entry programs. Those standard scores were then entered into SPSS. IFSPs and IEPs were coded using NECTC-developed coding forms for transition components and information.

Quantitative data were entered into SPSS. Following entry of all data, each variable was examined for skewness, kurtosis, and distribution. Outliers were identified as any variable that was greater than three standard deviations from the mean. Data that contained any outliers were checked to ensure data entry reliability and then removed from the data set prior to analysis.

Following the finalization of the conceptual model in December 2007, NECTC researchers mapped each item from each of the instruments to variables within the conceptual model (Appendix A). This procedure was done using two sets of independent coders who maintained reliability at the .90 level. Data were again investigated at the item level for congruence with the theoretical and conceptual models, to ensure that the scaffolding of variables matched the intent of the model.

Data were then analyzed using the nested design of the model: child, family, provider, program, services, and community. Each group was analyzed separately to gain insight into individual factors that might impact child outcomes at each level. Following the procedures outlined above, results for Studies 1 through 5 will be presented and discussed in subsequent papers.

## References

- Achenbach, T. (1992). *Manual for the Child Behavior Checklist/2-3 and 1992 Profile*. Burlington, VT: University of Vermont Department of Psychiatry.
- Akey, T. M., Marquis, J. G., & Ross, M. E. (2000). Validation of scores on the Psychological Empowerment Scale: A measure of empowerment for parents of children with a disability. *Educational and Psychological Measurement, 60*(3), 419-438.
- Alborough, J. (1994). *Where's My Teddy?* Cambridge, MA: Candlewick Press.
- Attkisson, C. C., & Zwick, R. (1982). The client satisfaction questionnaire: Psychometric properties and correlations with service utilization and psychotherapy outcome. *Evaluation and Program Planning, 5*(3), pages 233-237.
- Aytch, L., Cryer, D., Castro, D., & Selz-Campbell, L. (2004). *Early Intervention Services Assessment Scale (EISAS)—Overview; parent survey; and program self-assessment*. Chapel Hill: University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Institute.
- Bell, N. L., Lassiter, K. S., Matthews, T. D., & Hutchinson, M. B. (2001). Comparison of the Peabody Picture Vocabulary Test-Third Edition and Wechsler Adult Intelligence Scale-Third Edition with university students. *Journal of Clinical Psychology, 57*(3), 417-422.
- Birch, S., & Ladd, G. (1997). The teacher-child relationship and children's early school adjustment. *Journal of School Psychology, 35*(1), 61-79.
- Bowen, M. (1961). Family psychotherapy. *American Journal of Orthopsychiatry, 31*, 40-60.
- Bronfenbrenner, U. (1979). Beyond the deficit model in child and family policy. *Teachers College Record, 81*(1), 95-104.

- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press. (ERIC Document Reproduction Service No. ED 128.387).
- Campbell, J. M., Bell, S. K., & Keith, L. K. (2001). Concurrent validity of the Peabody Picture Vocabulary Test-Third Edition as an intelligence and achievement screener for low SES African American children. *Assessment, 8*, 85-94.
- Carrow-Woolfolk, E. (1996). *Oral and Written Language Scales: Written Expression Scale Manual*. Circle Pines, MN: American Guidance Service.
- Compass Family Center at University of San Diego. (2006). *Activities and accomplishments report*. San Diego, CA: Author.
- Condouris, K., Meyer, E., & Tager-Flusberg, H. (2003). The relationship between standardized measures of language and measures of spontaneous speech in children with autism. *American Journal of Speech-Language Pathology, 12*, 349-358.
- Cunningham, P. B., Henggler, S. W., Brondino, M. J., & Pickrel, S. G. (1999). Testing underlying assumptions of the family empowerment perspective. *Journal of Child and Family Studies, 8*(4), 437-449.
- Curtis, W.J., & Singh, N. N. (1996). Family involvement and empowerment in mental health service provision for children with emotional and behavioral disorders. *Journal of Child Studies, 5*, 503-517.
- Davis, K. L., & Mikita, C. P. (2006). Parental use of the EpiPen for children with food allergies. *Pediatrics, 118*, S18-S19.
- Demaray, M. K., & Malecki, C. K. (2002). Critical levels of perceived social support associated with student adjustment. *School Psychology Quarterly, 17*(3), 213-241.
- Demaray, M. K., Malecki, C. K., Davidson, L. M., Hodgson, K. K., & Rebus, P. J. (2005). The relationship between social support and student adjustment: A longitudinal analysis. *Psychology in the Schools, 42*(7), 691-706.
- Dempsey, I., & Dunst, C. J. (2004). Helpgiving styles and parent empowerment in families with a child with a disability. *Journal of Intellectual and Developmental Disabilities, 29*, 40-51.
- Dickinson, D.K., & Tabors, P.O. (2001). *Beginning literacy with language*. Baltimore, MD: Paul Brookes Publishing Company.
- Dixon, L., Stewart, B., Burland, J., Delhanty, J., Lucksted, A., & Hoffman, M. (2001). Pilot study of the Family to Family education program. *Psychiatric Services, 52*, 965-967.
- Duncan, S. E., & De Avila, E. A. (1998). *Preschool Language Assessment Scales*. Monterey, CA: McGraw-Hill.
- Dunn, L. M., & Dunn, L. M. (1997). *Peabody Picture Vocabulary Test – III*. Circle Pines, MN: American Guidance Systems.
- Dunst, C. J., Jenkins, V., Trivette, C. M. (1984). The Family Support Scales: Reliability and validity. *Journal of Individual, Family, and Community Wellness, 1*, 45-52.
- Dunst, C. J., & Trivette, C. M. (1986); *Family support scale: Supplemental Scoring Instructions*. Morgantown, NC: Western Carolina Center.
- Dunst, C., Trivette, C., & Cross, A. (1986). Mediating influences of social support: Personal, family and child outcomes. *American Journal of Mental Deficiency, 91*, 403--417.

- Dunst, C. J., Trivette, C. M., & Deal, G. A. (Eds.). (1994). *Supporting and strengthening families*. Cambridge, MA: Brookline Books.
- Dunst, C. J., Trivette, C. M., & Hamby, D. W. (1994). Measuring social support in families with young children with disabilities. In C. J. Dunst, C. M. Trivette, & A. G. Deal (Eds.), *Supporting and strengthening families: Methods, strategies, and practices* (pp. 152–160). Cambridge, MA: Brookline Books.
- Dunst, C. J., Trivette, C. M., & Jenkins, V. (1988). Family Support Scale. In C. J. Dunst, C. M. Trivette, & A. G. Deal (Eds.), *Enabling and empowering families: Principles and guidelines for practice*. Cambridge, MA: Brookline Books, 155–157.
- Early Childhood Research Institute on Measuring Growth and Development. (2004). *Individual Growth and Development Indicators*. Minneapolis, MN: University of Minnesota.
- Eisenberg, L. S., Martinez, A. S., Holowecky, S. R., & Pogorelsky, S. (2002). Recognition of lexically controlled words and sentences in children with normal hearing and children with cochlear implants. *Ear and Hearing, 23*, 450-462.
- Florian, V., & Elad, D. (1998). The impact of mothers' sense of empowerment on the metabolic control of their children with juvenile diabetes. *Journal of Pediatric Psychology, 23*(4), 239-247.
- Good, R. H., Kaminski, R. A., Shinn, M., Bratten, J., Shinn, M., Laimon, L., Smith, S., & Flindt, N. (2004). *Technical Adequacy and Decision Making Utility of DIBELS (Technical Report No. 7)*. Eugene, OR: University of Oregon.
- Haley, S. M., Coster, W. J., Ludlow, L. H., Haltiwanger, J. T., & Andrellos, P. J. (1992). *Pediatric Evaluation of Disability Inventory: Development, Standardization, and Administration Manual, Version 1.0*. Boston, MA : Trustees of Boston University, Health and Disability Research Institute.
- Haqq, A. M., Stadler D. D., Jackson R. H., Rosenfeld, R. G., Purnell, J. Q., LaFranchi S. H. (2003). *Journal of Clinical Endocrinology & Metabolism, 88*(5), 2206-12.
- Harbin, G., McWilliam, R., & Gallagher, J. (2000). Services for young children with disabilities and their families. In J. Shonkoff & S. Meisels (Eds.), *Handbook of early childhood intervention (2nd ed.)*. Cambridge, UK: Cambridge University Press.
- Harms, T., Clifford, R., & Cryer, D. (1998). *Early childhood environment rating scale-revised*. New York, NY: Teachers College Press.
- Harms, T., Cryer, D., & Clifford, R. M. (2003). *Infant/toddler environment rating scale: Revised edition*. New York, NY: Teachers College Press.
- Hartman, A. (1978) Diagrammatic assessment of family relationships, *Social Casework, 57*, 465-76.
- Heflinger, C. A., Bickman, L., Northrup, D., & Sonnichsen, S. (1997). A theory-driven intervention and evaluation to explore family caregiver empowerment. *Journal of Emotional and Behavioral Disorders, 5*, 184–191.
- Hodges, K. (1990, 1994 revision). *Child and adolescent functional assessment scale*. Ypsilanti, MI: Eastern Michigan University, Department of Psychology.
- Holloway, S. D., Kagan, S. L., Fuller, B., Tsou, L., & Carroll, J. (2001). Assessing child care quality with a telephone interview. *Early Childhood Research Quarterly, 16*, 165-189.

- Innocenti, M. S., Judd, D. R., & Taylor M. J. (1998). *Transition Perspectives of Parents*. Logan, UT: Early Intervention Research Institute, Utah State University.
- Jung, W. S., & Stinnett, T. A. (2005). Comparing judgements of social, behavioural, emotional and school adjustment functioning for Korean, Korean American and Caucasian American children. *School Psychology International*, 26(3), 317-329.
- Kaminski, R. A., & Good, R. H. (1996). *Dynamic Indicators of Basic Early Literacy Skills*. Eugene, OR: University of Oregon.
- Kaufman, A. S., & Kaufman, N. L. (1983). *Interpretative manual for the Kaufman Assessment Battery for Children*. Circle Pines, MN: American Guidance Service.
- Kaufman, A. S., & Kaufman, N. L. (1990). *The Kaufman Brief Intelligence Test*. Circle Pines, MN: American Guidance Service.
- Kaufman, A. S., & Kaufman, N. L. (1997). The Kaufman Adolescent and Adult Intelligence Test. In D. P. Flanagan & J. L. Genshaft (Eds.), et al. *Contemporary intellectual assessment: Theories, tests, and uses*. New York, NY: Guilford Press.
- Knox, V., Usen, Y. (2000). Clinical review of the Pediatric Evaluation of Disability Inventory. *British Journal of Occupational Therapy*, 63(1), 29-32.
- Koren, P. E., DeChillo, N., Friesen, B. J. (1992). Measuring empowerment in families whose children have emotional disabilities: A brief questionnaire. *Rehabilitation Psychology*, 37, 305-321.
- Lambert, L., Collay, M., Dietz, M., Kent, K., & Richert, A. E. (1997). *Who will save our schools: Teachers as constructivist leaders*. Thousand Oaks, CA: Corwin Press.
- Lerner, J. V., Lerner, R. M., & Zabski, S. (1985). "Goodness of fit" model of the role of temperament in elementary school children's actual and rated academic difficulties, *Journal of Child Psychology and Psychiatry*, 26, 125-136.
- Locke, B. Z., & Putnam, P. (n.d.) Center for Epidemiologic Studies Depression Scale (CES-D Scale). Center for Epidemiologic Studies, National Institute of Mental Health.
- Luze, G. J., & Hughes, K. (2008) Using Individual Growth and Development Indicators to Assess Child and Program Outcomes. *Young Exceptional Children*, 12, 31-41.
- Maness, J., McCammon, S. L., Durham, T, Everhart, E., & Dosser, D., Jr. (2006). The relationship between family empowerment and youth mental health outcomes. In C. Newman, C. Liberton, K. Kutash, & R. Friedman, (Eds.), *The 18<sup>th</sup> Annual Research Conference Proceedings, A System of Care for Children's Mental Health: Expanding the Research Base* (pp. 117-120). Tampa, FL: University of South Florida, The Louis de la Parte Florida Mental Health Institute, Research and Training Center for Children's Mental Health.
- McNamara, J. R., Hollmann, C., & Riegel, T. (1994). A preliminary study of the usefulness of the Behavior Assessment System for Children in the evaluation of mental health needs in a Head Start population. *Psychological Reports*, 75, 1195-1201.
- Melnyk, B. M., & Alpert-Gillis, L. J. (1996). Enhancing coping outcomes of mothers and young children following marital separation: A pilot study. *Journal of Family Nursing*, 2(3), 266-285.

- Nachshen, J. S. (2004). Empowerment and families: Building bridges between parents and professionals, theory and research. *Journal on Developmental Disabilities*, 11(1), 67-75.
- National Center for Early Development & Learning. (2001). Chapel Hill: University of North Carolina, FPG Child Development Center.
- National Center for Special Education Research. Pre-Elementary Education Longitudinal Study (2002). Retrieved from the PEELS web site: <http://www.peels.org/> in 2003.
- National Early Childhood Transition Center. (2003). *Emergent Literacy Measure*. Lexington, KY: University of Kentucky.
- National Early Childhood Transition Center. (2003). *Family Interview*. Lexington, KY: University of Kentucky.
- National Early Intervention Longitudinal Study. (1997). Retrieved from the SRI International Web site: <http://www.sri.com/neils/> in 2003.
- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.
- NVivo 8. (2008). Cambridge, MA: QRS International.
- Office of Planning, Research, and Evaluation. (2002) Story and Print Concepts Task – FACES. Washington, DC: Department of Health and Human Services, Administration for Children and Families.
- Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods (2nd ed.)*. Newbury Park, CA: Sage Publications, Inc.
- Pianta, R. C. (1992). *Child-parent relationship scale*. Unpublished measure, University of Virginia.
- Pianta, R. C., & Cox, M. J. (1999). The changing nature of the transition to school: Trends for the next decade. In R. C. Pianta & M. J. Cox, (Eds.), *The Transition to Kindergarten* (pp. 363-379). Baltimore, MD: Brookes.
- Pianta, R. C., Cox, M. J., Taylor, L., & Early, D. (1999). Kindergarten teachers' practices related to the transition to school: Results of a national survey. *The Elementary School Journal*, 100(1), 71-86.
- Pianta, R. C., & Nimetz, S. L. (1991). Relationships between children and teachers: Associations with classroom and home behavior. *Journal of Applied Developmental Psychology*, 12, 379–393.
- Radloff, L. S. (1977) The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological measurement* 1(3), 385-401.
- Ramey, C. T., & Ramey, S. L. (1998). The transition to school: Opportunities and challenges for children, families, education, and communities. *Elementary School Journal*, 98(4), 293-295.
- Rasch, G. (1960/1980). *Probabilistic models for some intelligence and attainment tests*, expanded edition (1980). Chicago: The University of Chicago Press.
- Reese, E., & Read, S. (2000). Predictive validity of the New Zealand MacArthur communicative development inventory: Words and sentences. *Journal of Child Language*, 27, 255-266.

- Regulations for the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, Final Rule, 71(56) Fed. Reg. 46753-46817. (August 14, 2006).
- Reid, D. K., Hresko, W. P., & Hammill, D. D. (1989). *The Test of Early Reading Ability (2nd ed.)*. Austin, TX: Pro-Ed.
- Resendez, M. G., Quist, R. M., & Matshazi, D. G. M. (2000). A longitudinal analysis of family empowerment and client outcomes. *Journal of Child and Family Studies, 9*(4), 449-460.
- Reynolds, C. R., & Kamphaus, R. W. (1992). *Behavior Assessment System for Children*. Circle Pines, MN: American Guidance Service.
- Roberts, R. N., Innocenti, M. S., Judd, D. R., Taylor, M. J., & Morris, C. (1998, Spring). Family satisfaction with transition from infant/toddler (Part C) to preschool (Part B). *CPD News, 21*(3), 1-8.
- Roid, G., & Sampers, J. (2004). *Merrill-Palmer-Revised*. Wood Dale, IL: Stoelting Publishing.
- Rojewski, J. W., Shapiro, M. S., & Shapiro, M. (2000). Parental assessment of behavior in Chinese adoptees during early childhood. *Child Psychiatry and Human Development, 31*(1), 79-96.
- Rosenkoetter, S. E., Hains, A. H., & Fowler, S. E. (1994). *Bridging early services for children with special needs and their families: A practical guide for transition planning*. Baltimore, MD: Paul H. Brookes Publishing Co.
- Rous, B., Hallam, R., Harbin, G., McCormick, K., & Jung, L. (2007). The transition process for young children with disabilities: A conceptual framework. *Infants and Young Children, 20*(2), 135-148.
- Rous, B., Harbin, G., & McCormick, K. (2006). *A child outcome framework for the early childhood transition process*. Lexington, KY: University of Kentucky, Human Development Institute.
- Sameroff, A. J., & Chandler, M. (1975). Reproductive risk and the continuum of caretaking casualty. In F. D. Horowitz, E. M. Hetherington, S. Scarr-Salapatek, & G. Siegel (Eds.), *Review of child development research, 4*, 187-244. Chicago: University of Chicago Press.
- Sameroff, A. J., & Fiese, B. H. (2000). Transactional regulation: The developmental ecology of early intervention. In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook of early childhood intervention (2nd ed.)*, pp. 135-159. New York, NY: Cambridge University Press.
- Sandall, S., McLean, M., & Smith, B. (Eds.). (2000). *DEC Recommended Practices in early intervention/early childhood special education*. Longmont, CO: Sopris West.
- Seefeldt, C., Denton, K., Galper, A., & Younoszai, T. (1998). Former Head Start parents' characteristics, perceptions of school climate, and involvement in their children's education. *The Elementary School Journal, 98*, 339-349.
- Senge, P. (1990). *The fifth discipline: The art & practice of the learning organization*. New York, NY: Doubleday.
- Shultz, A. J., Israel, B. A., Zimmerman, M. A., & Checkoway, B. N. (1995). Empowerment as a multilevel construct: Perceived control at the individual, organizational, and community levels. *Health Education Research Theory & Practice, 10*, 309-327.

- Singh, N. N., Curtis, W. J., Nicholson, M. W., Villani, T. M., & Wechsler, H. A. (1995). Psychometric analysis of the family empowerment scale. *Journal of Emotional and Behavioral Disorders*, 3, 85-91.
- SPSS 15.0 Command Syntax Reference 2006, SPSS Inc., Chicago, IL.
- Stallings, L. M., Gao, S. J., Svirsky, M. A. (2000). Assessing the language abilities of pediatric cochlear implant users across a broad range of ages and performance abilities, *Volta review*, 102(4), 215-235.
- Stoiber, K. C., Gettinger, M., & Goetz, D. (1998). Exploring factors influencing parents' and early childhood practitioners' beliefs about inclusion. *Early Childhood Research Quarterly*, 13, 107-124.
- Stutsman, R. (1931). *Merrill-Palmer scale of mental tests*. New York: Harcourt, Brace and World.
- Taub, J., Tighe, T. A., & Burchard, J. (2001). The effects of parent empowerment on adjustment for children receiving comprehensive mental health services. *Children's Services: Social Policy, Research, and Practice*, 4(3), 103-122.
- The Individuals with Disabilities Education Act of 1990*. (Pub. L. No. 101-476, 104 Stat. 1142). IDEA received minor amendments in October 1991 (Pub. L. No. 102-119, 105 Stat. 587).
- The Individuals with Disabilities Education Improvement Act of 2004*; Pub. L. No.108-446, & 632,118 Stat.2744. & U.S.C. 1400 et seq (2004).
- Thomas, A., Chess, S., Birch, H. G., Hertzig, M. E., & Korn, S. (1963). *Behavioral individuality in early childhood*. New York, NY: New York University Press,
- Thompson, L., Lobb, C., Elling, R., Herman, S., Jurkidzewicz, T., & Helluza, C. (1997). Pathways to family empowerment: Effects of family-centered delivery of early intervention services. *Exceptional Children*, 64, 99-113.
- Tsoubris, K. T. (1998). Relationship between prenatal cocaine exposure and behavioral patterns among preschool children with disabilities. *Dissertation Abstracts International: Section B: The Sciences and Engineering*.
- U.S. Department of Education. (1999). Early Childhood Longitudinal Study, Birth Cohort; Retrieved from National Center of Education Statistics website: <http://nces.ed.gov/ECLS/>
- U.S. Department of Education. (1999). Early Childhood Longitudinal Study, Kindergarten Cohort; Retrieved from National Center of Education Statistics website: <http://nces.ed.gov/ECLS/>
- U.S. Department of Health and Human Services, (2000). Story and Print Concepts. Retrieved from HHS website <http://www.acf.hhs.gov/programs/opre/hs/faces/index.html> in 2003.
- U.S. Department of Health and Human Services. (1998, June). *Head Start FACES (Pilot): Program performance measures, second progress report*. Washington, DC: Author.
- U.S. Department of Health and Human Services. (2000, June). *FACES findings: New research on Head Start program quality and outcomes*. Washington, DC: Author.
- VanNess-Knolls, M. L., & Tighe, T. A. (1996). The Access Vermont initiative: Evaluating family empowerment. In C. Liberton, K. Kutash, & R. Friedman (Eds.), *The 9th Annual Research Conference Proceedings, A System of Care for Children's Mental health: Expanding the Research Base* (February 26 to 28, 1996) (pp. 171-176). Tampa, FL: University of South

Florida, The Louis de la Parte Florida Mental Health Institute, Research and Training Center for Children's Mental Health.

- Waddington, S. R. (1996). *The structure of temperament in college-aged and middle-aged adults and a test of the goodness-of-fit model*. NY: ETD Collection for Fordham University.
- Wechsler, D. (1991). *Wechsler Intelligence Scale for Children-Third Edition*. San Antonio, TX: The Psychological Corporation.
- Wechsler, D. (1997). *Wechsler Adult Intelligence Scale-III*. San Antonio, TX: The Psychological Corporation.
- White, J., Flynt, M., & Jones, N. (1999). Kinder therapy: An Adlerian approach for training teachers to be therapeutic agents through play. *The Journal of Individual Psychology*, 55(3), 365-382.
- Wills, T. A., DuHamel, K., & Vaccaro, D. (1995). Activity and mood temperament as predictors of adolescent substance use: Test of a self-regulation mediational model. *Journal of Personality and Social Psychology*, 68(5), 901-916.
- Windle, M., & Lerner, R. M. (1999). Revised Dimensions of Temperament Survey. Unpublished measure, Pennsylvania State University.
- Wright, F. V., Boschen, K., & Jutai, J. (2005) Exploring the comparative responsiveness of a core set of outcome measures in a school-based conductive education programme. *Child Care Health Development*, 31(3), 291-302.
- Zill, N. (2003). *Early Math Skills Test*. Rockville, MD: Westat, Inc.
- Zimmerman, M. A. (1995). Psychological empowerment: Issues and illustrations. *American Journal of Community Psychology*, 23, 581-599.
- Zimmerman, M. A. (2000). Empowerment theory: Psychological, organizational, and community levels of analysis. In J. Rappaport & E. Seldman (Eds.), *Handbook of community psychology*. New York: Plenum.
- Zimmerman, M. A., & Warschausky, S. (1998). Empowerment theory for rehabilitation research: Conceptual and methodological issues. *Rehabilitation Psychology*, 43, 3-16.
- Zion, T. A. (1999). *Effects of individual client-centered play therapy on sexually abused children's mood, self-concept, and social competence*. Unpublished doctoral dissertation, Provo, UT: Brigham Young University,

## Acknowledgements

### Methods and Instrumentation

Katherine McCormick  
Rena Hallam

Sarintha Stricklin  
Beth Rous

Leah Nellis  
Lee Ann Jung  
Teri Nowak  
Christine Teeters Myers

### Field Feedback Group for Instrumentation, Procedures and Data Collection

Sarintha Stricklin  
Lori McGraw  
Marilyn Harmon

Kristen Missall  
Katie Matthews

### Data Collection

#### *Kentucky*

Minda Kohner-Coogle  
Christina Stacy  
Emily Keely  
Amanda Black

#### *Michigan*

Katie Kennedy  
Michael Gillespie  
Lisa Sturges

Michaella Sektnan  
Cristian Dogaru

#### *Wisconsin*

Cindy Dennis  
Ann Farah  
Dawn Harmon  
Dawn Strasser  
Jessica Lofler  
Jaime Ghere  
Chikeyia Longley  
Yvette Artis

#### *Louisiana*

Valerie Read  
Brian Coplin  
Sarintha Stricklin

#### *Oregon*

Rachel Saceda  
Sharon Rosenkoetter  
Amy Murray  
Jody Alaniz  
Isaac Washburn

### Data Scoring and Entry

Colleen McClanahan  
Patrick Yacobi  
Austin Hancock

Alex Nounopoulos  
Kelly Jones

### Data Analysis

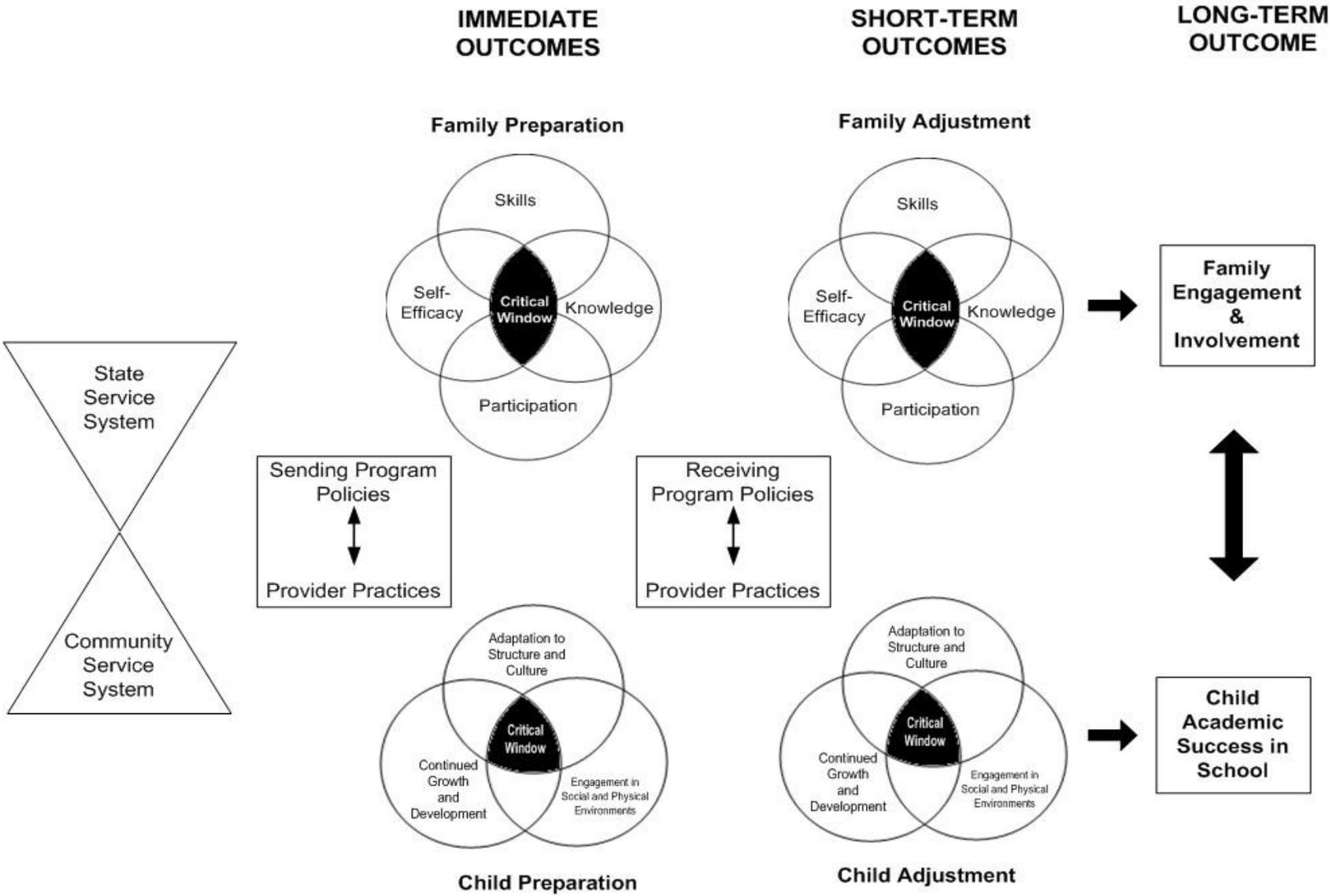
Katherine McCormick  
Beth Rous  
Rena Hallam

Sarintha Stricklin  
Sharon Rosenkoetter

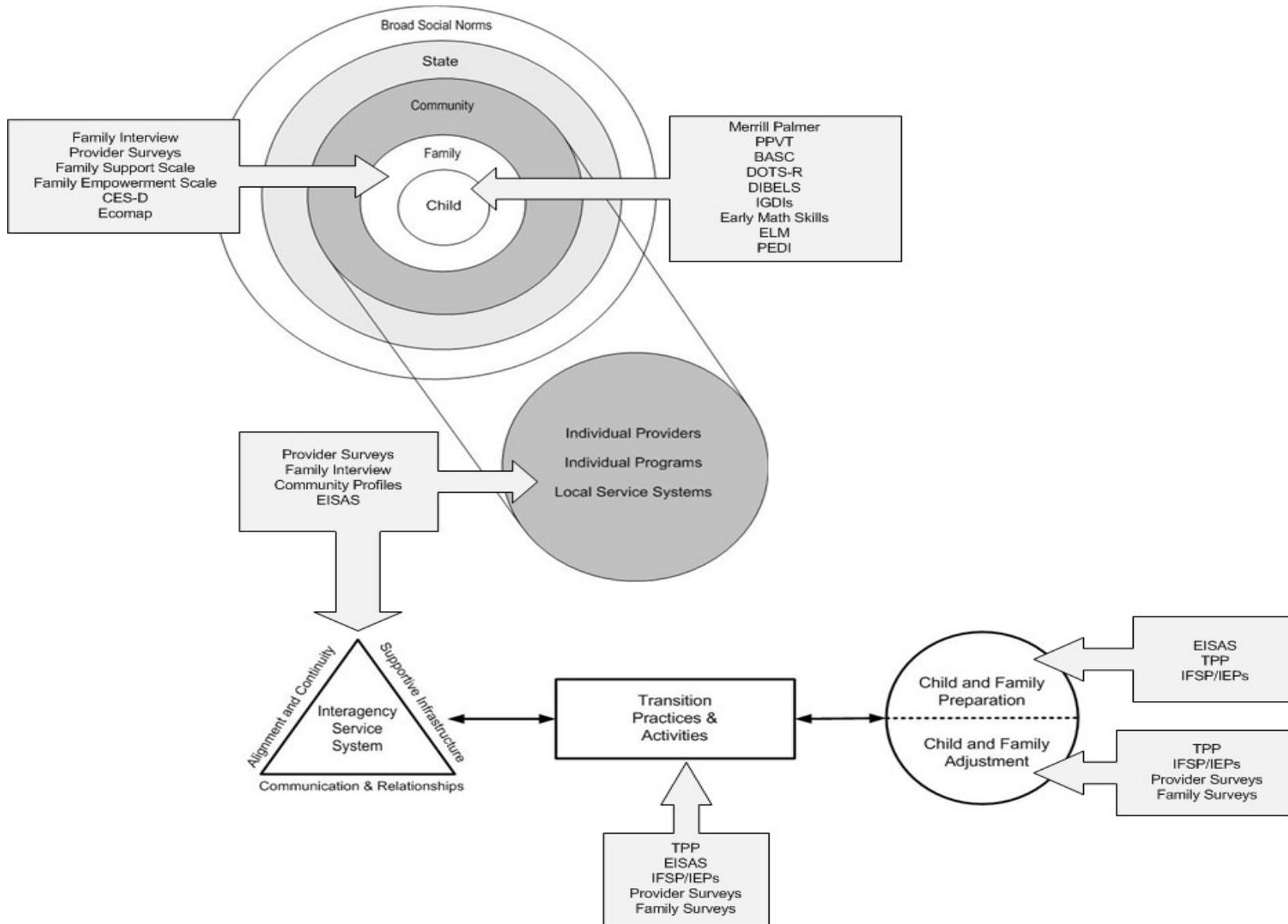
Teri Nowak  
Megan Cox



Conceptual Model



**Figure 1. NECTC Contextual Model Linked to Associated Instruments**



## Appendix B

### Sampling

***B-1: Description of State Systems during Data Collection (2003-2007)***

State	Lead Agency	Change during NECTC	# Served	# Served 0 - 1	# Served 1 - 2	# Served 2 - 3	Can Part C Funds be Used after 3?	Can 619 Funds be Used before 3?
Kentucky Part C	Cabinet for Health and Family Services	Yes	3666 (2.3%)	251 (.46%)	1130 (2.18%)	2285 (4.36%)	NO	
Kentucky 619	Department of Education	Yes	20,777					NO
Louisiana Part C	Department of Health and Hospitals	Yes	4422 (2.3%)	1110 (1.7%)	1812 (2.8%)	1600 (2.3%)	YES	
Louisiana 619	Department of Education	Yes	11,904					YES
Michigan Part C	Department of Education	Yes	8350 (2,2%)	1396 (1.08%)	2764 (2.15%)	4190 (3.25%)	YES	
Michigan 619	Department of Education	Yes	24058					YES
Oregon Part C	Department of Education	Yes	2031 (1.6%)	229 (.51%)	612 (1.36%)	1240 (2.77%)	NO	
Oregon 619	Department of Education	Yes	7834					NO
Wisconsin Part C	Department of Health and Family Services	No	5736 (2.8%)	782 (1.1%)	1644 (2.4%)	3330 (4.9%)	NO	
Wisconsin 619	Department of Public Instruction	No	15955					NO

## B-2 Description of States

### B-2a: Kentucky

Fall 2007



NATIONAL EARLY CHILDHOOD TRANSITION CENTER

# Kentucky State Profile

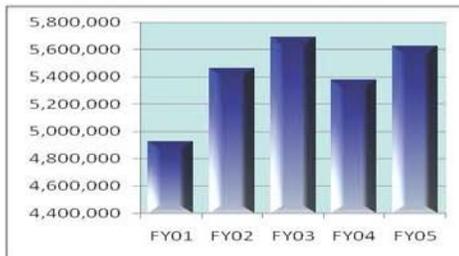
## Part C

### The Early Intervention Program for Children Ages Birth Through Two Years with Disabilities

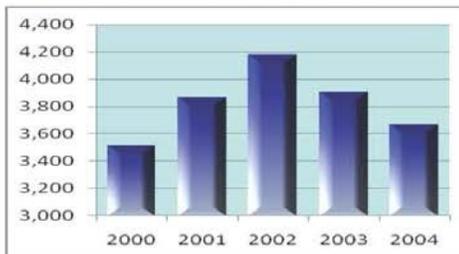
National  
EARLY  
CHILDHOOD  
TRANSITION  
CENTER  
OPENING DOORS TO SUCCESS

Kentucky's Early Intervention Program, called *First Steps*, is administered by the Cabinet for Health and Family Services of the Department for Public Health. The administering department changed from the Department of Human Resources/Mental Health and Retardation in 2003.

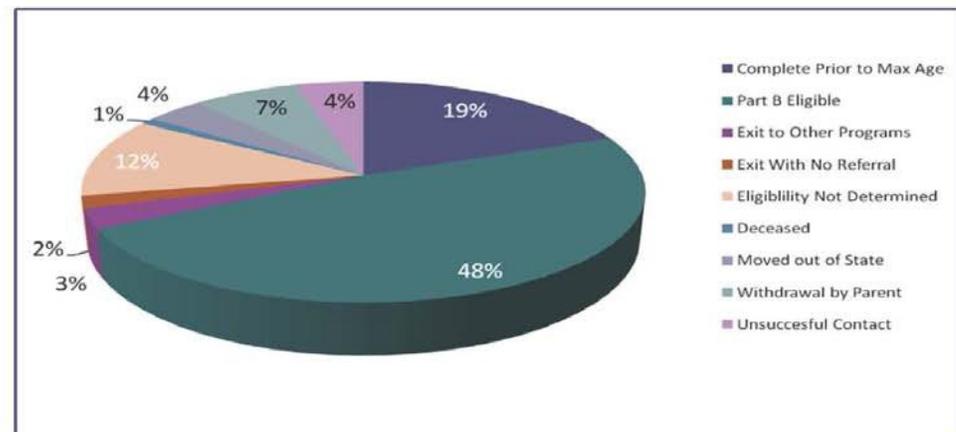
Federal Allocations for Part C



Number of Infants and Toddlers Served



Reasons Children Exited Services Before Third Birthday



#### Part C Services in KY:

- At the initial evaluation, the following five developmental domains are evaluated: communication, mobility, learning, social/emotional, and adaptive/self-help.
- To be eligible for services, children must score 2 standard deviations below the mean in one developmental domain or 1.5 below in two or more developmental domains.
- 3,666 children ages 0-3 received services through Part C in Kentucky in 2006, approximately 2.3% of the population.
- In 2006, 251 children ages 0-1 year received early intervention services (.46% of the population), 1,130 children ages 1-2 years received services (2.18%), and 2,285 children ages 2-3 received services (4.36%).
- Families contribute to the cost of *First Steps* services on a sliding scale, from \$0-\$50 a month.
- The website of Kentucky's Part C program is: <http://chfs.kv.gov/dph/firststeps.htm>.

Data Source: Danaher, J., Amijo, C. & Lazara, A. (Eds.). (2006). Part C updates (8th ed.). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

Fall 2007



NATIONAL EARLY CHILDHOOD TRANSITION CENTER

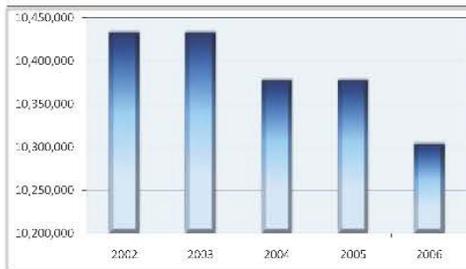
# Kentucky State Profile

## Section 619 The Federal Special Education Program for Children Ages 3 and 4 year olds

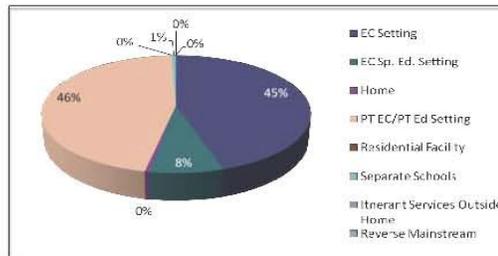
National EARLY CHILDHOOD TRANSITION CENTER  
OPENING DOORS TO SUCCESS

As of 2006, the Division of Exceptional Children Services of the Kentucky Department of Education administers Section 619 of IDEA. Previously, Section 619 was implemented through the joint oversight of the Department of Special Education and Early Childhood Services.

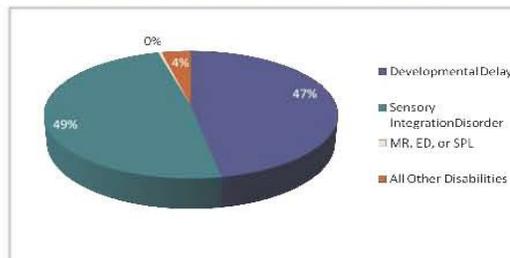
Federal Allocation for 619



619 Educational Environments 2006



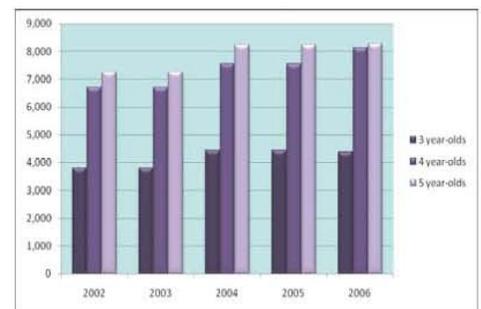
Disability Type Served by 619 2006



### Section 619 Services in KY:

- The Kentucky Department of Education has Interagency Agreements with the Departments of Health, Human/Social Services, and Developmental Disabilities.
- A data collection system which will aid in the transition between Part C and 619 is being developed to aid in Annual Performance Reports.
- State funded Pre-Kindergarten programs are provided only for at-risk children and children with disabilities.
- 20,777 children were served under 619 funding in FY 2006.
- Kentucky has a 619 coordinator position in the Kentucky Dept. of Education, Early Childhood Branch.
- The State Education Agency in Kentucky does not allow Section 619 funds to provide Free Appropriate Public Education (FAPE) to children before their 3rd birthday.
- Kentucky's policy does not allow Part C funds to be used to provide FAPE for children past their third birthday.

### 3, 4, & 5 year-olds with Disabilities

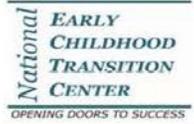


National Early Childhood Transition Center  
126 Mineral Industries Building  
University of Kentucky  
Lexington, KY 40506-0051  
Phone: (859) 257-2081  
Toll Free: (866) 742-4015  
E-mail: [cjgood2@email.uky.edu](mailto:cjgood2@email.uky.edu)

Data Source: Danaher, J., Kraus, R., Armijo, C., Hipps, C., Cory, S., & Lazara, A. (Eds.). (2006). Section 619 profile (14th ed.). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

# Part C

## The Early Intervention Program for Children Ages Birth Through Two Years with Disabilities



Fall 2007

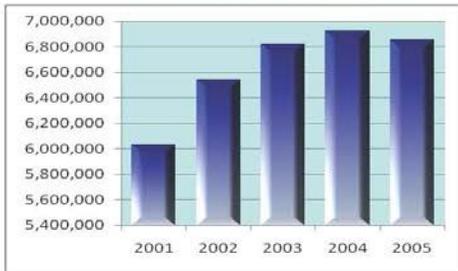


NATIONAL EARLY CHILDHOOD TRANSITION CENTER

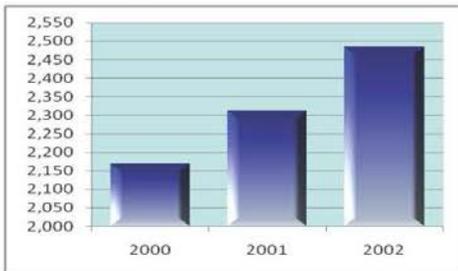
# Louisiana State Profile

Louisiana's Early Intervention Program, called EarlySteps, is administered by the Department of Health and Hospitals. The administering department changed from the Department of Education Division of Special Populations in 2002.

Federal Allocation to Part C



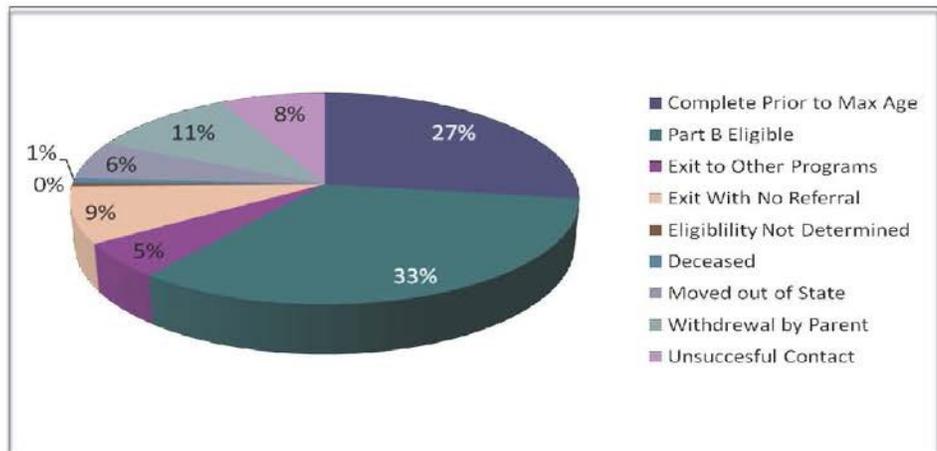
Number of Infants and Toddlers Served



### Part C Services in LA:

- At the initial evaluation, the following developmental domains are evaluated: cognitive, motor, vision, hearing, communication, and social-emotional or adaptive development.
- To be eligible for services, children must score a mean of 33% below age level in one area or 1.5 standard deviations below the mean or 25% below age in two or more areas.
- 4,422 children ages 0-3 received services through Part C in Louisiana in 2006, approximately 2.3% of the population.
- In 2006, 1,110 children ages 0-1 year received early intervention services (1.7% of the population), 1,812 children ages 1-2 years received services (2.8%), and 1,600 children ages 2-3 received services (2.3%).
- EarlySteps services are funded by the following programs: federal Part C funds, federal Medicaid funds, state Part C funds, state Medicaid matching funds.
- The website of Louisiana's Part C program is: <http://www.dhh.louisiana.gov/offices/?ID=334>

Reasons Children Exited Services Before Third Birthday in 2003-2004



Data Source: Danaher, J., Armijo, C. & Lazara, A. (Eds.). (2006). Part C updates (8th ed.). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

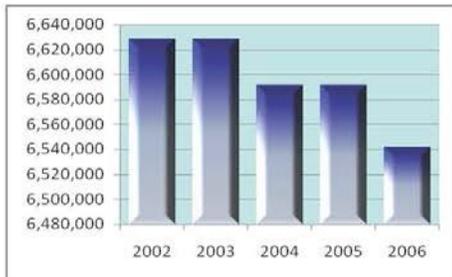


## Section 619

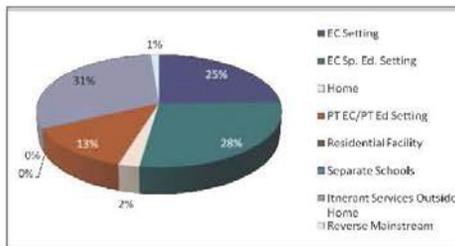
The Federal Special Education Program for Children Ages 3-5

As of 2006, the Early Childhood Unit of Louisiana is the State Education Agency. The Early Childhood Unit is no longer housed within the Special Education Unit.

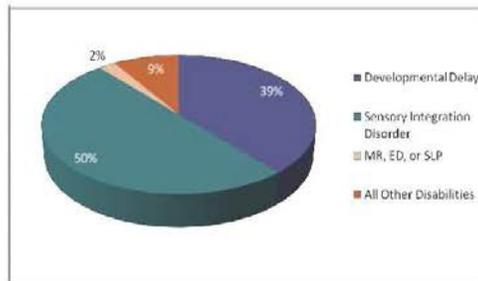
### Federal Allocation for Section 619



### 619 Educational Environments 2006



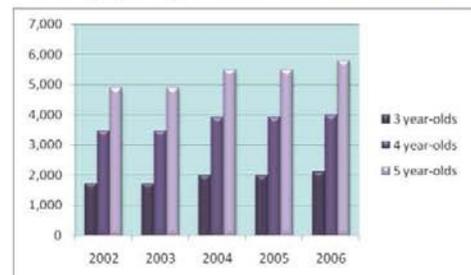
### Disability Type Served by 619 in 2006



### Section 619 Services in LA:

- The Louisiana Department of Education has Interagency Agreements with Head Start, the Department of Health, and the Department of Human/Social Services.
- A data collection system which will aid in the transition between Part C and Part B and that provides data for Annual Performance Reports is under development.
- Louisiana provides state-funded pre-Kindergarten programs for at-risk children, locally funded pre-K, Title 1 pre-K, Pre-K Early Reading, and Head Start.
- 11,904 children were served under 619 of IDEA in FY 2006.
- The position of Early Childhood Special Education Coordinator directs Section 619 services.
- The State Education Agency in Louisiana allows Section 619 funds to provide Free Appropriate Public Education (FAPE) to children before their third birthday.

### # of 3, 4, & 5 year-olds with Disabilities



National Early Childhood Transition Center  
126 Mineral Industries Building  
University of Kentucky  
Lexington, KY 40506-0051  
Phone: (859) 257-2081  
Toll Free: (866) 742-4015  
E-mail: cjgood2@email.uky.edu

Data Source: Danaher, J., Kraus, R., Armijo, C., Hipps, C., Cory, S., & Lazara, A. (Eds.). (2006). Section 619 profile (14th ed.). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

# Part C

The Early Intervention Program for Children Ages Birth Through Two Years with Disabilities

Fall 2007

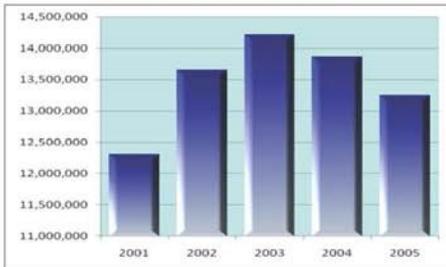


NATIONAL EARLY CHILDHOOD TRANSITION CENTER

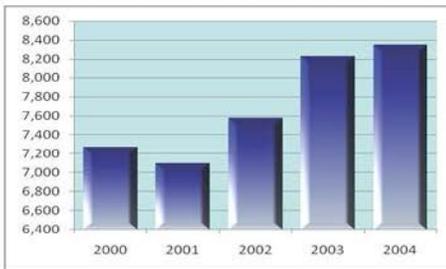
Michigan State Profile

Michigan's Early Intervention Program, called *Early On*®, is administered by the Michigan Department of Education. The *Early On*® program was redesigned in 2005 to adapt to changes in Michigan's early childhood system and services, and to increase the focus of achieving meaningful results for children and families.

Federal Allocation for Part C



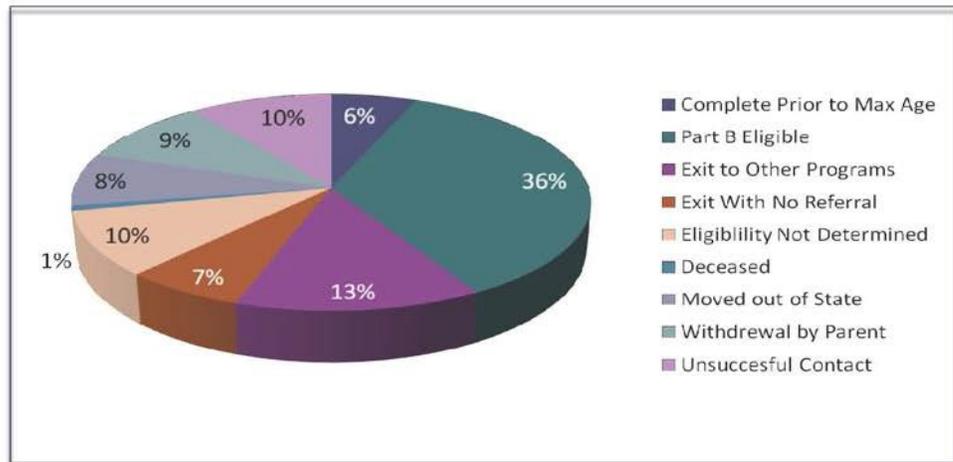
Number of Infants and Toddlers Served



## Part C Services in MI:

- The following services are offered for *Early On*®: assistive technology, audiology, family training & home visits, health services, medical services, nursing services, nutrition services, occupational therapy, physical therapy, psychological services, service coordination, social work, special instruction, speech-language, transportation, and vision.
- To be eligible for services, children must be determined to have a delay in one of the five following areas of development: physical (including vision and hearing, gross and fine motor), cognitive, communication, social-emotional, and adaptive development.
- 8,350 children ages 0-3 received services through Part C in Michigan in 2006, approximately 2.2% of the population.
- In 2006, 1,396 children ages 0-1 year received early intervention services (1.08% of the population), 2,764 children ages 1-2 years received services (2.15%), and 4,190 children ages 2-3 received services (3.25%).
- The website of Michigan's Part C program is: <http://www.1800earlyon.org/index.php>.

Children Exiting Services in 2003-2004



Data Source: Danaher, J., Armijo, C. & Lazara, A. (Eds.). (2006). Part C updates (8th ed.). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

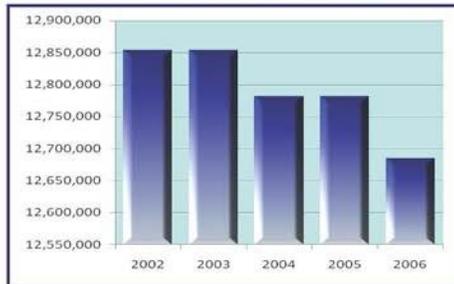


# Section 619

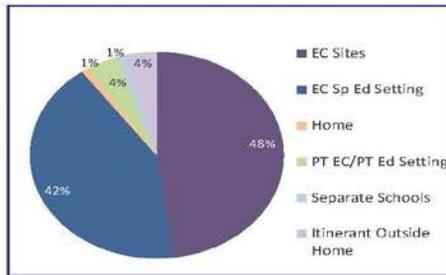
The Federal Special Education Program for Children Ages 3-5

As of 2006, the Early Childhood Unit of the Michigan Department of Education administers Section 619 of IDEA. Previously, Section 619 was implemented through the Special Education Unit.

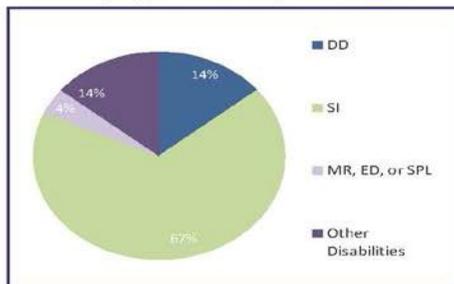
Federal Allocation for Section 619



Part B Educational Environments 2006



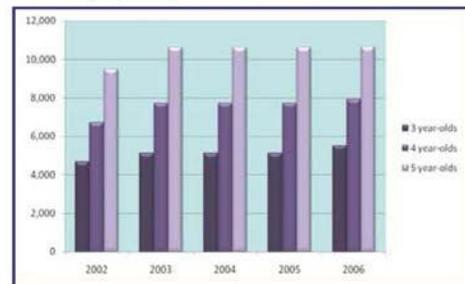
Disability Type Served by Part B 2006



## Section 619 Services in MI:

- The Michigan Department of Education has Interagency Agreements with Head Start, Human/Social Services, Developmental Disabilities, Mental Health, Rehabilitation Services, Tribal Entities, and the Department of Corrections.
- A data collection system which aids in the transition between Part C and Part B and that provides data for Annual Performance Reports is in place.
- State funded Pre-Kindergarten programs are provided for at-risk children, as well as locally funded Pre-K, Title I Pre-K, and Pre-K Early Learning.
- 24,058 children were served under Section 619 of IDEA in FY 2006.
- Michigan's Birth-5 program provides technical assistance to Interagency Coordinating Councils.
- The State Education Agency in Michigan allows Section 619 funds to provide Free Appropriate Public Education (FAPE) to children before their 3rd birthday.

# of 3, 4, & 5 year-olds with Disabilities



National Early Childhood Transition Center  
126 Mineral Industries Bldg.  
University of Kentucky  
Lexington, KY 40506-0051  
Phone: (859) 257-2081  
Toll Free: (866) 742-4015  
Fax: (859) 257-2769  
E-mail: caroline.gooden@uky.edu

Data Source: Danaher, J., Kraus, R., Armijo, C., Hipps, C., Cory, S., & Lazara, A. (Eds.). (2006). Section 619 profile (14th ed.). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

Fall 2007

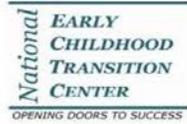


NATIONAL EARLY CHILDHOOD TRANSITION CENTER

Oregon State Profile

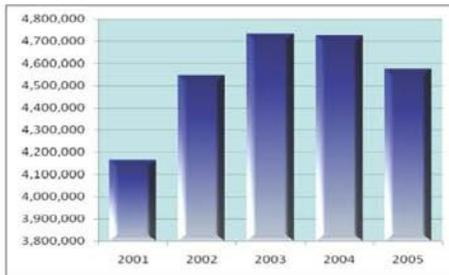
## Part C

### The Early Intervention Program for Children Ages Birth Through Two Years with Disabilities

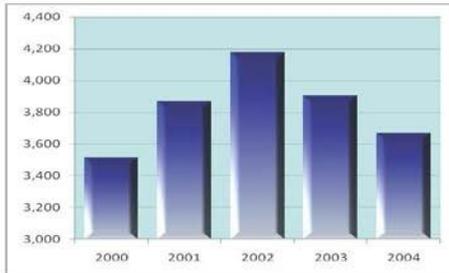


The Oregon Department of Education administers the early intervention program, which serves children with developmental delays ages birth through five years and their families.

Federal Allocation for Part C



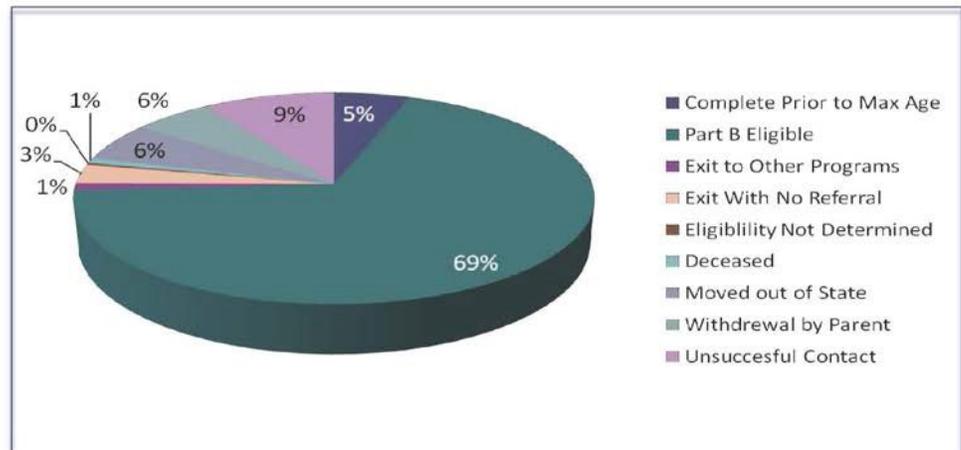
Number of Infants and Toddlers Served



#### Part C Services in OR:

- At the initial evaluation, the following developmental areas are evaluated: developmental delays, vision, hearing, speech and language, motor, socialization, behavior, and learning.
- Eligibility is determined as 2 SD below the mean in one development area, or 1.5 SD below the mean in 2 areas. Eligibility may also be determined through OAR 581-015-0051.
- Early Intervention programs are administered through 10 regional contractors throughout Oregon.
- 2,081 children ages 0-3 received services through Part C in Oregon in 2006, approximately 1.6% of the population.
- In 2006, 229 children ages 0-1 year received early intervention services (.51% of the population), 612 children ages 1-2 years received services (1.36%), and 1,240 children ages 2-3 received services (2.77%).
- There is no cost to families participating in Oregon's early intervention program.
- The website of Oregon's Part C program is: <http://www.ode.state.or.us/search/results?id=252>.

Children Exiting Services in 2003-2004



Data Source: Danaher, J., Armijo, C. & Lazara, A. (Eds.). (2006). Part C updates (8th ed.). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.



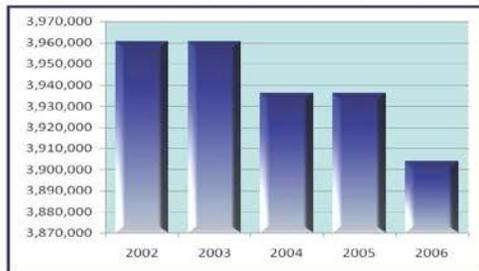
# Section 619

The Federal Special Education Program for Children Ages 3-5

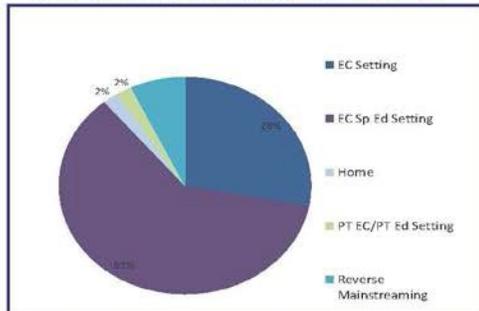


The Oregon Department of Education administers Section 619 of IDEA. Previously, Section 619 was implemented through the Department of Special Education, although that changed in 2005. Two state level positions coordinate Section 619 Services, the Special Education Director and the Associate Special Education Director.

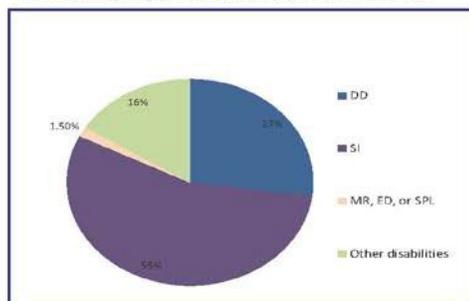
Federal Allocation for Section 619



Part B Educational Environments 2006



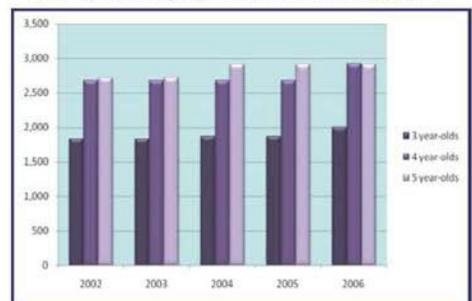
Disability Type Served by Part B 2006



## Section 619 Services in OR:

- The Oregon Department of Education has Interagency Agreements with the Department of Health, Human/Social Services, Developmental Disabilities, Mental Health, Mental Retardation, the Department of Public Welfare, and the Department of Health and Welfare. These programs provide technical assistance to Interagency Coordinating Councils.
- A data collection system which allows for the transition of data between Part C and Part B and that provides data for Annual Performance Reports is in place.
- State funded Pre-Kindergarten programs are provided for at-risk children, as well as locally funded Pre-K, Title I Pre-K, and Pre-K Early Read.
- 7,834 children were served under Section 619 of IDEA in FY 2006.
- The State Education Agency in Oregon does not allow Section 619 funds to provide Free Appropriate Public Education (FAPE) to children before their 3rd birthday.
- Oregon's policy does not allow Part C funds to be used to provide FAPE for children past their third birthday.

# of 3, 4, & 5 year-olds with Disabilities



### National Early Childhood Transition Center

126 Mineral Industries Building  
 University of Kentucky  
 Lexington, KY 40506-0051  
 Phone: (859) 267-2081

Data Source: Danaher, J., Kraus, R., Armijo, C., Hipps, C., Cory, S., & Lazara, A. (Eds.). (2006). Section 619 profile (14th ed.). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

Fall 2007



NATIONAL EARLY CHILDHOOD TRANSITION CENTER

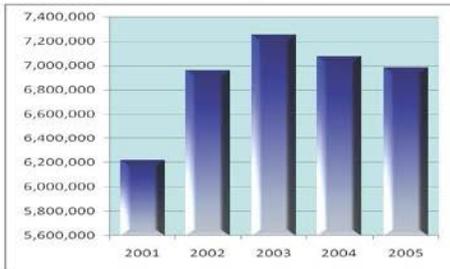
Wisconsin State Profile

## Part C

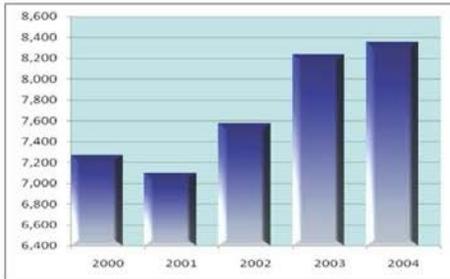
### The Early Intervention Program for Children Ages Birth Through Two Years with Disabilities

Wisconsin's Early Intervention Program, called *Birth to 3*, is administered by the Wisconsin Department of Health & Family Services, which is administered by the Developmental Disabilities Services of the Wisconsin state government.

Federal Allocations for Part C



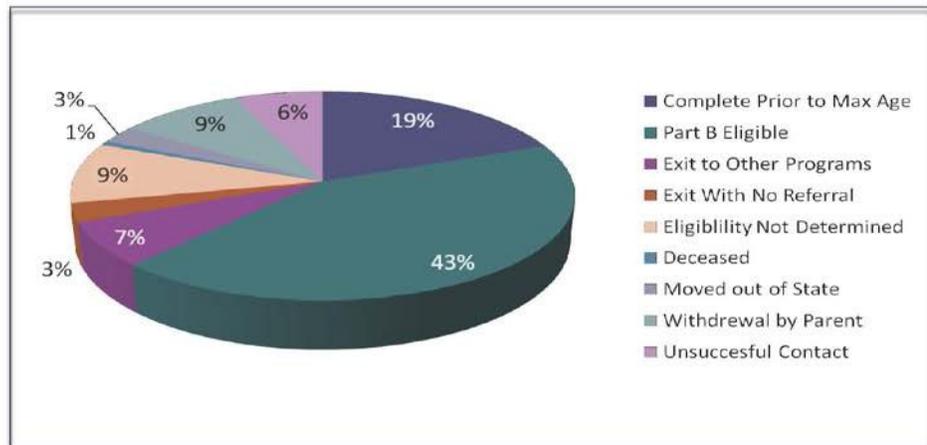
Number of Infants and Toddlers Served



#### Part C Services in WI:

- At the initial evaluation, the following five developmental domains are evaluated: cognitive development, speech and language development, social and emotional development, and adaptive development.
- Eligibility is determined as a 25% delay or 1.3 SD below the mean in one area of development. Eligibility may also be determined by MDT with informed clinical opinion.
- Some of the services that the *Birth to 3* program provides include: family education, developmental education, communication, related health, occupational therapy, and physical therapy.
- 5,756 children ages 0-3 received services through Part C in Wisconsin in 2006, approximately 2.8% of the population.
- In 2006, 782 children ages 0-1 year received early intervention services (1.1% of the population), 1,644 children ages 1-2 years received services (2.4%), and 3,330 children ages 2-3 received services (4.9%).
- The website of Wisconsin's Part C program is: <http://dhs.wisconsin.gov/bdds/birthto3/index.htm>.

Children Exiting Services in 2003-2004



Data Source: Danaher, J., Armijo, C. & Lazara, A. (Eds.). (2006). Part C updates (8th ed.). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

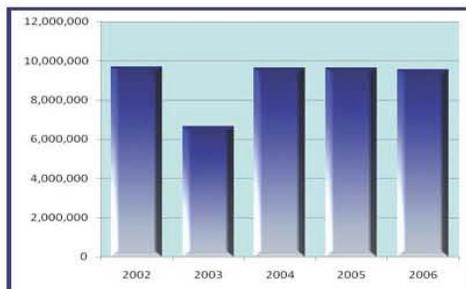


# Section 619

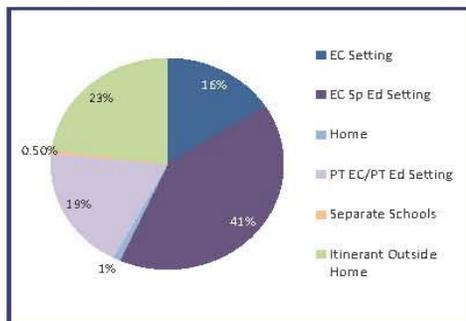
The Federal Special Education Program for Children Ages 3-5

The Special Education Team of the Department of Public Instruction administers Section 619 of IDEA in Wisconsin.

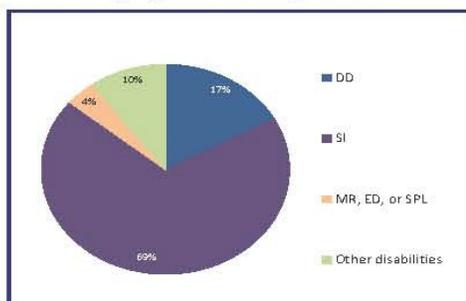
### Federal Allocation for Section 619



### Part B Educational Environments 2006



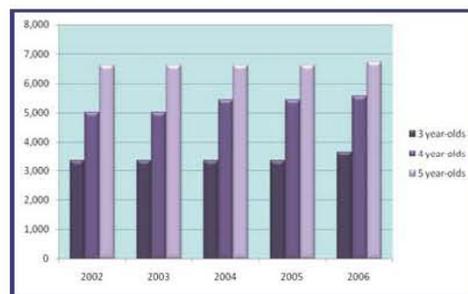
### Disability Type Served by Part B 2006



### Section 619 Services in WI:

- The Wisconsin Department of Public Instruction has Interagency agreements with Head Start, the Department of Health and Human Services, and state operated programs.
- A data collection system which will aid in the transition between Part C and Part B and that provides data for Annual Performance Reports is under development.
- Wisconsin provides state funded Pre-Kindergarten for at-risk children, locally funded Pre-K, Title I Pre-K, Pre-K Early Reading, and state Head Start.
- 15,955 children were served under Section 619 of IDEA in FY 2006.
- One state level position coordinates Section 619 Services, the Early Childhood Special Education Coordinator.
- Wisconsin's Birth-5 program provides technical assistance to Interagency Coordinating Councils.
- The State Education Agency in Wisconsin authorizes Section 619 funds to provide Free Appropriate Public Education (FAPE) to children before their 3rd birthday.
- Wisconsin's policy authorizes Part C funds to be used to provide FAPE for children past their third birthday.

### # of 3, 4, & 5 year-olds with Disabilities



National Early Childhood Transition Center  
126 Mineral Industries Building  
University of Kentucky  
Lexington, KY 40506-0051  
Phone: (859) 257-2081  
Toll Free: (866) 742-4015  
E-mail: caroline.gooden@uky.edu

Data Source: Danaher, J., Kraus, R., Armijo, C., Hipps, C., Cory, S., & Lazara, A. (Eds.). (2006). Section 619 profile (14th ed.). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.

### B-3: Sampling Frame (Proposed)

	Total #	Urban	Rural	Native American/ Alaskan Native	Asian/ Pacific Islander	Black/ African American	Hispanic/Latino	White/ Anglo European	Other
<b>State 1</b>									
State IDEA				.47%	1.10%	11.3%	2.2%	84.9%	
State Census		51%	49%	.2%	.7%	7.3%	1.5%	90.1%	
Proposed Sample	80	41	39	2.5%	2.5%	12.5%	2.5%	77.5%	
Oversample	--	--	--	--	--	--	--	--	--
<b>State 2</b>									
State IDEA				.43%	1.04%	46.47%	1.34%	50.71%	
State Census		75%	25%	.6%	1.2%	32.5%	2.4%	63.9%	
Proposed Sample	80	60	20	2.5%	2.5%	47.5%	6.25%	41.25%	
Oversample	--	--	--	--	--	--	--	--	--
<b>State 3</b>									
State IDEA				.96%	1.42%	15.03%	4.79%	77.80%	
State Census		83%	17%	.6%	1.8%	14.2%	3.3%	80.2%	
Proposed Sample	80	64	16	2.5%	2.5%	16.25%	8.75%	70.00%	
Oversample	20	10	10	10	10				
Total proposed sample	100			15%	15%	13.00%	7.00%	56.00%	
<b>State 4</b>									
State IDEA				2.28%	2.07%	2.70%	14.79%	78.17%	
State Census		73%	27%	1.3%	3.2%	1.6%	8.0%	86.6%	
Proposed Sample	80	58	22	2.5%	2.5%	3.75%	16.25%	63.75%	
Oversample	25	13	12	15	10				
Total proposed sample	105			16.19%	11.4%	2.85%	12.38%	57.14%	
<b>State 5</b>									
State IDEA				1.04%	2.01%	16.88%	7.92%	72.14%	
State Census		69%	31%	.9%	1.7%	5.7%	3.6%	88.9%	
Proposed Sample	80	55	25	2.5%	3.75%	18.75%	11.25%	63.75%	
Oversample	35	18	17	10	15		10		
Total proposed sample	115			10.43%	15.65%	13.04%	16.52%	44.34%	
<b>TOTALS</b>									
Number in Proposed Sample	480								
Average Census Count				.72%	1.72%	12.26%	3.76%	81.94%	
Average proposed sample count				9.34%	9.41%	17.78%	8.93%	55.25%	

### B-4: Sampling Frame (Obtained)

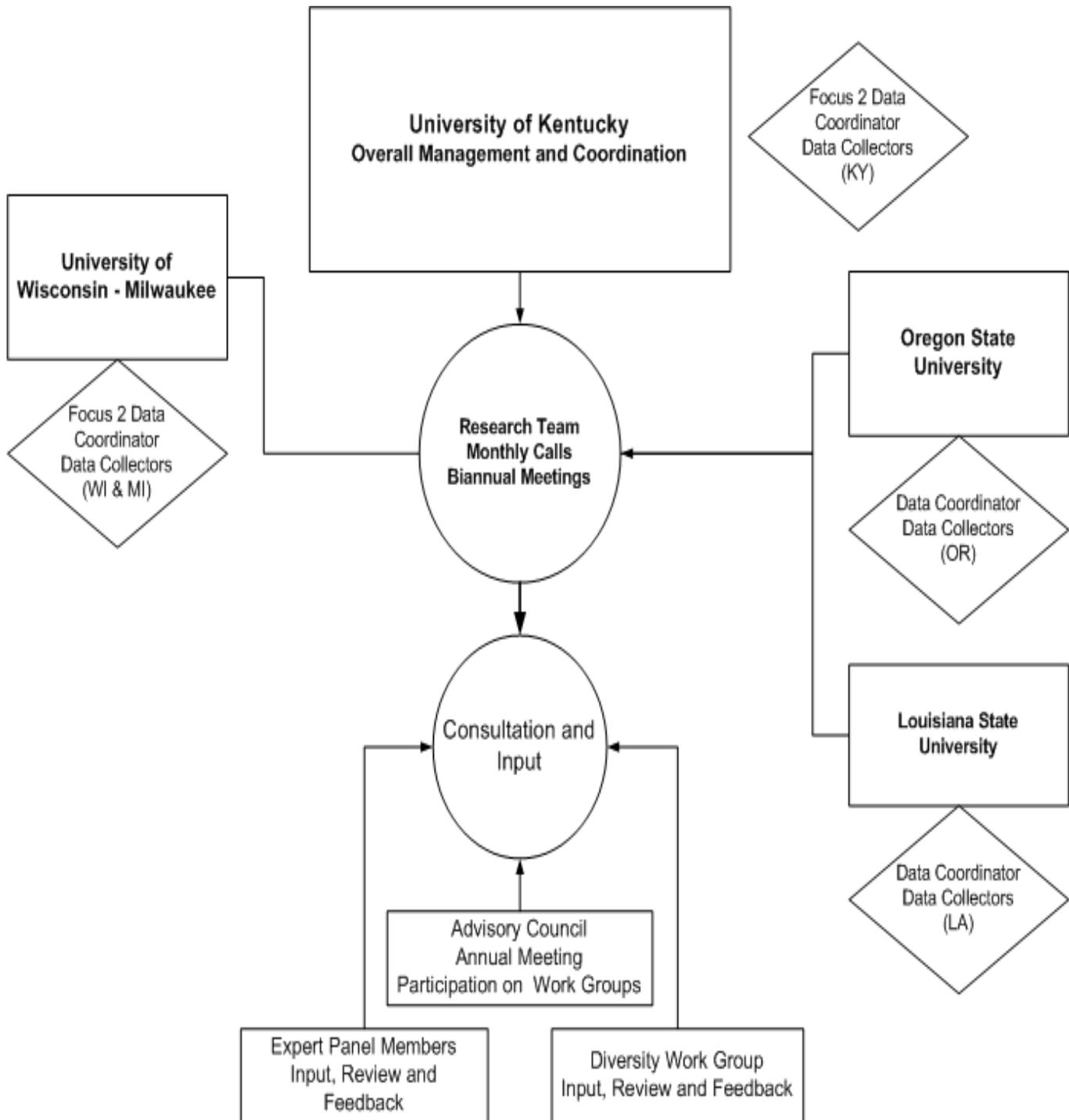
	Total # <sup>3</sup>	Urban	Rural	Native American/ Alaskan Native	Asian/ Pacific Islander	Black/ African American	Hispanic /Latino	White/ Anglo European	Other
<b>State 1</b>									
State IDEA				.47%	1.10%	11.3%	2.2%	84.9%	
State Census		51%	49%	.2%	.7%	7.3%	1.5%	90.1%	
Obtained n Study 1	34					8.8%	2.9%	76.5%	11.8%
Obtained n Study 2	41					7.3%	2.4%	73.2%	17.1%
Obtained n Study3	67					10.4%	1.5%	79.1%	9.0%
Obtained n Study 4	62					8.1%	3.2%	83.9%	4.8%
<b>State 2</b>									
State IDEA				.43%	1.04%	46.47%	1.34%	50.71%	
State Census		75%	25%	.6%	1.2%	32.5%	2.4%	63.9%	
Obtained n Study 1	72			0	5.6%	34.7%	2.8%	56.9%	
Obtained n Study 2	60				3.3%	28.3%	3.3%	65.0%	
Obtained n Study3	84				2.4%	32.1%	1.2%	59.5%	4.8%
Obtained n Study 4	25					8.0%	4.0%	84.0%	4.0%
<b>State 3</b>									
State IDEA				.96%	1.42%	15.03%	4.79%	77.80%	
State Census		83%	17%	.6%	1.8%	14.2%	3.3%	80.2%	
Obtained n Study 1	11							90.9%	9.1%
Obtained n Study 2	14					7.1%	7.1%	64.3%	21.4%
Obtained n Study3	13							76.9%	23.1%
Obtained n Study 4	16							81.2%	18.8%
<b>State 4</b>									
State IDEA				2.28%	2.07%	2.70%	14.79%	78.17%	
State Census		73%	27%	1.3%	3.2%	1.6%	8.0%	86.6%	
Obtained n Study 1	26					3.8%		76.9%	19.2%
Obtained n Study 2	26				3.8%	3.8%		76.9%	15.3%
Obtained n Study3	105				1.9%	2.9%	2.9%	81.9%	10.5%
Obtained n Study 4	85				2.4%	3.5%	3.5%	78.8%	11.8%
<b>State 5</b>									
State IDEA				1.04%	2.01%	16.88%	7.92%	72.14%	
State Census		69%	31%	.9%	1.7%	5.7%	3.6%	88.9%	
Obtained n Study 1	38					23.7%	5.3%	63.2%	7.9%
Obtained n Study 2	48					14.6%	2.1%	72.9%	10.4%
Obtained n Study3	28					21.4%	3.6%	64.3%	10.7%
Obtained n Study 4	30					20.0%	3.3%	63.3%	13.3%
<b>DIFFERENCES</b>									
Difference (sample – census)				-.72%	2.46%	3.14%	-.94%	-10.11%	12.44%
Significance				NS	NS	NS	NS	NS	NS

<sup>3</sup> Total # is based on responses listed

## Appendix C

### Administrative Organization

**Figure 1. Administrative Organization**



## Appendix D

### Recruitment Information by State

**Kentucky.** The Kentucky Part C coordinator was contacted by UK NECTC research staff to elicit support and to obtain the names of providers in the state. The Part C coordinator's office provided mailing labels for each of the providers within the state. A letter from the NECTC Principal Investigators and state NECTC coordinator was attached to the survey and a total of 790 surveys were mailed in early June 2003. The first mailing yielded 236 replies (30%). Of these, 59% responded as being interested in participating in the project. Project staff made telephone contact with those respondents who needed more information. Second and third mailings in June and July, respectively, yielded a total of 499 responses (63%) with 54% interested in the project, 44% not interested, and 2% who needed more information. A letter from the Part C coordinator was attached to the material sent during the third mailing. The project coordinator, in collaboration with state and NECTC staff, determined that this was an adequate sample of the population of providers. Initial random selection identified 11 urban and 9 rural providers. Total responses were 499 of 790 for a response rate of 63%.

**Louisiana.** The Part C coordinator at the State Department of Education (lead agency at the time) was contacted by the Louisiana State University (LSU) Health Sciences Center NECTC research staff to obtain a listing of the 65 early intervention programs in the state. A letter from the NECTC state coordinator at LSU was attached to the survey and sent to the 65 programs in early July 2003. The first mailing yielded 18 replies. A reminder letter was sent 4 weeks later to the remaining 47 programs. The second mailing yielded 7 more replies. The Louisiana NECTC research coordinator sent an email to the remaining 40 programs in August 2003; 10 more surveys were returned. Of the 35 surveys returned, 21 (32%) programs agreed to participate, 13 (20%) declined to participate and 1 did not indicate a preference. The state Part C coordinator, in collaboration with NECTC staff, determined that this was an adequate sample of the population and 16 of the 21 programs were randomly selected by NECTC staff at UK to participate. Of the 16 programs selected, 15 agreed to participate. However, after recruitment of families began, 8 programs that had originally declined (from the original 35) elected to participate. These new programs were added, which brought the total number of participating programs to 23 (35%). Recruitment and retention of participants was severely impacted by hurricanes Katrina and Rita in 2005.

**Michigan.** In March 2004, the University of Wisconsin–Milwaukee (UWM) NECTC project staff met with the acting Part C coordinator for the Michigan Department of Education, and the Early Intervention (EI) Specialist in Quality Assurance. Letters on UWM letterhead were sent to 66 coordinators of EI Services in October 2003, with a follow-up letter in March 2004. Following those mailings, 17 (26%) programs agreed to be contacted and 11 refused. The names of these programs were sent to the NECTC office at UK; all 17 willing programs were selected for participation.

**Oregon.** Oregon's Early Intervention/Early Childhood Special Education coordinator was contacted by Oregon State University NECTC research staff to build support for and create a

plan to encourage participation in the NECTC project. The Part C coordinator agreed to send information about NECTC via the EI/ECSE state newsletter. She also facilitated NECTC staff attendance at the Regional EI/ECSE Coordinator's meeting in May 2003 and Oregon's ICC meeting in June 2003. These meetings were used to garner further support for Oregon's participation in the study. In addition, the Part C coordinator provided addresses for the 10 Regional EI/ECSE contractors and the 38 county-level EI/ECSE program coordinators. Once these addresses were obtained, an introductory letter on OSU stationery, along with a demographic survey and a self-addressed, stamped envelope, were sent to the 38 professionals discussed above (some regional contractors were also program coordinators). Nineteen surveys were sent to non-responders during a second mailing. NECTC staff engaged in email follow-up with 12 of these 19 non-responders. As a result, 28 programs responded and 10 programs gave no response. Of the 28 responders, 20 said they would like more information about the project and 8 said they did not want more information. Demographic information from the 20 interested programs was sent to the NECTC office at UK for program selection. All 20 programs (42%) were selected for participation.

**Wisconsin.** NECTC staff at UWM met with the Programs and Policies specialist for the Birth to Three Program for the Wisconsin Department of Health and Family Services, and the Early Childhood Consultant for the Department of Public Instruction in May 2003. Contact information was obtained for each of Wisconsin's 72 counties. A letter on UWM stationery was drafted and sent in July to each of the county Birth to Three coordinators, describing the NECTC study and asking for participation. A follow-up letter was sent in August to those counties that did not reply to the initial letter. A total of 32 (44%) counties agreed to participate, and 13 counties replied they did not wish to participate. The remaining counties did not respond. Replies were forwarded to NECTC staff at UK; 8 urban and 10 rural sites were randomly selected for participation.

Selected programs/providers were contacted by NECTC coordinators in each state to confirm their participation and to arrange for an opportunity to recruit children and families from their programs in the summer of 2003. When families returned signed release forms, data collectors began to schedule visits in October 2003. Family and child data collection began in December 2003 and continued through spring 2007. Children exiting early intervention were selected during the first years (winter 2003 – summer 2004) to populate the longitudinal sample (i.e., to have sufficient time within the scope of the research for these children to transition from early intervention to preschool and from preschool to kindergarten). Following the longitudinal cohort selection, children from early intervention and preschool programs were recruited until spring 2007.

## D-1 Sample Initial Mailing Cover Letter (KY)



Dear Provider,

Throughout the early childhood years, children with disabilities and their families experience many transitions among various providers and settings. Research indicates that transitions have broad implications for school success. Although a significant amount of research has been conducted about early childhood transition practices, clear gaps exist, specifically related to the impact of transition practices on child and family outcomes. The purpose of the National Early Childhood Transition Center (NECTC) is to examine factors that promote successful transitions between infant/toddler services, preschool programs, and public school settings for young children with disabilities and their families. NECTC is a national research project that is funded by the U.S. Department of Education, Office of Special Education Programs.

We are writing to ask your assistance in the Center's venture to enhance the current research base related to successful practices in early childhood transition birth through five for children with disabilities and their families. Enclosed is a one-page survey to help us determine the types of young children who are currently being served. Information obtained from this survey will be used to guide the selection of children and their parents to participate in NECTC activities.

When completing the survey, please be assured that your responses will be kept confidential. Once you have completed this survey, please return it in the stamped, preaddressed envelope provided. We have taken great care to make each statement easy to understand. However, if you have questions or problems, contact one of us at the address, phone number or e-mail listed below. Thank you for your time and support of the NECTC.

Lee Ann Jung  
[ljung@uky.edu](mailto:ljung@uky.edu)  
Special Ed & Rehab Counseling  
124 Taylor Education Building  
University of Kentucky  
Lexington, KY 40506-0001  
859-257-7905

Beth Rous  
[brous@uky.edu](mailto:brous@uky.edu)  
Interdisciplinary Human Dev Ctr  
126 Mineral Industries Building  
University of Kentucky  
Lexington, KY 40506-0051  
859-257-9115

### Partner Universities

University of  
Kentucky

University of  
North  
Carolina-  
Chapel Hill

Louisiana  
State  
University  
Health  
Sciences  
Center

Oregon State  
University

University of  
Wisconsin -  
Milwaukee



## D-2 Sample Second Mailing Cover Letter (KY)

**National**  
**EARLY**  
**CHILDHOOD**  
**TRANSITION**  
**CENTER**

OPENING DOORS TO SUCCESS

June 24, 2003

Dear Provider,

Two weeks ago, you should have received a letter and questionnaire from us. This second letter serves to follow up on our request. In case our original request was misplaced, we are sending you another copy. We appreciate you taking time out of your day to complete the short questionnaire and returning it in the enclosed envelope. If you have recently responded, we thank you for your follow through.

Your information is important to help the National Early Childhood Transition Center (NECTC) to examine factors that promote successful transitions between infant/toddler services, preschool programs, and public school settings for young children with disabilities and their families. NECTC is a national research project that is funded by the U.S. Department of Education, Office of Special Education Programs. As you know, throughout the early childhood years, children with disabilities and their families experience many transitions among various providers and settings. Research indicates that transitions have broad implications for school success. We are writing to ask your assistance in the Center's venture to enhance the current research base related to successful practices in early childhood transition birth through five for children with disabilities and their families. Enclosed is a one-page survey to help us determine the types of young children who are currently being served. Information obtained from this survey will be used to guide the selection of children and their parents to participate in NECTC activities.

When completing the survey, please be assured that your responses will be kept confidential. Once you have completed this survey, please return it in the stamped, preaddressed envelope provided. We have taken great care to make each statement easy to understand. However, if you have questions or problems, contact one of us at the address, phone number or e-mail listed below. Thank you for your time and support of the NECTC.



Lee Ann Jung  
[ljung@uky.edu](mailto:ljung@uky.edu)  
Special Ed & Rehab Counseling  
124 Taylor Education Building  
University of Kentucky  
Lexington, KY 40506-0001  
859-257-7905



Beth Rous  
[brous@uky.edu](mailto:brous@uky.edu)  
Interdisciplinary Human Dev Ctr  
126 Mineral Industries Building  
University of Kentucky  
Lexington, KY 40506-0051  
859-257-9115



University of Kentucky, Interdisciplinary Human Development Institute 126 Mineral Industries Building  
Lexington, KY 40506-0051 Phone: (859) 257-2081 Fax: (859) 257-2769  
Email: [trnowa0@uky.edu](mailto:trnowa0@uky.edu) Website: <http://www.ihdi.uky.edu/nectc/>

## Appendix E

### Advisory Groups

#### *E-1: Expert Panel*

**Judith J. Carta, Ph. D.**

University of Kansas  
Jupiter Gardens Children's Project  
Kansas City, KS

Diane Early, Ph.D.

Frank Porter Graham Child Development Institute  
University of North Carolina at Chapel Hill

Michael Fahey, M.Ed.

Student Support Services  
Hawaii Department of Education  
Honolulu, HI

James Gallagher, Ph.D.

Frank Porter Graham Child Development Center;  
National Center for Early Development and Learning  
University of North Carolina at Chapel Hill

**Paula E. Goff, M.S.**

Consultant  
River Ridge, LA

**Rena Hallam, Ph.D.**

Child and Family Studies  
University of Tennessee,  
Knoxville, TN

**Mary E. Janson**

Child Advocacy Center  
Cincinnati, Ohio

**George Jesien, Ph.D.**

Association of University Centers on Disabilities, Silver Springs, MD

**Richard J. Lewis, Ed.D.**

ASC/Mid-South Regional Resource Center Human Development Institute  
University of Kentucky

**Robin A. McWilliam, Ph.D.**

Center for Child Development  
Department of Pediatrics  
Vanderbilt University Medical Center  
Nashville, TN

**Christine Teeters Myers, M.H.S, O.T.R./L**  
Department of Occupational Therapy  
Eastern Kentucky University, Richmond, KY

**Robin Rooney, Ph.D.**  
Frank Porter Graham Child Development Institute  
University of North Carolina at Chapel Hill

**Rosa (Amy) Santos, Ph.D.**  
University of Illinois at Urbana-Champaign

**Jo Shackelford, M.P.H., M.A.**  
National Early Childhood Technical Assistance Center  
University of North Carolina at Chapel Hill

**David Smith, M.A.**  
Colorado Department of Education  
Denver, CO

**Patricia Snyder, Ph.D.**  
Center for Child Development  
Vanderbilt University Medical Center  
Nashville, TN

**Alan Sugawara, Ph.D.**  
Oregon State University and the Old Mill Center for Children and Families  
Corvallis, OR

**Kim F. Townley, Ph.D.**  
Division of Early Childhood Development  
Kentucky Department of Education

**Sharon Walsh, M.A.**  
Walsh Taylor Incorporated  
Burke, VA

**Kathy T. Whaley, M.S.**  
National Early Childhood Technical Assistance Center  
Frank Porter Graham Child Development Institute  
University of North Carolina at Chapel Hill

**Pamela J. Winton, Ph.D.**  
Senior Scientist and Director of Outreach  
Frank Porter Graham Child Development Institute.  
University of North Carolina at Chapel Hill

**Mark Wolery, Ph.D.**  
Department of Special Education Vanderbilt University  
Nashville, TN

## ***E-2: Advisory Council***

### **RESEARCH TEAM**

Dr. Beth Rous  
Dr. Katherine McCormick  
Dr. Gloria Harbin  
Dr. Sharon Rosenkoetter  
Dr. Sarintha Stricklin  
Dr. Mark Innocenti  
Dr. Ann Hains  
Dr. Megan Cox  
Ms. Caroline Gooden  
Dr. Teri Nowak  
Dr. Lee Ann Jung

### **STATE COORDINATORS**

Linda Champion (and Advisory Council): LA 619  
Lori Witteman (and Advisory Council): WI Part C  
Jennifer Olson: OR Part C  
Stefanie Kujaczynski: MI 619  
Vanessa Winborne: MI Part C  
Paula Goff: KY 619  
Kirsten Hammock: KY Part C

### **ADVISORY COUNCIL MEMBERS**

Diana Allen  
Sophie Bertrand  
Lori Denise Concha  
Susan Crowther  
Sara Gelser  
Andy Gomm  
Natasha Hagen  
Dr. Jim Lesko  
Andrea Nielson  
Nancy Peeler  
Pam Roush  
Tiffany Wheeler  
Melanie Tyner-Wilson

### ***E-3: Diversity Workgroup***

**M. Parker Anderson, M.A.**

The Anderson Advantage Group  
Washington, DC

**Lynette Aytch, Psy.D.**

Frank Porter Graham Child Development Institute  
University of North Carolina at Chapel Hill

**Isaura Barrera, Ph.D.**

College of Education,  
University of New Mexico

**Lynson Moore Beaulieu**

Chief Operations Officer, La Causa, Inc.  
Milwaukee, Wisconsin

**Sophie Bertrand, M.A.**

UNM Center for Development & Disability  
Albuquerque, NM

**Deborah Chen, Ph.D.**

California State University, Northridge

**Jennifer Grisham-Brown, Ed.D.**

Assistant Professor, Family Studies, University of Kentucky

**S. Jo Lewis, M.Ed.**

Indian Community School of Milwaukee, Inc.

**My-Van Nguyen**

Dale McIntosh Center  
Garden Grove, CA

**Amy June Rowley, M.S.**

University of Wisconsin-Madison

**Rachelle G. Saceda, M.S.**

Oregon Child Development Coalition

**Sylvia Sanchez, Ed.D.**

George Mason University  
Washington, DC

**Rosa (Amy) Santos, Ph.D.**

University of Illinois at Urbana-Champaign

**Paula Seanez**

Division of Dine Education, Executive Director  
Window Rock, Arizona

**Justine Strickland, M.Ed.**

Director, Children with Special Needs Georgia  
Department of Human Resources  
Atlanta, GA

**Alan Sugawara, Ph.D.**

Oregon State University and the Old Mill Center for Children and Families  
Corvallis, OR

**Amy Lin Tan, Ph.D.**

Sacramento City Unified City School District

**Ann Terrell, M.S.**

Milwaukee Public Schools  
Milwaukee, WI

**Christine Begay Vining, M.S.**

Rio Rancho, New Mexico

**Dao Xiong, A.A.**

PACER Center  
Bloomington, MN

**Chun Zhang, Ph.D.**

Fordham University New York

## Appendix F

### Assessment Matrix

**Figure 1: Assessment Instruments**

Assessment	Study 1	Study 2	Study 3	Study 4
<b>CHILD MEASURES</b>				
<i>Behavior Assessment System for Children (BASC-PRS)</i>	√	√	√	√
<i>Dimensions of Temperament-Revised (DOTS-R, Child)</i>	√	√	√	
<i>Dynamic Indicators of Basic Early Literacy Skills (DIBELS) Letter Naming Fluency</i>			√	√
<i>Early Math Skills Test</i>			√	√
<i>Emergent Literacy Measure (ELM)</i>	√	√	√	√
<i>Individual Growth and Development Indicators (IGDI) Alliteration</i>			√	√
<i>Individual Growth and Development Indicators-Picture Naming</i>			√	√
<i>Individual Growth and Development Indicators- Rhyming</i>			√	√
<i>Merrill-Palmer-Revised Cognitive</i>	√		√	
<i>Merrill-Palmer-Revised Motor</i>	√		√	
<i>Merrill-Palmer-Revised Expressive Language</i>	√	√	√	
<i>Merrill-Palmer-Revised (MP-R) Examiner Expressive Language</i>	√	√	√	√
<i>Merrill-Palmer-Revised Self Help</i>	√		√	
<i>Merrill-Palmer-Revised (MP-R) Social-Emotional Scale A</i>	√		√	
<i>Merrill-Palmer-Revised (MP-R) Social-Emotional Problem Indicators</i>	√			
<i>Picture Vocabulary Test III (PPVT-III or TVIP)</i>	√	√	√	√
<i>Pediatric Evaluation of Disability Inventory (PEDI)</i>			√	√
<b>PARENT MEASURES</b>				
<i>Center for Epidemiological Studies Depression Scale (CES-D)</i>	√	√	√	√
<i>Early Intervention Services Assessment Scale (EISAS), Assessment</i>	√	√		
<i>Early Intervention Services Assessment Scale (EISAS), Program Practices</i>	√			
<i>Early Intervention Services Assessment Scale (EISAS), Transition</i>	√			

<b>PARENT MEASURES</b>				
<i>Ecomap</i>	√		√	
<i>Family Empowerment Scale (FES)</i>	√	√	√	√
<i>Family Interview</i>	√	√	√	√
<i>Family Support Scale (FSS)</i>	√	√	√	√
Individual Education Plans	√			
Individual Family Service Plans	√			
<i>Transition Perceptions of Parents – Adapted (TPP) Parent</i>				√
<b>PROVIDER MEASURES</b>				
<i>Behavior Assessment Systems for Children (BASC-TRS)</i>	√	√	√	√
<i>Center-Based Provider Survey A</i>	√	√		
<i>Center-Based Provider Survey B</i>	√	√		
<i>Dimensions of Temperament-Revised (DOTS-R, Adult)</i>	√		√	
<i>Early Intervention Services Assessment Scale (EISAS), Program Practices</i>	√			
<i>Early Intervention Services Assessment Scale (EISAS), Transition</i>	√			
<i>Family Child Care Provider Survey A</i>	√			
<i>Family Child Care Provider Survey B</i>	√			
<i>Provider Survey A</i>	√	√	√	√
<i>Provider Survey B</i>	√	√	√	√
<i>Transition Perceptions of Parents – Adapted (TPP) Provider</i>		√		√
<b>SERVICE COORDINATOR MEASURES</b>				
<i>Service Coordinator Survey A</i>	√			
<i>Service Coordinator Survey B</i>	√			
<b>ADMINISTRATOR MEASURES</b>				
<i>Administrator Survey</i>	√	√	√	√

## Appendix G

### Child Measures

#### ***Behavior Assessment System for Children (BASC)***

##### ***Description***

The *Behavior Assessment System for Children (BASC)* (Reynolds and Kamphaus, 1992) is a comprehensive approach for assessing child behavior and social-emotional status of children aged 2 to 18 years utilizing rating scales, parent report, and observation techniques. The BASC is a norm-referenced, standardized instrument designed to facilitate the identification of emotional and behavioral difficulties. For the purposes of the NECTC studies, the BASC was administered at each data collection point. The *Parent Rating Scale (PRS)* and the *Teacher Rating Scale (TRS)* were completed by the child's parent/appropriate caregiver and provider, respectively. In addition, the Preschool form (ages 2 ½ to 5 years) and the School form (ages 6 to 11 years) were used, depending upon the child's chronological age. Scores on the BASC are reported as normed *T*-scores for each area mentioned above, with a mean of 50 and standard deviation of 10.

The Parent Scale (BASC-P) assesses four broad areas, although the preschool version has fewer parent scales. The BASC-P contains composite areas that focus on Externalizing Problems (alpha = .94), including aggression and hyperactivity scales. Additional composite areas are Internalizing Problems (alpha = .84), including anxiety, depression, and somatization; Attention Problems (alpha = .81); Atypicality (alpha = .85); Withdrawal (alpha = .86); and Adaptive Skills (alpha = .90), including adaptability and social skills scales. A Behavioral Symptom Index (BSI; alpha = .94) that measures an overall level of problem behavior also is obtained from the aggression, hyperactivity, anxiety, depression, attention problems, and atypicality scales of the Parent Scale (Reynolds & Kamphaus, 1992).

The Teacher versions for preschool and school age children are identical to the parent versions with the exception of a composite area that focuses on school for the school age children. The *Teacher Rating Scale (TRS)*, like the BASC-P contains the following composite areas: Externalizing Problems (alpha = .94), including aggression and hyperactivity scales; Internalizing Problems (alpha = .82), including anxiety, depression, and somatization; Attention Problems (alpha = .85); Atypicality (alpha = .85); Withdrawal (alpha = .84); and Adaptive Skills (alpha = .89), including adaptability and social skills scales. A Behavioral Symptom Index (BSI; alpha = .94) that measures an overall level of problem behavior also is obtained from the aggression, hyperactivity, anxiety, depression, attention problems, and atypicality scales of the Teacher Scale (Reynolds & Kamphaus, 1992).

##### ***Published Data***

The BASC-P has been used for a variety of purposes. It has been used to assess interventions, including Kinder Therapy (White, Flynt, & Jones, 1999), Creating Opportunities for Parent Empowerment (COPE; Melnyk & Aplert-Gillis, 1996), and play therapy for sexually abused children (Zion, 1999); to assess the behavior of specific groups of children, including Chinese adoptees (Rojewski, Shapiro, & Shapiro, 2000), Head Start students (McNamara, Hollmann, &

Riegel, 1994), and children with Prader Willi Syndrome (Haqq, Stadler, Jackson, Rosenfeld, Prunell, & LaFranchi, 2003); and to measure school adjustment (Demaray & Malecki, 2002). The BASC has also been used to investigate behavioral patterns and their relationships with other variables, such as prenatal cocaine exposure (Tsoubri, 1998). A majority of the studies reporting the use of the BASC were dissertations and only a small number of studies that used the BASC preschool versions were found in peer-reviewed professional journals.

The BASC has been widely used in school-age studies. Similar to NECTC's use of the BASC, other studies have been conducted using the BASC to measure school adjustment. For example, Demaray, Malecki, Davidson, Hodgson, and Rebus (2005) used the BASC Self Report to measure social support and school adjustment of 82 urban middle school students. In addition, Jung and Stinnett (2005) used the BASC Self Report and the PRS to compare social, emotional, and behavioral school adjustment of 120 Korean, Korean American, and Caucasian American children, ages eight to 11 years.

### ***Normative Samples***

The preschool norms were developed separately from the older age groups. Reynolds and Kamphaus (1992) reported that 664 children were in the TRS-Preschool (TRS-P) norming sample and 559 children were in the PRS-Preschool (PRS-P) sample. The gender split was representative of the 1994 US Census. A substantial number of children representing various ethnicities were in the sample and, when weighted, representation closely matched the US population. Geographic location, representing north, north central, south and west geographic regions of the country were weighted. General norms were developed as well as combined-gender and separate-gender norms. Reynolds and Kamphaus noted that separate-gender norms are necessary because females consistently score higher on the Adaptability and Social Skills scales, while males score higher on the Aggression, Attention Problems, and Hyperactivity scales.

### ***Dimensions of Temperament Scale – Revised (DOTS-R)***

#### ***Description***

The *Dimensions of Temperament Scale – Revised* (DOTS-R; Thomas & Chess, 1977) is designed to explain behavioral individuality as well as predict behavior problems and potential mental health disorders. They are based on nine dimensional constructs of temperament as established by Thomas and Chess (1977) in the New York Longitudinal Study (NYLS; Thomas, Chess, Birch, Hertzog, & Horn, 1963). The NYLS was one of the first major studies of temperament that began in 1956 with 131 infants. These original participants continue to be followed today. The DOTS-R uses these constructs as a common factor structure for an age-continuous measure from early childhood to adulthood. The nine dimensions of temperament are: Activity Level, Rhythmicity, Adaptability, Threshold, Intensity, Mood, Attention Span, Distractibility, and Approach/Withdrawal.

There are three versions of the DOTS-R, referred to as the DOTS-R Child, the DOTS-R Child (Self), and the DOTS-R Adult. All three versions use the same 54 items. The Child (Self) and Adult versions are self-reports, while the parent is the respondent for the DOTS-R Child. The latter version is designed for young children through middle elementary school level. The

difference in the respondent for the DOTS-R results in minor variations in the instructions and changes in pronouns and verbs.

The DOTS-R Child and DOTS-R Adult versions were used in the NECTC study. Parents (typically mothers) were asked to complete the DOTS-R Child prior to transition. Providers in the child's new environment were asked to complete the DOTS-R Adult scale and both DOTS-R (adult and child) at exit from preschool.

### ***Published Data***

Published data involving DOTS-R instruments are limited. Most of the studies involve adolescent populations. A few studies have been reported for the DOTS-R with samples of greater diversity. For example, Waddington (1996) found that the DOTS-R was appropriate for middle-aged adults and Wills, DuHamel, and Vaccaro (1995) used this instrument in a study of 1,826 participants with a large number of the sample identifying themselves as African American and Hispanic.

### ***Normative Samples***

Windle and Lerner (1986) reported that the original version of the DOTS was developed from a large pool of items that were drawn from other measures of temperament as well as the literature, including the nine dimensions from the Thomas, Chess, Birch, Hertzig, & Horn's (1963) NYLS. From the final draft, the authors developed three versions for adults, children, and for parents of young children and standardized them with college students, elementary school students and mothers of preschool children, respectively. Although there was some ethnic diversity, participants across all three groups were predominantly white, middle class, female, Catholic, suburban subjects from the northeastern portion of the United States. Standardization resulted in a 54-item instrument that loaded on five factors. These five temperament attributes had high predictability for outcomes related to school adjustment, including social functioning, behavioral adjustment and academic performance (Lerner, Lerner, & Zabski, 1985). There were, however, administrative and statistical limitations to the instrument that the authors attempted to correct in the revised edition.

For the revision, the child version of the DOTS-R was standardized on 114 preschoolers and the child-self and adult versions were used with 224 sixth graders and 300 undergraduate students, respectively. The ethnic and socioeconomic status of this group was similar to the norming group used for the original version of the DOTS. Gender was close to an equal split and there were more people who identified themselves as Protestant than in the original group. To identify items for the final version, Windle and Lerner (1986) used item-to-total subscale correlations and deleted items that were less than or equal to .15 on at least two of the groups. For the final step, the authors conducted factor analyses and deleted items that were either randomly loaded on a factor or items did not appear to be meaningful in relation to the factor on which it loaded. Final factor analyses resulted in a nine-factor solution for the preschool

and elementary school samples and a ten-factor representation for college students. Windle and Lerner (1986) reported that the factors that all three samples have in common are: Activity Level–General, Activity Level–Sleep, Approach-Withdrawal, Flexibility-Rigidity, Mood, Rhythmicity-Sleep, Rhythmicity-Eating, and Rhythmicity-Daily Habits. The final factor for the preschool and elementary populations was Task Orientation which became two factors (Distraction and Persistence) for the young adult group, resulting in one additional factor for the young adult sample. It should be noted that these dimensions are slightly different from the nine NYLS dimensions. Congruence coefficients for pairwise factor comparisons between samples was relatively high, ranging from .70 to .95, for all comparisons except for Rhythmicity-Daily habits (.57 to .61) and Rhythmicity-Sleep for the preschool/elementary and the elementary/adult comparisons; (.68 and .65) respectively. Additionally, Cronbach's alpha was used to measure reliability. The authors reported moderate to high levels of internal consistency (.62 to .91) with the exception of the Rhythmicity-Daily habits, which fell to .54 in the elementary sample. Since the DOTS-R has been revised, a few studies have used this instrument with samples of greater diversity. For example, Waddington (1996) found that the DOTS-R was appropriate for middle-aged adults and Wills, DuHamel, and Vaccaro (1995) used this instrument in a study of 1,826 participants with a large number of the sample identifying themselves as African American and Hispanic.

### ***Dynamic Indicators of Basic Early Literacy Skills (DIBELS)***

#### ***Description***

The *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS; Kaminski & Good, 1996) measures the major empirically validated skills of literacy as identified by the National Reading Panel (National Institute of Child Health and Human Development; 2000). The set of tasks measure the five identified components of reading: phonemic awareness, alphabetic principle, accuracy and fluency, vocabulary, and comprehension. They are linked psychometrically and theoretically to measure reading and are predictive of later reading proficiency. Assessments were developed by a team of reading experts to be quick and reliable, so they can measure current literacy skills and growth over time. Multiple tasks are available to measure each component of reading. These tasks can be found on the DIBELS website at <https://dibels.uoregon.edu/>. One DIBELS task was used by NECTC to compliment the IGDI tasks (described later in this section). The Letter Naming Fluency task identifies young children who may be at risk for not achieving early literacy benchmark goals. This task was used in Studies 3, 4, and 5.

Letter Naming Fluency asks a child to name as many printed letters as possible in one minute. The letters are presented in a row by row format in both upper and lower case font. The Letter Naming Fluency task has good reliability and validity as measured by Good, Kaminski, Shinn, Bratten, Shinn, Laimon, Smith, and Flindt (2004). Reliability was measured using a one-month alternate form study ( $\alpha = .88$ ) with kindergarteners. Criterion-related validity with the Woodcock Johnson Psycho-educational Battery Revised readiness cluster showed .70.

Predictive validity of the Letter Naming Fluency task using first-grade Woodcock-Johnson Psycho-Educational Battery-Revised Reading Cluster had standard scores of .65 and .71 with first-grade CBM reading.

### ***Early Math Skills Test***

#### ***Description***

The *Early Math Skills Test* (Zill, 2003) was originally used in the Family and Child Experiences Survey (FACES: Westat, 1999; Office of Planning, Research, and Evaluation, 2000). The FACES is a large-scale study of Head Start program quality focused on participants in Head Start who were three to five years old. It measures a variety of basic mathematical concepts such as number and shape identification, counting, and adding. A set of cards in an easel format is used during this task. Pictures are on one side of the card and questions, prompts, and correct responses are provided on the other side. NECTC used this instrument in Studies 3, 4 and 5.

#### ***Published Data/Normative Sample***

No published data or information on normative samples were located.

### ***Emergent Literacy Measure (ELM)***

#### ***Description***

The *Emergent Literacy Measure* (ELM; NECTC, 2003) is a modification of the *Story and Print Concepts Task* used in the Family and Child Experiences Survey (FACES). The original FACES literacy task was designed to assess basic story concepts, such as comprehension of story content, print concepts, and the mechanics of reading. The NECTC version, ELM, was adapted to be used for a wider age range, including younger children with disabilities, and to assess concepts such as book orientation, page turning, identification of letters, left-to-right reading, identification of front/back/top/bottom of book, and meaning conveyed by print (NECTC, 2003). Outcomes are reported as a raw score with a minimum score of 0 and a maximum score of 16.

The ELM is administered by an adult to a single child in a setting that is comfortable and natural for both, such as sitting together in the child's living room. The child is shown a colorful picture book *Where's My Teddy* (Alborough, 1994). The adult guides the child through the book, asking 23 questions. The child responds both verbally and nonverbally throughout the activity.

The National Early Childhood Transition Center administered the ELM each time a child assessment was conducted with all participants in the studies. Thus, children in the longitudinal cohort (Study 5) were given the ELM four times, before and after the age three transition, and before and after the transition to kindergarten. Children in the other studies were administered the ELM twice, before and after the transition for their cohort.

The original protocol specified that all children were to begin with the first of the 23 items and continue through the final item. However, given that a significant percentage of young participants with disabilities failed to maintain attention over the 23 required responses, a mercy rule was instituted after the first data collection period. Beginning with question four, if the child scored a "0" (incorrect or no response) on any three consecutive items, the data collector was directed to discontinue asking the questions but continue reading the story. Near the end of the

story, the data collector was directed to ask questions 16 through 23. No other modifications (e.g., data collector pointing to item or nodding head) were allowed during administration of the ELM.

### ***Published Data/Normative Sample***

There is no published or normative data available. In developing the ELM, NECTC researchers piloted the test with a number of children who were between 30 months and 36 months to determine an adequate floor; however, no normative data was gathered.

### ***Individual Growth and Development Indicators (IGDIs)***

#### ***Description***

The *Individual Growth and Development Indicators* (IGDI; Early Childhood Research Institute on Measuring Development and Growth, 2004) is the measurement tool of the *Get It, Got It, Go* child development project of the University of Minnesota's Center for Early Education Development (CEED). *Get It, Got It, Go* is a data-driven system designed to measure young children's current literacy skills and growth over time. This approach provides a decision-making model for developing interventions and determining their effectiveness. The IGDIs are quick and reliable and provide an alternative to traditional, lengthier, and more costly assessments. The IGDI is made up of three components. The first, Picture Naming, is an expressive language measure in which pictures of common objects found in preschoolers' natural environment are presented and respondents are asked to verbally identify them. This task is timed for one minute. The second, Rhyming, is an early literacy task in which respondents identify a picture that rhymes with a target picture. The examiner states the name of each picture. This task is timed for two minutes. And the third, Alliteration, is an early literacy measure. The examiner names each picture on a card and the respondent identifies the picture that begins with the same sound as the target picture. This task lasts for two minutes. Details of the tasks can be found on the *Get It, Got It, Go* website at <http://ggg.umn.edu/>. NECTC used all three components of the IGDIs to measure current literacy status while participants were in preschool, approximately 3 months prior to transition to kindergarten (Study 3) and after they moved to kindergarten, approximately 3 months after they began kindergarten (Study 4).

#### ***Published Data***

Most data are found in technical reports that were developed by members of CEED. Luze and Hughes (2008) describe the use of the IGDIs for measuring child outcomes.

## ***Merrill-Palmer-Revised (MP-R)***

### ***Description***

The *Merrill-Palmer-Revised* (MP-R; Roid & Sampers, 2004) is an individually-administered instrument. The age range for testing is one to 78 months. Testing time for the core battery (cognitive, language, motor) ranges from 40 to 60 minutes on average, depending on the age and ability of the child. Supplemental parent and examiner rating scales are also included. National standardization included a normed sample of 1,080 children chosen to match the 2000 U.S. Census percentages for gender, ethnicity, parent education level, and geographic region. In addition, the scale has a supplemental research scale that examines clinical indicators of impaired mental health. The test contains some unique features designed to measure both typical and atypical development in young children. Furthermore, the test is designed to minimize cultural and social biases.

The MP-R is organized into four major assessment batteries: 1) The Cognitive Battery scales measure cognitive, fine motor, and receptive language domains, 2) Gross motor development; 3) Parent rating forms (social-emotional development scale, social-emotional temperament scale, self-help/adaptive behavior, and expressive language report); and 4) Examiner's scales (social-emotional problem indicators, and expressive language examiner report). Scores provided by these scales are the Developmental Index Quotient (DQ) from the Cognitive, Fine Motor, and Receptive Language scales; Expressive Language; Self-Help/Adaptive; and from each Social-Emotional scale. The diagnostic scales for expressive language were completed by the data collector and the parent or guardian. For NECTC, instrument administration changed among studies based on the purpose for the data. The cognitive, motor, and self-help scores represent a functional level of each participant. The expressive language and social emotional (scale A) scales were administered to obtain information for child outcomes. The Behavior Styles and Problem Indicators scales were not used for primary analyses for the NECTC sample.

The *Merrill-Palmer Scale of Mental Tests* (Stutsman, 1931) was originally developed in 1931 and included toy-based assessment to evaluate children ages 18 months to six years. The test is still used today, especially for children with communication difficulties and developmental disabilities. A goal of the revision was to develop a tool/item pool that could be analyzed using modern item response theory (IRT; Rasch, 1980) to provide scales of developmental growth to support the evaluation of the effectiveness of developmental interventions. Measurement across this broad age range supports development of a common metric that allows educators and researchers to assess rate of progress and outcomes of interventions and educational programs. For these reasons, the *Merrill-Palmer-Revised* (MP-R) was developed to support future research into the effects of dysfunction and pathology over time and to support the appropriate referral of children needing further evaluation.

### ***Normative Sample***

The MP-R was normed on approximately 1,400 children from two to 78 months. The sample was designed to represent the 2000 U.S. Census proportions of children of both genders, five ethnic groupings, three levels of parental education, and the four geographic regions of the U.S. An additional 600 cases were collected for reliability and validity studies.

## ***Peabody Picture Vocabulary Test – III (PPVT-III)***

### ***Description***

The *Peabody Picture Vocabulary Test – III* (PPVT-III; Dunn & Dunn, 1997) is a standardized, norm-referenced test of receptive vocabulary for Standard English and verbal ability. It was designed to be administered to individuals ranging in age from two and one-half to 90 years of age. Items require the respondent to select one of four presented pictures which best match the stimulus word presented orally by the examiner. For example, the examiner may ask a child to "show me dog" while presenting a page with pictures of a dog, cat, fish, and book. English and Spanish versions were used by data collectors.

In addition to assessing receptive language, this norm-referenced instrument was used to determine if the assessment battery would be administered in English or Spanish. A cut-off score of one standard deviation below the mean was used as the criterion for this determination. In addition, the PPVT-III was used to determine if a child was unable to respond due to physical disabilities or social/emotional delays and whether a parent/professional report instrument (i.e., PEDI; Haley, Coster, Ludlow, Haltiwanger, & Andrellos, 1992) should be administered. The PPVT-III was administered in each study and at every data point.

There are two parallel forms of the PPVT-III: Form IIIA and Form IIIB. During the initial data point, data collectors administered Form III A to children with an even-numbered NECTC identification code and Form IIIB to children with an odd-numbered code. On subsequent data points, the versions were alternated. This procedure was initiated to ensure valid results since there was less than six months between administrations. A Spanish version of the PPVT-III, *Test de Vocabulario en Imagenes Peabody* (TVIP) was used for those children whose primary language is Spanish and was administered by a data collector fluent in Spanish.

### ***Published Data***

Criterion validity has been demonstrated through validity studies with the *Wechsler Intelligence Scale for Children-Third Edition* (Wechsler, 1991), *The Kaufman Adolescent and Adult Intelligence* (Kaufman & Kaufman, 1997), *The Kaufman Brief Intelligence Test* (Kaufman & Kaufman, 1990), and the *Oral and Written Language Scale* (OWLS; Carrow-Woolfolk, 1996). Additionally, concurrent validity was tested as a screening measure for intelligence and achievement with the *Kaufman Assessment Battery for Children* (Kaufman & Kaufman, 1983) and low SES African American children (Campbell, Bell, & Keith, 2001) and the *Wechsler Adult Intelligence Scale-Third Edition* (Bell, Lassiter, Matthews, & Hutchinson, 2001).

Since its publication in 1997, the PPVT-III has been used in studies with a wide variety of foci. For example, the PPVT-III has been used to validate other instruments, such as the New Zealand MacArthur Communicative Development Inventory (Reese & Read, 2000). In addition, this instrument has been used to assess children with cochlear implants (Eisenberg, Martinez, Holowecky, & Pogorelsky, 2002; Stallings, Gao, & Svirsky, n. d.), and children with autism (Condouris, Meyer, & Tager-Flusberg, 2003). The PPVT is used frequently by early childhood researchers.

### ***Normative Samples***

The PPVT-III was normed using a stratified national sample of 2,725 people, ages two and one-half through 90+ years. The sample closely reflected the U.S Census in age, gender, and ethnicity.

### ***Pediatric Evaluation of Disability Inventory (PEDI)***

#### ***Description***

The *Pediatric Evaluation of Disability Inventory* (PEDI; Haley, Coster, Ludlow, Haltiwanger, & Andrellos, 1992) is a functional assessment measure designed to sample key functional capabilities and performance in young children with disabilities from ages six months to seven years. The child's current functional performance is measured in the three domains: self-care, mobility, and social function. The PEDI includes three measurement scales: (a) functional skills, measuring capability to perform tasks; (b) caregiver assistance, looking at how much assistance the child typically requires in the same areas; and (c) modifications, identifying the equipment used by the child to carry out the tasks. It can be administered by professional judgment of clinicians and educators who are familiar with the child, or by structured interview and parent report. It combines elements of adaptive developmental measures utilized in special education and characteristics of functional assessments used in rehabilitation medicine.

Several scoring options are available for the PEDI. In each of the functional skills domains, the child is scored as either capable of doing or unable to do each of the items, which are listed in order of mastery. Capability indicates what the child can do without help, even if the child does not regularly perform these skills. The PEDI provides two types of transformed summary scores, normative standard scores and scaled scores. Normative standard scores can be obtained for children from six months to seven years, six months. These scores are based on skills children would typically have at a particular chronological age, providing an indication of the child's ability in relation to age expectations. For the PEDI, normative standard scores have a mean of 50 and a standard deviation of 10. Scaled scores provide an indication of the child's performance along the continuum of relatively easy to relatively difficult items in a particular domain, such as self-care. The scale is from zero to 100, with higher scores representing increasing levels of functional performance. A total score across the three content domains is not obtained, as it is believed that such would obscure potentially important differences between the domains. Thus, the PEDI allows for fine discrimination of abilities for children with significantly varying levels of performance.

#### ***Published Data***

Aspects of psychometric properties for the PEDI have been demonstrated in different groups of children. First, test developers reported the measurement properties of the PEDI obtained from the normative sample ( $n= 412$ ). Their data suggested that the normative and scaled scores provided different kinds of information for assessing change in children over time. Second, they reported the measurement properties of the PEDI obtained from clinical samples. Overall, their data suggested that the PEDI was selectively responsive to change in certain clinical samples. Studies have been completed with other clinical samples (e.g., children with motor delays, physical disabilities, cognitive disabilities, and with cerebral palsy (see Knox & Usen, 2000;

Wright, Boschen, & Jutai, 2005). Further research is needed to examine the responsiveness of the PEDI in other populations of children with disabilities.

### **Alternative Child Assessment Procedures**

If children lived in homes where the primary language was not English, data collectors followed specific and standardized procedures (published in the Data Collection Manual and available upon request) to determine if an interpreter was needed. Children with significant disabilities and children who were unable to respond to standardized test items were oversampled for inclusion in the study. For children with significant disabilities younger than 3 years of age, the *Merrill-Palmer-Revised* (MP-R) was administered. For preschool and kindergarten children, the *Pediatric Evaluation of Disability Inventory* (PEDI) was used when children were unable to respond to the standard assessment instruments. The child's performance on the PPVT-III was used to assist data collectors in determining if the PEDI should be administered. Data collectors followed the administration procedures for the PPVT-III using all suggested alternative response formats suggested by the PPVT-III manual and by the child's parent and/or provider. If the child was unable to reach a basal level, the PEDI was then administered.

The responses of each participating child were recorded in a project-developed child assessment booklet which contained a *Child Assessment Coversheet* as well as response forms or protocols for the following measures: PPVT-III, *Emergent Literacy Measure*, and MP-R Expressive Language Evaluator Report. Any information that the data collector felt was noteworthy and/or would influence the validity of the data was included on the coversheet (i.e., other children in the room, noisy room).

### **Parent Measures**

#### ***Center for Epidemiologic Study Depression Scale (CES-D)***

##### ***Description***

The *Center for Epidemiologic Study Depression Scale* (CES-D; Radloff, 1977) is a self-report measure used to identify the number of depressive symptoms experienced and the rate of recurrence of these various symptoms. The scale contains 20 items on which respondents rate the frequency of occurrence within the past week for each symptom. Ratings range from 0 (rarely or less than 1 day) to 4 (5 to 7 days). A total score can range from 0 to 60, with a cut-off score of 16 indicating depression.

##### ***Published Data***

The CES-D (Radloff, 1977) has good reliability when measured by internal consistency and test-retest reliability. Adequate validity was obtained when correlated with other self-report instruments and with tools that measure the depression construct (Roberts, 1980; Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). As a research tool, the CES-D is used to measure depressive symptoms in the general population. Over 50 studies were located that used the CES-D to measure outcomes. Multiple studies have measured the tool's reliability and validity.

## **Early Intervention Services Assessment Scale (EISAS)**

### **Description**

The *Early Intervention Services Assessment Scale* (EISAS; Aytch, Castro, & Selz-Campbell, 2004) is a comprehensive self-assessment instrument designed to assess the quality of program practices and parent perceptions of early intervention services. It focuses on *process dimensions* of program practice, that is, how practices/services are implemented. Its development was informed strongly by the Division of Early Childhood (DEC) *Recommended Practices in Early Intervention/Early Childhood Special Education* (Sandall, McLean, & Smith, 2005) and broad-based constituent input. The EISAS consists of two components, program self-assessment and parent survey, and was developed to reflect core values and principles of early intervention practice. Each component consists of five subscales: (1) Child and Family Assessment, (2) Intervention Planning, (3) Service Delivery, (4) Transition from Infant-Toddler Services, and (5) Program Practices (i.e., service coordination, professional development, program evaluation). The EISAS format is strongly influenced by widely-used environment rating scales (e.g., *Early Childhood Environment Rating Scale*; Harms, Clifford, & Cryer, 1998; Harms, Cryer, & Clifford, 2003). Like the environment rating scales, the EISAS Program Assessment subscales consist of indicators (i.e., descriptors of early intervention practice/activity) that are arranged hierarchically to reflect the continuum of inadequate to excellent quality practice. A 7-point scoring system with "1" representing Inadequate, "3" Minimal, "5" Good, and "7" Excellent quality practice is used for scoring. The numerical score is based on the number of indicators determined to be *true* or *false*. The Parent Survey assesses family experiences and perceptions of service using a 4-point response scale of "*strongly agree*", "*agree*", "*disagree*", or "*strongly disagree*."

Field testing of the EISAS was accomplished with 29 early intervention programs, 254 providers, and 457 parents of children enrolled in early intervention services. Analysis of EISAS ratings across the five sections evidenced very limited variability despite evidence suggesting variability in program quality or program nomination category (e.g., high vs. low quality). Results of the field study indicated that (1) staff, team, and parent ratings of program quality were uniformly high across programs, (2) limited variability was evidenced across different domains of service (e.g., eligibility assessment, intervention planning, etc.), and (3) there was no evidence of association between staff, team, and, parent EISAS ratings and key informant ratings of program quality.

## **Family Empowerment Scale (FES)**

### **Description**

This 34-item self-report instrument was developed at the Research and Training Center on Family Support and Children's Mental Health at Portland State University (Koren, DeChillo, & Friesen, 1992). Its purpose is to assess parent/caregiver perceptions about their roles and responsibilities within their family and local service systems, and their ability to advocate on behalf of their child. Scores on the FES are reported as total scores within each subscale with a minimum score of 10 (community/political subscale) and a maximum score of 60 (service system subscale).

The FES is to be completed by the adult family member most involved in the child's intervention. For each of the 34 questions, the respondent is asked to respond to each statement on a scale of 1-5 (1=Not true at all; 2=Mostly not true; 3= Somewhat true; 4= Mostly true; 5=Very true). Respondents are told repeatedly to choose only one response. The FES scoring procedure is based on a simple, unweighted summation of the items, resulting in sum scores in each of the following areas of parent/caregiver empowerment: Family, Service System and Community/Political. This is a simple, basic tool designed to be administered after minimal training.

According to the authors, the FES was constructed using standard techniques, piloted with 94 parents, and tested for psychometric properties with 440 parents of children with emotional/behavioral disorders. The continuum of rating extends over a 5-point range. The authors posited that empowerment consists of two dimensions:

- (1) The Levels of Empowerment, as outlined by Shultz, Israel, Zimmerman, and Checkaway (1995). This level incorporates three levels; namely, (a) family: the parent's self-perceived ability to manage day-to-day situations, (b) social services: the degree to which the parent is able to work with the service system, and (c) community/political: the parent's self-perceived advocacy for improved services for children with disabilities in general.
- (2) The Expression of Empowerment consists of three levels that mirror (a) the parent's understanding of the of the sociopolitical environment (interactional), (b) the parent's beliefs regarding competency (intrapersonal), and (c) the parent's effort to exert control. This latter construct reflects concepts outlined by Zimmerman and Warschusky (1998) in their discussion of individual empowerment. Hence the three Expressions are (a) attitudes reflecting the parents' beliefs and mirroring the intrapersonal component of empowerment, (b) knowledge reflecting the parent's understanding of the family's environment, paralleling the interactional component of empowerment, and (c) behaviors, or what a parent actually does, reflecting the behavioral or power exertion component of empowerment.

Internal consistency coefficients were deemed to be adequate, ranging from .87 to .88 across the three levels or subscales. Stability as tested through test-retest procedures (N=107) resulted in Pearson correlations from .77 to .85. Two analyses of validity were completed which supported the correspondence of the FES items to the three levels of the conceptual design. Authors found that the questionnaire significantly discriminated between parents who were involved in a variety of advocacy-related actions from those who were not. The empirical examinations "support the use of the FES to assess the effectiveness of interventions or programs designed to increase the empowerment of parent or other family caregivers" (Koren et al., 1992, p. 318).

Some of the parent perception items deal with attitudes or knowledge, while others pertain to actions. Analysis by Singh et al. (1995) based on testing 228 parents of children with disabilities yielded a four-factor solution (systems advocacy, knowledge, competence, and self-efficacy) (1995). VanNess-Knolls, Tighe, & Burchard (1996) administered the FES to 100 parents of children with mental health issues and noted three factors necessary for empowerment: self-

efficacy, system advocacy, and competence as a parent. This three-factor solution explained 42% of the variance.

### ***Published Data***

Published data for the FES are limited. Literature search located fewer than 20 articles that reported studies using the FES. Nearly all of the studies related to families of children older than the early childhood years, and most dealt with caregivers of children or youth with mental health issues. Singh et al. (1995) investigated the psychometric characteristics of the FES with 228 families of children with severe emotional disturbance or attention deficit/hyperactivity disorder. This research supported the use of the scale with this population. Resendez, Quist, and Matshazi (2000) examined the relationship between family empowerment, parent satisfaction, and mental health outcomes across time in families of children and youth receiving services from a county mental health service system. The authors hypothesized, based on the Vanderbilt Family Empowerment Project Model (Heflinger et al., 1997), that increased family empowerment should lead to positive changes in client outcomes. The FES was used to assess the caregiver's perception of empowerment. Other tools examined were the *Child and Adolescent Functional Assessment Scale* (CAFAS; Hodges, 1990, 1994), which measures the degree of disruption in the youth's current functioning, *Client Satisfaction Questionnaire* (CSQ; Attkisson & Zwick, 1982), and demographic information gathered at intake and discharge. The results showed that the CAFAS and CSQ were related to empowerment at intake and discharge. Results also indicated significant increases in the knowledge subscale of the FES and the CAFAS and moderate increases in the advocacy subscale of the FES and the CSQ. Investigators discussed the implications of these findings for systems of care, especially enhancing parent-professional relationships.

Maness, McCammon, Durham, Everhart, and Dosser (2006) re-examined data previously collected by the North Carolina Division of Mental Health for the PEN-PAL federally funded children's services initiative. Complete data were available for 231 youth with serious emotional disturbance and their families. FES scores were inversely related to *Child Behavior Checklist* (CBCL; Achenbach, 1992) scores. Use of the reliable change index revealed that youth improved in functioning, but contrary to expectations, family empowerment did not increase over time, and changes in child functioning (measured by the CAFAS and CBCL) were not related to family empowerment. Curtis & Singh (1996) found that for parents of children with emotional/behavior problems, the Knowledge Subscale of the FES was significantly correlated with all subscales of the *Family Involvement Scale* (FIS; Curtis & Singh, 1996). Further, Personal Empowerment was significantly correlated with the Treatment Subscale of the *Family Involvement Scale*.

Cunningham, Henggler, Brondino, & Pickrel (1999) sought to test the underlying assumptions of family empowerment by using the FES with caregivers of 118 substance abusing juvenile offenders. In a randomized trial, youth were assigned to either multi-systemic therapy or "usual community services." Family-based treatment led to increased caregiver perceptions of empowerment at the service systems level but not at the family level. Improved empowerment at family and service system levels was associated with improved family relationships but not with a decrease in youthful behavior problems. Jennifer Nachshen, who has written cogently about the topic of family empowerment and disabilities, noted, "Empowerment can be examined

as both an outcome and a predictor of relevant family variables. To date, most family empowerment research has been theoretical in nature, and very little research has focused specifically on the experiences of families of children with developmental disabilities” (Nachshen, 2004, p. 70).

Akey, Marquis, & Ross (2000) used the FES as the standard for validation of the Psychological Empowerment Scale, a 32-item tool that aims to assess the attitudes, formal and informal participation, and skills and knowledge of family members of children with disabilities. The correlation between the total scores on the two scales was .74; correlations between the various subscales were lower. The FES has been used successfully in studies of children with emotional/behavior disorders (Curtis & Singh, 1996), juvenile diabetes (Florian & Elad, 1998), food allergies (Davis & Mikita, 2006), substance abuse (Cunningham, Henggler, Brondino, & Pickerel, 1999), and developmental disabilities (Dempsey & Dunst, 2004; Thompson, Lobb, Elling, Herman, Hullez, et al., 1997). It has been used for program evaluation in intervention programs (Compass Family Center at the University of San Diego, 2006; Dixon, Stewart, Burland, Delahanty, Luckstad, & Hoffman, 2001).

In the NECTC study, the FES was used at all data collection points. Parents (typically mothers, but sometimes fathers, grandmothers, or foster parents) were asked to complete the FES to reflect their present perceptions. Parents responded to this instrument prior to and following each transition. Thus, families in the longitudinal sample completed the form four times, and all other participants completed it twice. Parents read the form and responded to it independently. If a parent needed assistance with the reading/writing task, the data collector assisted as allowed in the instrument’s protocol. The FES was used by NECTC to explore the relationship between family empowerment and parent perceptions of quality in the child’s transition, child achievement after transition, parent satisfaction with the transition, and child disability type. In terms of components, it was hypothesized that high system advocacy scores would be related to higher perceptions of transition efficacy. Investigators were also interested in conducting a factor analysis of the tool with families of this young population and in exploring change in FES scores over time, especially around the transition that was typically most challenging in a state (age 3 in Kentucky, Louisiana, Michigan, and Wisconsin; age 5 in Oregon).

### ***Family Support Scale (FSS)***

#### ***Description***

The *Family Support Scale* is an 18 item self-reported questionnaire, which was created by Dunst, Trivette, and Jenkins (1988). The measure was designed to assess parents’ perceptions of the helpfulness of available sources of support in caring for their young child, in other words, to assess the degree of support provided to families with young children and to measure their satisfaction with their support networks specific to the act of parenting a child. The FSS asked the parent to respond to “how helpful the sources have been to your family in the past 3 to 6 months.” Each source of support was assessed on a five-point Likert scale, ranging from 0 - “Not at all Helpful” to 4 - Extremely Helpful.” The 18 sources of support included: my parents, spouse’s parents, my relatives, spouse’s relatives, husband or wife, my friends, spouse’s friends, own children, other parents, church, social groups, co-workers, parent groups, family or child’s physician, professional helpers, school/day care, professional agencies, and specialized

early intervention services. The FSS was designed to assess both the quantity of available supports and the quality (“how helpful”) these supports have been. The quantity of supports’ total score was determined by adding the number of supports that had the “not at all helpful” circled and subtracting that number from 18. The quantity total score ranges from 0 (no sources of support) to 18 (many sources of support). The quality of supports score is determined by summing the Likert response for up all 18 items. The quality total score ranges from 0 to 72. A higher score reflects higher parent satisfaction with their sources of support (Dunst et al., 1988).

This scale has been validated as a needs assessment for providers in order to strengthen accessibility to services for families. This scale identifies immediate family, relatives, friends, social organizations and professional supports available to families as well as two open-ended questions for unique responses. Each item in this scale is scored on a 5-point Likert scale (1 = *not at all helpful*; 5 = *extremely helpful*). The measure rates the degree to which supports are perceived as helpful. This scale was originally developed to study how social supports for families who have preschool children with disabilities or who are at-risk for poor outcomes impacts the personal and familial well-being, and the coping of families. The scale was validated on 224 parents of whom 50 were fathers. All of the families were participating in an early intervention program at the time data collection occurred (Dunst, Trivette, & Cross, 1986). The internal consistency is reported at .77. Scores on the FSS are reported as summed scores for each support subscale, with a minimum score of 0 and a maximum score of 35 (social support).

Dunst et al.’s (1988) original sample included 139 parents of children with disabilities who were participating in early intervention services. Of the 85 percent of the sample that was married, 96 of the parents were mothers. The mean quantity of available supports was 11.51 (SD = 3.36) with a range of 4.79 to 18.33, while the mean quality of available supports was 29.80 (SD = 10.47) with a range of 8.00 to 50.74. The FSS was found to be a reliable and valid measure of family support. The overall scale had a Cronbach’s alpha of .85, with a split-half reliability of .75. Adequate test-retest was found over a one month period.

A principal component analysis with a varimax rotation was used to assess the scales construct validity. The analysis resulted in a six-factor solution, which accounted for 62% of the variance. The six factors were categorized as: (a) *Informal Kinships* (i.e., spouse’s friends, friends, other parents, own children, church), (b) *Social Organizations* (i.e., social groups/clubs, parent support groups, co-workers), (c) *Formal Kinships* (i.e., relatives/kin, parents, spouse’s relatives/kin), (d) *Nuclear Family* (i.e., husband/wife and spouse’s parents), (e) *Specialized Professional Services* (i.e., specialized early intervention program, professional helpers, school/day care), and (f) *Generic Professional Services* (i.e., professional agencies family/child’s physician). Adequate criterion validity was found by the FSS’s ability to predict parent-child interactions, child progress, and familial and personal well-being (Dunst et al., 1988).

A factor analysis was also completed in 1986 (Dunst & Trivette, 1986). A five-factor solution resulted from this analysis, by combining specialized professional services and generic professional services into one factor. Finally, a third review of the psychometric properties was conducted in 1994 (Dunst, Trivette, and Hamby’s 1994) for a sample which included 224

parents (174 mothers and 50 fathers) of children with developmental disabilities or at-risk for delayed developmental outcomes. Similar family demographics were found between this sample and Dunst et al.'s (1988) original sample. The 18 items loaded onto five factors, which accounted for 55% of the variance. The five factors were categorized as: (a) *Informal Kinship* (i.e. friends, spouse's/partner's friends, own children, other parents, church), (b) *Spouse/Partner Support* (i.e. spouse/partner, spouse's/partner's parents, spouse's/partner's relatives/kin), (c) *Social Organizations* (i.e. social groups/clubs, parent groups, school/day care centers, co-workers), (d) *Formal Kinships* (i.e. own relatives/kin, own parents), and (e) *Professional Services* (i.e. early intervention programs, professional helpers, family/child's physician, professional agencies).

Dunst, Trivette, and Hamby's (1994) five-factor solution was utilized in the NECTC multi-state studies.

### ***Transition Perceptions of Parents – Adapted (TPP)***

#### ***Description***

The purpose of the TPP (Innocenti, Judd, & Taylor, 1998) was to gather information regarding transition decisions, preparations, and adjustment, via open-ended questions and rated items. The TPP was adapted by NECTC in 2003 to be used to gather similar information regarding the parents' perceptions of the transition process from early childhood services to the preschool setting. The adapted measure does not contain open-ended questions; instead, the parent of the target child answered 27 questions about various events and rated the level of satisfaction with the event according to a 4-point Likert-type scale (*Very Satisfied* to *Very Dissatisfied*). Specifically, items required parents and providers to respond to questions regarding how decisions were made about the provision of services in the next environment (e.g., information and options were provided, assessment results, child's interest, etc.), whether follow-up was conducted after decisions were made (e.g., providing information about the new site and communicating with staff and other parents), and how the first days and months were experienced. Scores on the TPP were reported in two ways; the number of transition activities was summed and has a range of 0-27 while the satisfaction with services was averaged across services with a range of 0-4.

### **Project Developed Instruments**

In addition to published instruments, instruments specific to the project purposes were needed. The following tools were developed and/or adapted for use by NECTC data collectors. Two instruments, the *Ecomap* (Hartman, 1978) and the *Family Interview* (NECTC, 2003) were completed in an interview format between the family member and the Data Collector. Other instruments were independently completed by the family and retrieved by the data collector at a later date.

## ***Ecomap***

### ***Description***

The *Ecomap*, borrowed from social science disciplines, is one method used to describe family strengths and resources. Developed by Hartman (1978), an *Ecomap* is a graphic representation or visualization of the family and linkages to the larger social system including informal (e.g., friends, extended family members) and formal (e.g., early care and education providers, early intervention providers) supports. As a non-standardized, informal measure, NECTC members aligned *Ecomap* literature information to the project by developing a script and adding a quantitative piece to the process. The *Ecomap* was used as a rapport building activity that provided a graphic representation of the types of formal and informal supports available to the family and data collector. The qualitative portion focused on the people in a child's life, while the quantitative portion asked about the relationship/association and type and frequency of support between each person and the child. For additional information on the use of the *Ecomap*, refer to NECTC Research Spotlight *Using Eco-Mapping as a Research Tool*, available at [http://www.hdi.uky.edu/Libraries/NECTC\\_Research\\_Spotlights/Using\\_Eco-Mapping\\_as\\_a\\_Research\\_Tool.sflb.ashx](http://www.hdi.uky.edu/Libraries/NECTC_Research_Spotlights/Using_Eco-Mapping_as_a_Research_Tool.sflb.ashx).

## ***Family Interview***

### ***Description***

The Family Interview was designed specifically for use with the NECTC sample. It is a structured interview using a set order of questions designed to collect specific information in a specified format. The interview is administered by NECTC data collectors with the caregiver. Questions for the interview were formulated through collaboration with personnel from the National Early Intervention Longitudinal Study (NEILS), the Pre-Elementary Education Longitudinal Study (PEELS), the Early Childhood Longitudinal Study- Birth Cohort (ECLS-B), the Early Childhood Longitudinal Study- Kindergarten Cohort (ECLS-K), and the National Center for Early Development and Learning (NCEDL). With permission of their authors, additional items were chosen from other instruments to address specific areas. For example, items from the *Home Learning and Reading Questionnaire* (Dickenson & Tabors, 2001) were included in the Family Interview in order to determine child exposure to reading materials and behaviors. Other items, such as those from *My Thinking about Inclusion Scale* (Stoiber, Gettinger, & Goetz, 1998), were embedded across adult respondents (e.g., family and providers) to investigate responders' position on inclusive practices. The Family Interview can be downloaded from the NECTC website at <http://www.ihdi.uky.edu/nectc/appendx.aspx#Family%20Interview>.

There are two components to the instrument:

- (A) The basic interview consists of seven parts, with at least 57 total questions (not all questions are given depending upon responses, and forms are expanded for additional family members beyond respondent and target child with a disability). This form is administered at the initial interview and affirmed or updated in ancillary columns at each subsequent data collection point.

(B) The basic interview is followed by one of four forms that are unique to particular data collection points. These formats are much longer and somewhat different from time to time. Each is administered in full at each data collection point. NECTC has called this portion of the Family Interview the Evolving Form.

The total interview consisting of both parts requires 2 to 3½ hours to administer. For this project the interview was conducted orally, between the data collector and family member (usually mother but possibly also father, grandparent, or foster parent), often on the data collector's first visit with the family. The interview could be done in multiple sessions across a few days if necessary, or in one session, in the family's home usually or in another location suggested by the family. Questions on this instrument are primarily in a multiple choice format, with a few items requesting sentence completion (e.g., date of birth).

The basic interview (component A above) seeks demographic information. It has seven parts:

(1) The first section includes questions requesting demographic information about adults who live in the home. It asks 16 questions about each adult. Addenda are available if more than two adults reside with the child, and this information can be amended at each data collection if family members change.

(2) The second section includes questions which address the children who live in the home, not including step children who visit regularly. This section asks eight questions about the target child with a disability and nine questions about each other child who lives in the home. Addenda are available if more than two children reside in the home. Information can be updated at subsequent data collections if an additional child enters the home, if a child resident has moved into adult status since the previous interview, or if a child who was living in the home no longer resides there.

(3) The third section elicits the child's history with the foster care system through three questions, including information about each placement. Like all other sections, the information contained here can be changed at subsequent data collections if the child's situation changes.

(4) The fourth section probes the target child's health and wellbeing, including 20 questions regarding the child's birth history, disability, general health, and sensory impairments, if any.

(5) The fifth section seeks information about the child's child care history, including three introductory questions followed by eight more specific questions and request for provider information about each placement. An addendum is available if the child has participated in more than two child care placements.

(6) The sixth section asks seven questions about child and family needs, including medical and dental providers, health insurance, housing, and transportation.

(7) The final section of the initial Family Interview seeks information via eight questions about the family's income and public support (Temporary Assistance for Needy Families, Food Stamps, energy assistance, etc.).

The Evolving portion of the Family Interview (component B above) uses a slightly different form for each data collection point. It seeks information regarding the services that the child and family are currently receiving from Early Intervention/Special Education and in the community, the respondent's evaluation of those services, the family's interactions with the child of a pre-academic academic nature such as reading and fine and gross motor activities, and the respondent's attitudes toward inclusion and transition. More detail is requested or sections skipped depending upon the present situation of the child and family. The interviewer seeks contact information in order to reach providers who work with the child. The last few pages of the Evolving interview format provide an opportunity for the family to share any plans about moving as well as contact information for relatives who might be reached to locate the family.

In developing the two components of the Family Interview, NECTC reviewed many other instruments used for similar purposes. Questions were adapted from:

- The National Center for Special Education Accountability Monitoring—Early Childhood Parent/Family Participation Survey. Retrieved from the NCSEAM website: [http://www.monitoringcenter.lsuhs.edu/TechManual/PartC\\_Form1\\_0602042.pdf](http://www.monitoringcenter.lsuhs.edu/TechManual/PartC_Form1_0602042.pdf)
- Dickinson, D. K., & Tabors, P. O. (2001). *Beginning Literacy With Language*. Baltimore: Paul Brookes Publishing Company.
- U.S. Department of Education, Pre-Elementary Education Longitudinal Study. Retrieved from the PEELS Web site: <http://www.peels.org/> in 2003.
- National Early Intervention Longitudinal Study. (1997). Retrieved from the SRI International Web site: <http://www.sri.com/neils/> in 2003.
- Westat, Early Childhood Longitudinal Study, Kindergarten Cohort. (1999). Retrieved from the National Center for Education Statistics Web site: <http://nces.ed.gov/ecls/> in 2003.

Other questions were developed to fit with NECTC's mission for research on early childhood transition for young children with disabilities.

### ***Published Data***

Since this instrument was developed for use in the present longitudinal study; no data is yet available.

## **Provider Measures**

### **Provider Surveys**

#### ***Description***

NECTC-developed surveys for providers (2003) also contained selected items from large-scale studies and research-based instruments. Provider surveys (NECTC, 2003) were developed to reflect specific roles in each study. For example, an Early Intervention Provider survey was developed for Study 1, and a Teacher-Provider survey was developed for Studies 2 to 4. Regardless of the study, each provider received two surveys: A & B. The A survey focused on provider caseload or program characteristics, services, philosophy on inclusion, and transition beliefs and practices. The B survey focused on specific child participant development and adjustment to services, types and levels of services received, provider-child relationship, family-provider relationship, and family involvement.

Survey A items came from multiple sources including three large-scale studies and instruments measuring transition, inclusion, and child care settings and practices. Although the items listed from large-scale studies in the following description indicate one study, many similar items can be found across the large-scale studies used to develop these surveys. The Program Characteristics section involved eight items. Five of the items from NCEDL asked about number and type of children in program, number and type of service providers, and family involvement. (Note: the five items from NCEDL were in the center-based provider surveys, whereas these same five items in the early interventionist survey were from NEILS asking about caseload characteristics and number and type of children on caseload.) Two items focusing on language and eligibility for financial assistance came from the NEILS study and one item about family involvement came from ECLS-B. The Transition Practices and Perceptions section came predominantly from NCEDL about program structure and support practices as well as two tables of barriers and facilitators to transition. Two of the 13 items examining transition training with community partners came from the TPP. The Program Practices section contained 18 items (one item had four parts) based on Holloway, Kagan, Fuller, Tsou, and Carroll's (2001) work assessing the quality of child care via telephone interview. With approval from the primary author, these items were used in a written survey while keeping the item format the same. Questions asked about space and furnishings, language reasoning experiences, activities, adult-child and child-child interactions, and staff training. The Philosophy of Inclusion section had 12 items that came from, with the primary author's approval, a study conducted by Stoiber and colleagues (1998). Items asked about responders' beliefs, challenges, and benefits of educating children with special needs in an inclusive setting. The last section, About You, had 13 items. All were from ECLS-K asking demographic information of the responder, experience working in the center and with children with special needs, and formal education and training on young children with special needs.

The three major areas in Provider Survey B involve child adjustment, the child and teacher relationship, and family involvement. Items related to the child's adjustment to services came from the *Teacher Rating Scale of School Adjustment* (Birch & Ladd, 1997). Twenty-six of the 52 items on the TRSSA were used that best fit early childhood situations. Wording was slightly modified to fit service provision (e.g., home-based vs. center based services). Items asked about such things as child's comfort with services or in center based setting, child's independence, and the child-teacher interactions. Conflict, closeness, and dependency between the child and teacher were measured using 15 items from the *Student-Teacher Relationship Scale* (STRS; Pianta & Nimetz, 1991). Six family involvement items came from the ECLS-B child care provider interview and three items from the ECLS-K spring provider questionnaire (Westat, 2002 & 1999, respectively).

Additional surveys were developed for the Service Coordinator in Study 1 and the Administrator in Studies 3 and 4. Similar to other providers, Service Coordinators received two surveys: A and B. Survey A items focused family involvement in IFSPs and practices that facilitate transitions. These items were modified from the NEILS large-scale study. A major focus of the Service Coordinator survey B was family involvement. Similar items used in the provider B survey were modified for service coordinators.

The Administrator surveys for Studies 3 and 4 were developed to target two different settings: public and non-public centers or schools. The foci of the surveys are essentially the same with items modified to fit specific settings. Administrator surveys asked about center characteristics; philosophy toward services and provision of services provided; transition practices, barriers, and facilitators; inclusion; staff characteristics and training; and community special education services. Items for center characteristics, philosophy toward services and services provided, transition practices, staff training, and community special education services came from NEILS. Items for center characteristics and staff characteristics were used from ECLS-B Preschool Program Director survey. As with other NECTC surveys, the inclusion items are from Stoiber et al. (1998) and the transition barriers and facilitators are from NCEDL.