

Developmental Status and Early Intervention Service Needs of Maltreated Children

Final Report

April, 2008

Submitted to:

Office of the Assistant Secretary for Planning and Evaluation (ASPE)
U.S. Department of Health and Human Services

Developmental Needs of Children Investigated for Child Protective Services
(Contract number 233-03-0099)

Submitted by:

Institute for Social and Economic Development (ISED)

Authors:

Richard P. Barth

School of Social Work
University of Maryland

Anita A. Scarborough

FPG Child Development Institute
University of North Carolina – Chapel Hill

E. Christopher Lloyd

School of Social Work
University of Arkansas at Little Rock

Jan L. Losby

Institute for Social and Economic Development
Washington, DC

Cecilia Casanueva

FPG Child Development Institute
University of North Carolina – Chapel Hill

Tammy Mann

ZERO TO THREE
Washington, DC

This report is based on a task order titled *Developmental Needs of Children Investigated by Child Protective Services* conducted by the Institute for Social and Economic Development (ISED), under contract number 233-03-0099, for the Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services.

The opinions expressed in this paper are those of the authors and do not necessarily represent positions of the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.

This publication also is available on the Internet at:

<http://aspe.hhs.gov/ /topic/topic.cfm?topic=Child%20Welfare>

Material contained in this publication is in the public domain and may be reproduced, fully or partially, without permission of the Federal Government. The courtesy of attribution is requested. The recommended citation follows:

Barth, R. P., Scarborough, A., Lloyd, E. C., Losby, J., Casanueva, C., & Mann, T. (2007). Developmental Status and Early Intervention Service Needs of Maltreated Children. Washington, DC: U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.

Table of Contents

Executive Summary	iv
I. Introduction	1
A. Background to the Project	1
B. Project Aims	2
C. Data Sources.....	3
D. Analysis of NSCAW and NEILS Data.....	6
II. Major Findings.....	9
A. Environmental and Biomedical Risk Affecting Development	9
B. Developmental Outcomes.....	24
C. Service Receipt	29
D. Considerations for Successful Interventions.....	38
III. Areas for Future Research	45
IV. Conclusion	48
References.....	49
Appendix A: Glossary of Terms.....	55

Executive Summary

Background

Children younger than three years of age are the most likely of all children to become involved with child welfare services (Wulczyn, Barth, Yuan, Harden, & Landsverk, 2005). Those with medical or developmental conditions experience an even higher level of involvement, including more removals from parental care and longer stays in foster care (Rosenberg & Robinson, 2004).

In 2003, the Federal government amended the Child Abuse and Prevention Treatment Act (CAPTA) to require that infants and toddlers who are substantiated for child maltreatment be referred to early intervention services funded under Part C of the Individuals with Disabilities Education Act (IDEA). The CAPTA requires each state to develop "...provisions and procedures for referral of a child under the age of three who is involved in a substantiated case of child abuse or neglect to early intervention services funded under Part C of the Individuals with Disabilities Education Act" (section 106(b)(2)(A)(xxi)) (CAPTA, 2003).

While there is some general agreement that children who experience child abuse/neglect may experience a range of developmental delays across developmental domains, little is known about the true extent of developmental problems of children substantiated for abuse/neglect, and those subsequently removed from parental custody and placed in an alternative living environment. This dearth of information is in part due to the inconsistencies in child welfare practice across jurisdictions; variability in state and jurisdictional eligibility criteria for infants and toddlers for Part C services (Shackelford, 2006); differential policies, procedures, and practice competencies of public child welfare workers; and the differential availability of resources to serve children once identified. Further complicating the issue is the requirement under Part C that states must provide services to children who meet the state criterion for eligibility, but states may also choose to serve children who are "at risk of having substantial developmental delays if early intervention services are not provided." Only five states (CA, HI, MA, NM, & WV) currently serve such at risk children.

This Project

This project is funded by the Office of the Assistant Secretary for Planning and Evaluation (ASPE), U.S. Department of Health and Human Services. Child maltreatment has been shown to have a significant negative impact on children's healthy growth and development. However, national estimates of

the extent and type of need for early intervention services for maltreated infants and toddlers are lacking. The overarching question guiding our analysis is: What are the developmental problems among children receiving Child Welfare Services that suggest a need for Part C early intervention services?

Implementing CAPTA requirements poses a variety of challenges. A key challenge is the lack of information on which to begin considering problems and solutions. Therefore, the Assistant Secretary for Planning and Evaluation has endeavored to achieve maximum benefit from data already collected in the National Early Intervention Longitudinal Study (NEILS) and the National Survey of Child and Adolescent Well-Being (NSCAW) in an effort to provide some information about maltreated children and early intervention.

This study answers several key questions:

1. To what extent do maltreated children have developmental problems or are subject to factors associated with poor developmental outcomes?
2. What services might these maltreated children be eligible for and what services are they receiving through child welfare systems?
3. What child and/or case characteristics (e.g., child welfare setting) influence developmental service receipt by maltreated children?
4. What barriers to service provision and solutions have experts in the field identified?

Data from the National Survey of Child and Adolescent Well-Being was used to describe the developmental characteristics of infants and toddlers in Child Welfare Services nationally. The National Early Intervention Longitudinal Study (NEILS) was used to provide comparative national information on infants and toddlers entering Part C early intervention services. In addition to these two data sources, we conducted a literature review and discussions were held with Part C and Child Welfare Service experts.

Summary of Major Findings

Environmental and Biomedical Risk Affecting Development

1. **Children ages birth to 36 months who have been maltreated are at substantial risk of experiencing subsequent developmental problems.** Fifty-five percent of children under the age of three with substantiated cases of maltreatment are subject to at least five risk factors associated with poorer developmental outcomes.
2. **Compared to classification at the time of initial contact with Child Welfare Services, over time a higher proportion of children are described as having fewer risks or with a low score on a developmental measure while over time a smaller proportion of children are described as having more risks.** By 36 months after involvement with Child Welfare Services, the findings show a large increase (21% to 45%) in children who have shown improvement by having fewer risks and the percentage of children in the highest risk classification declined by more than half from 29% to 13%.
3. **Few infants and toddlers with substantiated cases of maltreatment are reported to have a diagnosed medical condition (an established risk condition) as described in IDEA (e.g., Down syndrome, blindness, cerebral palsy) that would make them automatically eligible for Part C services.** Though not reflected in eligibility distributions, 38% of infants and toddlers entering Part C are reported by caregivers or service providers to have an established risk condition, compared to 3% of infants and toddlers with a substantiated case of maltreatment. A condition of established risk is defined as a “diagnosed physical or mental condition which has a high probability of resulting in developmental delay.” Children with these conditions are eligible for Part C services without documentation of delay.

Developmental Outcomes

4. **Among children who have substantiated maltreatment, the proportion with a low score on a developmental measure does not differ markedly from those of children investigated but not found to have substantiated maltreatment.** Children with substantiated maltreatment have been found to be quite similar to those children with unsubstantiated maltreatment (Drake, 1995), but different in that unsubstantiated cases receive fewer services (Drake et al., 2003). This has recently been reconfirmed in the NSCAW data (NSCAW Research Group, 2002), for the general population of children and, now, again for very young children in this study. The current study adds important information in showing that developmental outcomes do not differ by substantiation status. This evidence suggests that children involved in

child welfare—even those who have not had their maltreatment substantiated—have an increased likelihood of being Part C eligible.

5. **Maltreated children between 24 to 36 months of age have relatively high levels of behavior problems reported by their caregivers.** These behavior problems are quite constant. About 70% of children who were reported by caregivers as having behavior problems at baseline were still having behavior problems at the 36-month follow-up. It is not clear whether maltreating caregivers experience their children's age-expected behavior as more problematic or whether the children have, in fact, more problematic behavior. Recent evidence that compares the ratings of maltreating parents to those of independent observers suggests that maltreating parents are more harsh raters of their children's behavior (Lau, Valeri, McCarty, & Weisz, 2006).

Service Receipt

6. **A sizeable proportion of infants and toddlers with substantiated maltreatment were reported to have an Individualized Family Service Plan (IFSP), reflecting eligibility for Part C services.** About 12 months after the investigation of maltreatment, 28% of children still younger than 36 months of age were reported by caseworkers to have an IFSP.
7. **Families are receiving parent training and family counseling services through Child Welfare Services or by referral. It is unclear the extent to which these services provide interventions focused on enhancing child development.** Approximately 39% to 67% of the families of infants and toddlers with substantiated cases of maltreatment received parent training or family counseling through child welfare systems in the period of time prior to the 18-month follow-up. Between 18 months and 36 months after baseline, the percentage of families reported to still be receiving parent training or family counseling decreased, ranging from 9% to 31%, suggesting that for some children and families the needs for these services was no longer critical or they may have completed a time-limited or structured intervention.

Considerations for Successful Intervention

8. **Part C providers may not be familiar with the unique challenges associated with providing services to maltreated children and their families.** First, many Part C providers are speech language therapists, occupational therapists and physical therapists. They may not be well prepared to address the special considerations required when working with maltreated children. Second, receipt of Part C services is voluntary, so court-ordered services are not part of the culture for early intervention service providers. Court-ordered involvement may cause parents or caregivers to view a service provider as an intrusion rather than as a source of assistance. They may be suspicious of, or hostile towards,

service providers. Third, the focus of Child Welfare Services is on protecting the child's safety and dealing with the perpetrator and Part C's focus is providing services to children with disabilities and their families.

9. **Increased training and collaboration of Child Welfare and Part C service providers may be a useful approach to facilitate CAPTA compliance and enhance developmental outcomes for children.**

Experts we spoke with were concerned about service providers being able to manage high-risk families in the Part C service environment. According to the experts, very few Part C providers have both early intervention and social work training and knowledge. The experts suggest cross-training, better developmental education for Child Welfare workers, and specialized case coordination.

Areas for Future Research

The new and reviewed findings presented suggest several potentially important directions for future research. New research can help inform how service providers for Child Welfare and Part C early intervention interact with clients as well as each other. Some areas are:

- **Intervention research.** Matching level of service with the needs of children and their families is important only if the services are effective. Intervention research to demonstrate methods, test the impact of variation of the intensity and duration of service, and present results to the field is needed. Very little information is available to show which methods have the greatest impact on the development of maltreated children or on the development of children served under Part C.
- **Characteristics of families.** Research is needed to better understand certain sub-groups of families who receive Child Welfare and Part C Services. One expert mentioned that we should improve our understanding of effective services for older mothers who often have several children, a history of domestic violence, substance abuse, or repeatedly have children entering into Child Welfare Services. Another sub-group of interest is caregivers with disabilities.
- **Substantiation as a criterion for CAPTA-mandated referrals.** Another area requiring further investigation is the extent to which substantiation status is the optimal indicator of which children reported to Child Welfare Services may need developmental assistance. Taken in combination with prior findings (e.g., Hussey et al., 2005), this research suggests children who are not substantiated for maltreatment are at similar developmental risk as those who are. This study provides information suggesting that the count of environmental and biomedical risk factors may be a robust indicator of future developmental delay and may be a useful indicator of which children should be referred for Part C

early intervention services. A more precise calculation of which risks and what count of risks are the best indicators of poorer developmental outcomes would likely result in referrals with a more empirical basis than the current reliance on substantiation status.

- **Development of intervention practices.** For many Part C providers, working with children and families involved with Child Welfare Services is an unfamiliar experience. Conversely, for many Child Welfare workers, experience with services designed to address a child's developmental needs may be limited. It is not clear to what extent Child Welfare and Part C practices can be adapted and when new methods will have to be developed. We expect that considerable advances in parent engagement and training approaches employed by Child Welfare Services and Part C will be necessary for the provision of effective services. In particular, this research highlights the need for new expertise and interventions for infants (i.e., the first year of life).
- **Best practices on collaboration models.** Central to identification of eligible children and effective service delivery is collaboration between Child Welfare and Part C professionals. Experts often pointed out that service providers often do not have a basic competency in each other's knowledge base or practice methods. As a consequence, research on "best practices" in collaboration could help to identify innovations in referrals, screening, assessment, communications between Part C and Child Welfare Services and Part C and the courts, and interactions between Child Welfare Services, Early Head Start, and Part C and, later, school-based services. These innovations could help ensure that children had the level of service that was most commensurate with their developmental needs.
- **Funding models and services receipt.** An area which might benefit from additional research is the issue of funding sources for services and types of services provided. State-run children's health insurance programs, Medicaid, Part C, private insurers, and other payment sources have an important role in determining what services will be received. The effects of eligibility criteria, compensation systems, and payment amounts on services should be investigated. The extent to which providers and case coordinators are knowledgeable of these issues may also play a role.
- **School readiness.** Additional NSCAW research would be helpful in understanding the longer-term developmental implications of early maltreatment and early intervention on children's development. Of particular interest would be the school-readiness of the NSCAW sample of children. This research found them to be at-risk and often measurably delayed in one or more developmental domains. Recently, a 66 month follow-up was completed with children in NSCAW who were 0 to 12

months old at baseline (i.e., the infants) Ranging in age from approximately 5 ½ to 6 ½ these children are now entering the educational system through kindergarten or first grade. It remains to be seen if their problems have persisted and what factors might have promoted developmental recovery (e.g., interventions from child welfare or others).

Opportunities for new research exist at all levels of Child Welfare and Part C programming. A better understanding of the effects of maternal age, substance abuse, and other child, family and case characteristics is necessary for the development of new developmental intervention strategies. In addition, further research is needed to help practitioners from both Child Welfare and Part C systems communicate with each other and collaborate more effectively. Finally, new research may help enhance understanding the role that local, state, and federal funding plays in service delivery to maltreated children with developmental needs. Because resources are limited in both Part C and Child Welfare systems, it is important that services be delivered in the most effective and efficient manner possible. Obtaining the knowledge to achieve this goal requires more investigation.

Conclusion

CAPTA and IDEA recognize that child maltreatment signals a substantial risk to the development of children. Their requirements call for action to address the developmental problems of children substantiated for maltreatment. Together, these Acts generate a clear expectation for efforts to mitigate the developmental harms of maltreatment.

This study confirms that the level of risk for developmental delay is high for maltreated children and that it remains high, years after the initial maltreatment. The rates of developmental and behavioral problems are well above those in the general population and the rates of environmental risk and serious problems within the dyadic relationship between child and caregiver are above those of children typically encountered by Part C service providers.

The majority of these infants and toddlers are subject to risk factors known to predict academic difficulties (Lee & Burkam, 2002). These high rates of developmental concern are similar among children judged to have experienced substantiated maltreatment as well as those who have had the child maltreatment investigation closed with no finding of maltreatment. Because these factors are apparent among infants, it is clear they require intervention services as early as possible to avoid developmental problems, rather than waiting for delays to become intractable or trying to remediate academic failure. CAPTA and IDEA reforms offer the opportunity to markedly address and reduce developmental delay among maltreated children.

Much work can be done to better achieve the goals of CAPTA and IDEA. The implementation of successful services for maltreated infants is clearly complicated. The findings of this report call for further review of effective strategies and consideration of new efforts, and related research, to implement these innovative policies. This research should involve rigorously conducted evaluations of best practice models so that the knowledge gained from these evaluations can add measurably to the information provided by the surveys upon which this study was based.

I. Introduction

A. Background to the Project

Popular media coverage as well as many state legislative initiatives demonstrate that the nation has taken note of the important role of early developmental experiences during infancy and early childhood. Among young children, most at risk of developmental problems are those who experience child neglect and abuse. Children younger than three years of age are the most likely of all children to become involved with Child Welfare Services (Wulczyn et al., 2005). Those with medical or developmental conditions experience an even higher level of involvement with Child Welfare, including an increased likelihood of removal from parental care and a prolonged stay in foster care, compared to unaffected peers (Rosenberg & Robinson, 2004). A major opportunity to minimize or avoid developmental problems is missed when maltreated children do not receive services that could ameliorate these negative experiences.

As recognition of maltreated children's developmental needs grew in scientific and policy circles, this missed opportunity began to be identified and addressed. The National Research Council and Institute of Medicine (2000) recommended that "all children who are referred to a protective services agency for evaluation of suspected abuse or neglect be automatically referred for a developmental behavioral screening under Part C of the Individuals with Disabilities Education Act." In 2003, the Child Abuse Prevention and Treatment Act (CAPTA) was enacted, requiring that states have a mechanism for the referral of maltreated children under the age of three to early intervention services funded by Part C of the Individuals with Disabilities Education Act (IDEA). Part C of the IDEA, which was reauthorized in 2004, contains a comparable provision supporting the CAPTA requirement. A document that accompanied the CAPTA legislation clarified that a referral and appropriate screening are mandated (House Report 108-779, 2004).

Under Part C of the Individuals With Disabilities Education Act (IDEA) of 1990, children needing services are to be identified, evaluated, and served, especially those children who are typically underrepresented (e.g., minority, low-income, inner city, Indian and rural populations) through an interagency, coordinated, multidisciplinary system of early intervention services. Eligibility for Part C services entitles children to services as deemed necessary in the evaluation and documented in the Individualized Family Service Plan (IFSP) that is developed by Part C service providers and parents at the time of enrollment. Physical therapy, occupational therapy, speech and language therapy, and services provided by a developmental specialist, are among the most common Part C services used.

Although many of these maltreated children may be candidates for early intervention services, there is reason to believe that only a small number are typically enrolled (Horwitz, Owens, & Simms, 2000; Robinson & Rosenberg, 2004). Despite legislative requirements, many child welfare agencies have not had an adequate referral mechanism for developmental services (Leslie et al., 2003). Moreover, child welfare workers often do not recognize developmental problems (Rosenberg, Smith, & Levinson, 2005). When children are referred, early interventionists may be unprepared to address the additional challenges inherent in working with maltreated children, their families, and child welfare systems (Vig, Chinitz, & Shulman, 2005). In some states, Child Welfare Services may have had a limited history of collaboration with Part C service providers. Child Welfare Service referrals are likely to challenge early intervention service conventions because this population of children and their families is likely to be different compared to children typically served under Part C (Harbison, Parnes, & Macomber, 2007). They found that the children served by Part C differ most markedly from children served in Child Welfare Services; Early Head Start; and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Lower percentages of Part C children are poor, have mothers that did not graduate from high school, or live in single-parent families. Part C does not have an income eligibility requirement, which likely contributes to these distinctions (Harbison et al., 2007).

B. Project Aims

This project is funded by the Office of the Assistant Secretary for Planning and Evaluation (ASPE), U.S. Department of Health and Human Services.

Implementing CAPTA requirements poses a variety of challenges. A key challenge is the lack of information on which to begin considering problems and solutions. Therefore, the Office of the Assistant Secretary for Planning and Evaluation contracted to conduct a study of data already collected in the National Early Intervention Longitudinal Study (NEILS) and the National Survey of Child and Adolescent Well-Being (NSCAW) in an effort to provide some information about maltreated children and early intervention.

This study answers several key questions:

1. To what extent do maltreated children have developmental problems or are subject to factors associated with poor developmental outcomes?
2. What services might these maltreated children be eligible for and what services are they receiving through child welfare systems?
3. What child and/or case characteristics (e.g., child welfare setting) influence developmental service receipt by maltreated children?

4. What barriers to service provision and solutions have experts in the field identified?

The report will present information from two large, national studies that allow us to describe children and families who are involved with Child Welfare Services or with Part C early intervention services, respectively. The National Survey of Child and Adolescent Well-Being, the first national study to describe the developmental status of maltreated children, is discussed below. The National Early Intervention Longitudinal Study (also described in more detail below) describes children and families who entered Part C services. These studies overlapped in time longitudinally, although information on infants and toddlers in both studies was collected prior to the new CAPTA and IDEA requirements described previously.

C. Data Sources

This study used four data sources. Each is described below.

1. National Survey of Child and Adolescent Well-Being (NSCAW)

NSCAW is the first national probability sample of children investigated for child maltreatment (Administration for Children and Families, 2006). The NSCAW sample was created to represent the target population as precisely as possible. The sample of 5,501 children (ages 0 to 14) was randomly selected from the families who entered the U.S. child welfare system in any of the 93 designated areas between October 1999 and December 2000. Two full waves of data collection were completed at approximately 18 and 36 months post-baseline.

These families included both open and closed cases (i.e., cases closed without ongoing services), whether or not the maltreatment was shown to have occurred (i.e., substantiated). If opened, some children in NSCAW were served in their homes and some in out-of-home care (e.g., foster care). Children were excluded from the study if a sibling had already agreed to participate in the study, if a child perpetrated the alleged maltreatment, or if the referral to Child Welfare Services was screened out (i.e., the alleged maltreatment did not meet the criteria for child abuse or neglect as defined by the state, or too little information was reported to Child Welfare Services to justify pursuit of the case).

Two major criteria were used in drawing the sub-sample employed in the analyses for this report. First, the child was required to have a finding of substantiated or high risk in their child welfare case. A finding of substantiated means the alleged maltreatment has been judged by the juvenile court to have occurred. A finding of high risk means the family has numerous risk factors for maltreatment to occur although no determination

of substantiation has been made. The decision to include this group is based on evidence that case characteristics where maltreatment was substantiated do not vary from those where maltreatment was not substantiated. This phenomenon strongly suggests maltreatment probably has occurred in unsubstantiated cases, but evidentiary standards could not be met (Hussey et al., 2005; Leiter, Myers, & Zingraff, 1994). Second, to be included in the analysis, the child needed to be less than 36 months old at the time of their baseline assessment. This age range was chosen to be compatible with the age range of eligibility for Part C early intervention services.

2. National Early Intervention Longitudinal Study (NEILS)

NEILS is the first nationally representative study of Part C recipients (Hebbeler et al., 2001; Scarborough et al., 2004). Its main goal is to describe the population receiving Part C early intervention. NEILS was designed to provide descriptive and exploratory information about children and families, the services they receive, and their outcomes. A priority addressed by NEILS was to examine the outcomes experienced by children and families in early intervention. By definition, all children in NEILS were eligible for Part C services. Information in NEILS was acquired through caregiver interviews and Part C service providers.

Part C of IDEA was enacted in 1986 to address the critical need:

- (1) to enhance the development of infants and toddlers with disabilities and to minimize their potential for developmental delay;
- (2) to reduce the educational costs to our society, including our Nation's schools, by minimizing the need for special education and related services when infants and toddlers with disabilities reach school age;
- (3) to minimize the likelihood of institutionalization of individuals with disabilities and maximize the potential for their independently living in society; and
- (4) to enhance the capacity of families to meet the special needs of their infants and toddlers with disabilities.

In 1997, the reauthorization of Part C included in IDEA, required states to facilitate the development of a statewide comprehensive system of early intervention services entitling all children from birth through two years of age, experiencing developmental delays, as defined by the individual states, to Part C Services. IDEA regulations allow states considerable flexibility in the area of defining eligibility for services with specific criteria to determine eligibility left to the discretion of the individual states. Variability in eligibility criteria, along with the application of the definition of eligibility at the local level, the discipline of the professionals determining eligibility, and other community-based differences such as the availability of services and local child find efforts, creates significant variation in the percentage of children served in individual states and in the disability characteristics of those children (Scarborough et al., 2004).

One optional category for eligibility for Part C services is based on the presence of developmental delay or physical or mental conditions associated with developmental delay. Developmental delay is broadly defined as a documented delay in cognitive, communicative, physical, social or emotional, or adaptive development. Individual states determine the criteria for delay, including the severity and how it is documented, and if documented delay in multiple domains affects the severity criterion (Shackelford, 2006).

The second optional category for eligibility for Part C services is based on children with a medical diagnosis of a physical or mental condition associated with a high probability of developmental delay are likewise eligible for Part C services regardless of their developmental status. A chromosomal abnormality such as Down syndrome is an example of an established risk condition associated with a high probability of delay. Though states follow IDEA guidelines regarding the specific conditions of established risk, some have added additional disorders that constitute established risk.

The third optional category for eligibility is based on the presence of biomedical or environmental conditions placing children at risk of having substantial delay if early intervention services are not provided. There are well-known biological and environmental factors that place infants and toddlers at risk for developmental delay. Some commonly cited factors include low birthweight, respiratory distress as a newborn, lack of oxygen, brain hemorrhage, infection, nutritional deprivation, and a history of abuse or neglect. Risk factors do not inevitably lead to developmental difficulties, but indicate children who are at higher risk of developmental delay than children without these problems (Shonkoff & Meisels, 1991).

Currently five states (CA, HI, MA, NM, & WV) serve children “at risk” for developmental delay though there is considerable variability in the nature and number of risk factors that establish eligibility. California provides services only to children with biomedical risk, whereas Hawaii considers individual risk factors, such as maltreatment alone as potential eligibility for Part C. The remaining three states require 2 to 4 risk factors and recognize maltreatment as one of those factors.

Participants in NEILS were children between birth and 31 months of age entering Part C for the first time in 1997 and 1998. NEILS followed children from entry to Part C services annually during the time that services were received when the child was approximately 36 months of age and again during the child’s kindergarten school year. Ninety-three counties in 20 states participated. These 20 states varied with regard to size, region of the country, and the agency that assumed lead responsibility for administering early intervention services. States also varied in terms of whether they served children identified on the basis of being “at risk” (Javitz, Spiker, Hebbeler, & Wagner, 2002). If a family had more than one child entering Part C services,

only one was selected for the study. Programs invited 4,653 families to participate, and 3,338 (71%) agreed (Javitz et al., 2002).

3. Discussions with Experts

The study project team in collaboration with the Office of the Assistant Secretary for Planning and Evaluation (ASPE), the Department of Education and the Administration for Children and Families, identified Part C and Child Welfare experts. These experts represented a range of professional perspectives. Individuals were asked to participate in telephone discussions. It is important to note that the views of these experts do not represent the entire field since the sample was based on nomination and then self-selection. The views of experts are intended to enhance our understanding of the issues.

The purpose of the discussions with experts was to ask them questions about the interaction between Part C and Child Welfare based on their own experiences conducting research or managing state programs. The experts were requested to respond to drafts of our products.

4. Review of Previous Research

A literature review was completed to describe the most common problems that maltreated infants and toddlers experience and to highlight the benefits of early interventions for this population. The review contains two parts:

Part 1 highlights common developmental problems in health, cognitive, emotional, social, and psychological functioning of young maltreated children. These developmental difficulties are often ignored because of other service needs, namely safety and permanency.

Part 2 discusses the potential benefits of early intervention options for maltreated children through highlighting common treatment formats.

The purpose of the literature review was to help inform this project and to also serve as a document that could be used by Part C and child welfare workers and managers who are responsible for referring and assessing maltreated children.

D. Analysis of NSCAW and NEILS Data

In NSCAW, three developmental domains were assessed:

- ✓ **Communication:** Receptive and verbal communication development was assessed using the Pre-School Language Scales – 3rd Edition (PLS-3). Because of questionable reliability of scores for infants, it was used for children 12 months of age and older.

- ✓ **Adaptive Behavior:** Adaptive behavior skills were assessed using the Vineland Adaptive Behavior Screener (VABS) for daily living skills. Because of questionable reliability of scores for infants, it was used for children older than 10 months of age.
- ✓ **Cognitive:** Cognitive development was assessed using the Battelle Developmental Inventory (BDI). For children ages four and older, the Kaufman Brief Intelligence Test (K-BIT) was used.

Also assessed in some children:

- ✓ **Neurodevelopment:** Bayley Infant Neurodevelopmental Screener (BINS) was used with children 3 to 24 months of age to classify their risk for developmental problems into high, moderate, and low risk. This information was gathered from the caregiver.
- ✓ **Behavior:** Behavior problems in children at least two years of age were assessed using the parent completed Child Behavior Checklist (CBCL). The CBCL data are not included in most analyses. This information was gathered from the caregiver.

Classification of children in this study

In order to describe the developmental characteristics of maltreated infants and toddlers, children were classified into one of three mutually exclusive groups called Developmental and Risk Indicator Groups (DRIGs) for this study. The *Measured Delay*¹ group consisted of those who had a measured delay on one or more developmental measure. These children were subject to a varying number of risk factors. This category also included a small proportion of children with an established risk condition (e.g. conditions associated with developmental delay such as deafness, blindness, cerebral palsy) which made them eligible for Part C services regardless of measured delay, however almost all of the children with an established risk condition also had a measured delay. A second group, the *High Risk* group, consisted of children who had at least five risk factors associated with developmental problems (e.g., poverty level, active domestic violence, substance abuse), but no measured delay.² All children in NSCAW had at least one risk factor—a maltreatment experience. The final group, the *Lower Risk* group, had fewer than five risk factors and no measured delay. The groups are mutually

¹ Italicized words or phrases have a specific meaning in this report and are defined in Appendix A.

² The 10 risk factors considered in addition to maltreatment are caregiver mental health problem, non-white racial status, low caregiver education, single caregiver, biomedical risk condition, poverty, teen-aged caregiver, domestic violence, 4 or more children in the home, and caregiver substance abuse. Each was selected based on our review of classic works on the impact of cumulative risk on developmental outcomes (e.g., Sameroff, 1998). Individually any of these factors may not be predictive of poor developmental outcomes, but the exposure to multiple risk factors increases the likelihood.

exclusive so a child with a measured delay was in that group regardless of the number of risk factors they experienced.

Two kinds of analyses were conducted. Descriptive analyses examined how many children in each child welfare setting would fall into the *Measured Delay*, *High Risk*, or *Lower Risk* groups. A second set of analyses used regression modeling to identify what child, parent, household, or case characteristics were associated with receipt of services or a change in DRIG grouping, for example.

II. Major Findings

The major findings are grouped into four areas—environmental and biomedical risk affecting development, developmental outcomes, service receipt, and considerations for successful interventions. Each section contains a statement of the finding, reference to any previous research included in this project’s literature review, findings from this study, and implications.

A. Environmental and Biomedical Risk Affecting Development

Maltreated infants and toddlers are subject to multiple types of risk associated with poorer developmental outcomes, often in conjunction with a measured delay on a developmental measure. Some maltreated children consistently demonstrate developmental concerns over time as evidenced by a low score on a developmental measure. Children with many risk factors at baseline tend to have reduced risk status or subsequent developmental concerns over time. Very few maltreated children are reported to have an established risk condition (i.e., a diagnosed medical condition known to be associated with developmental delay) that would entitle them to Part C services.

Finding #1

Children ages birth to 36 months who have been maltreated are at substantial risk of experiencing subsequent developmental problems.

Young children who experience child neglect and abuse are at high risk of developmental problems. Moreover, much research highlights the importance of the early years in both physical and psychosocial development. Specific domains potentially affected include cognitive, social, emotional, and physical health in addition to the potential for subsequent development of psychopathology. Effects are similar to poverty, but may be more severe.

Young children from birth to three years of age are most at risk of experiencing maltreatment. Approximately 3.5 million children are investigated for maltreatment annually. Of that group, nearly 900,000 are eventually substantiated to have experienced maltreatment. Children birth to three years have the highest rate of victimization, 16.1 per 1,000, while infants (children less than one year old) accounted for over 10% of all maltreated children or nearly 90,000 infants per year (U.S. DHHS, 2006). Some research suggests that children with unsubstantiated maltreatment reports may not differ developmentally from those who were substantiated

(Hussey et al., 2005). This would place the entire population of children reported for maltreatment at risk for developmental problems.

Using data from the National Survey of Child and Adolescent Well-Being (NSCAW) and the National Early Intervention Longitudinal Study (NEILS), the developmental risk and well-being of maltreated children birth to 36 months of age was investigated. Specific literature relating to the developmental experiences of maltreated infants and young children was reviewed. Using the two longitudinal studies, NSCAW and NEILS, analyses were completed to describe the characteristics and developmental experiences of these children.

Previous Research

Maltreatment places the child at increased risk for problems in any developmental domain. Such domains include cognitive, language, social, and emotional. Moreover, negative developmental effects are typically seen in at least one domain regardless of the type of maltreatment experienced (Hoffman-Plotkin & Twentyman, 1984; Porter, Lawson, & Bigler, 2005).

Cognitive and language development may be markedly affected by maltreatment. Maltreated children have shown poorer performance across an array of cognitive and language sub-domains. Children experiencing emotional maltreatment or neglect often perform the most poorly of maltreated children. These differences persist even after poverty or low socioeconomic status (SES), a risk that commonly co-occurs with maltreatment, is controlled for (Beers & De Bellis, 2002; Eigsti & Cicchetti, 2004; Pears & Fisher, 2005; Yasik, 1998). The cognitive and language effects of maltreatment persist into at least elementary school years (Koenig, Cicchetti, & Rogosch, 2000; Toth & Cicchetti, 1996). Maltreated children have an increased likelihood of being held back in school (Shonk & Chicchetti, 2001).

The social and emotional development of young children is also adversely affected by maltreatment. When infants do not experience responsive relationships; are met with threats or criticism during emotional events; and are exposed to violence, intense anger, and fear, their social-emotional development may be impaired (Edwards, Shipman, & Brown, 2005; Howes, Cicchetti, Toth, & Rogosch, 2000; Shipman & Zeman, 1999).

The negative effects of maltreatment on young children's development are increasingly defined and understood. However, specific domains of development are often differentially affected according to the type of maltreatment experienced. Neglect seems to more profoundly affect cognitive and social development areas, in particular, but any maltreatment may negatively affect development.

Study Findings

Findings from the NSCAW cohort tend to support what has been found by other researchers. Children from birth to three with substantiated cases of maltreatment experienced numerous factors that place them at risk for developmental problems. In addition to their risk-laden environmental experiences, these children are also likely to have developmental delays based on the results of developmental screeners administered during the study.

Developmental risk is commonplace among infants and toddlers with substantiated cases of maltreatment. All of these children have at least one risk for developmental problems because of their maltreatment experience. A majority (55%) of children have at least five risk factors associated with developmental problems. Specific risk factors that were examined are shown below, with the percentage of children with that risk factor in parentheses:

Child Maltreatment (100%)	Caregiver Mental Health Problem (30%)
Minority Status (58%)	Low Caregiver Education (29%)
Single Caregiver (48%)	Biomedical Risk Condition (22%)
Poverty (46%)	Teen-aged Caregiver (19%)
Domestic Violence (40%)	4 or More Children in Home (14%)
Caregiver Substance Abuse (39%)	

Further evidence for the high levels of risk these children are subject to is found in the scores on the Bayley Infant Neurodevelopmental Screener (BINS). The BINS, a developmental screening instrument for children 3 to 24 months of age classified 56% of children in this age range at high risk and an additional 32% at moderate risk for developmental problems.

Risk may change over time. Some risk factors such as having been maltreated or being a member of a racial or ethnic minority group are fixed and permanent in duration. Others are temporary but may be brief or chronic in duration. For example, teen-aged caregiver is necessarily a time-limited risk factor while poverty may be experienced briefly or chronically (or intermittently). The practical consequence is that a child who has eight risk factors (i.e., *High Risk* using the DRIGs) at baseline may have only four risks at a follow-up because the primary caregiver is now 20 years old (no longer teen-aged), is now married and gainfully employed (no longer single or living in poverty), and has obtained a post-high school vocational certificate (no longer has low educational achievement). Labile risk factors were re-assessed at each time of data collection so a degree of instability in the DRIG high/lower risk classifications is expectable.

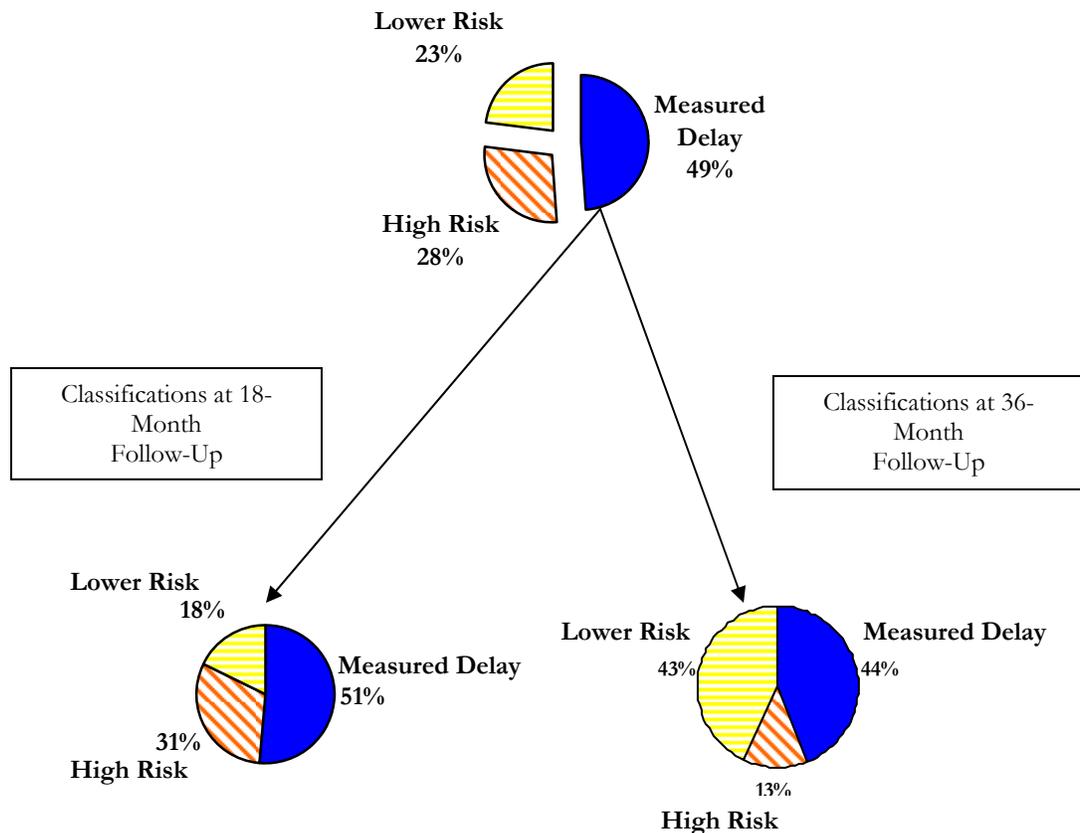
In addition to risk, many children had a low score on a developmental measure, a measured delay. Children were screened in the domains of cognitive functioning, communication skills, and adaptive behavior in the area of daily living. The cognitive portion of the Battelle Developmental Inventory (BDI), Kaufman Brief Intelligence Test (K-BIT), and the Pre-

School Language Scale 3rd Edition (PLS-3) were administered, and the daily living skills portion of the Vineland Adaptive Behavior Screener (VABS) were all completed by caregivers.

Results of developmental screening were organized within the DRIGs. Based on these instruments, almost half of the children (49%) had a low score on at least one measure at baseline and were classified in the *Measured Delay* category of the DRIGs. An additional 28% had five or more risk factors resulting in their classification as *High Risk*. The remainder (23%) had no delay and four or fewer risk factors, and were categorized as *Lower Risk*.

Stability of the DRIGs was assessed. At the 18-month follow up when children were approximately 18 to 52 months in age, the disposition of the sub-group of children who had a *Measured Delay* at baseline was re-assessed. Half were reported to have a *Measured Delay* while 31% were classified as *High Risk*, and 18% at *Lower Risk*. When this same sub-group of children were approximately 3 to 6 years of age at the 36-month follow-up the proportion with a *Measured Delay* decreased slightly to 44%, but only 13% were classified as *High Risk*, and 43% were *Lower Risk* (see Exhibit 1).

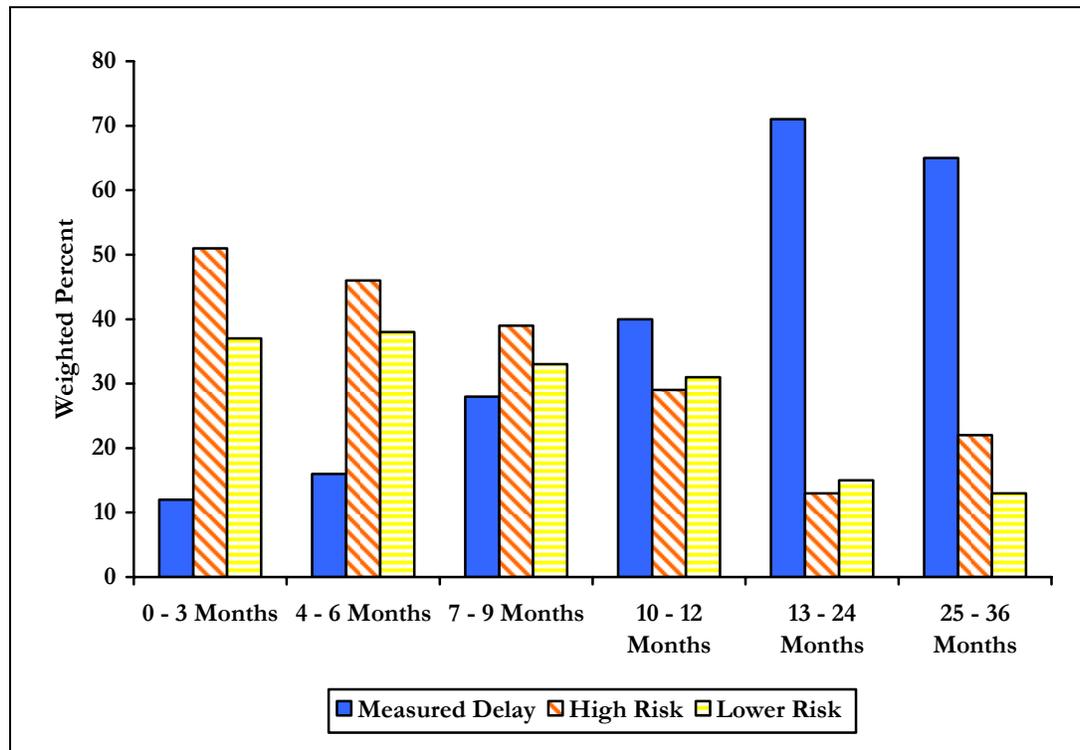
Exhibit 1. Disposition of Children with a Measured Delay at Baseline



Source: NSCAW.

Part of this pattern of change over time is related to the child’s age at the time the case was investigated. At baseline, infants less than 12 months of age with substantiated cases of maltreatment had the highest number of risk factors on average, and the lowest levels of measured delay. This small proportion of infants with a low score on a developmental measure is related to the difficulty using a standardized measure to assess delay in an infant. At baseline, children with substantiated cases of maltreatment investigated during the second or third year of life were more likely to have a low score on a developmental measure, but the proportion with *High Risk* status was smaller than among infants with substantiated maltreatment. For children in the third year of life, shortly after the time of investigation, the proportions with either *High* or *Lower Risk* is smaller than for infants (see Exhibit 2). This finding demonstrates that high levels of risk are associated with maltreated infants being designated as substantiated, compared to toddlers.

Exhibit 2. Measured Delay and Risk (DRIGs) by Age at Baseline for Children with Substantiated Cases of Maltreatment



Source: NSCAW.

Note: These are weighted percentages.

Infants and Toddlers Entering Part C and Risk Status. Children entering Part C services were found to be at higher risk than children younger than three years of age in the general population (National Household Education Survey [NHES], 1999) in some, but not all areas (Hebbeler, Spiker, Mallik, Scarborough, & Simeonsson, 2003). Approximately 17% of children entering Part C have reasons for eligibility that describe a biomedical or environmental risk factor associated with developmental delay, though almost all of these reasons are biomedical in nature, rather than environmental risk (Scarborough, Hebbeler, & Spiker, 2006). Another indicator of the risk experienced by infants and toddlers with disabilities entering Part C services is reflected in that 7% were in foster care—a rate far in excess of the rates of children in foster care (< 1%) of comparable age in the general population (US DHHS, 2007). Information was available to compare some of the demographic characteristics of substantiated infants and toddlers with children the same age entering Part C, and those in the general population (see Exhibit 3).

Exhibit 3. Percentages of Infants and Toddlers with Selected Demographic Characteristics

Demographic Characteristic	Substantiated Maltreatment (NSCAW) 1999-2000	Part C (NEILS) 1997-1998	General Population (NHES) 1999
Minority status	58	47	39
Single caregiver	48	15	15
Poverty	46	32	24
Less than high school education	29	16	17
Four or more children in the home	14	8	8

Source: NSCAW; Hebbeler et al., 2003 for NEILS & National Household Education Survey (NHES).

When the poverty level of the families of infants and toddlers entering Part C services is compared with infants and toddlers with substantiated cases of maltreatment, several differences are apparent (see Exhibit 4). Though the proportion of very poor families is similar in the two populations, the proportion between 51% and 100% of poverty is almost three times as large among maltreated children, and the proportion of Part C children above 200% of the poverty level is greater (50% vs. 29%). The most striking difference may be in the receipt of Temporary Assistance for Needy Families (TANF) in that almost twice as many Part C families (42% vs. 23%) are recipients. TANF provides low-income families with financial assistance and work opportunities by offering states block grants to deliver their welfare programs. Reasons for this difference may be due to TANF eligibility, but it may also be related to families' voluntary involvement with social services.

Exhibit 4. Percentage of Maltreated Infants and Toddlers and Income Level Compared to Entrants to Part C Services

Poverty Level	Substantiated Maltreatment	Part C
At or below 50%	19	18
Between 51% and 100%	27	11
Between 101% and 200%	26	22
Over 200%	29	50
TANF recipient	23	42

Sources: NSCAW and NEILS.

Implications

Based on these findings, there is a reason to be concerned that many of these young, maltreated children will continue to lag behind their non-maltreated peers developmentally and will not be school-ready upon entrance to kindergarten or first grade. Risk factors such as poverty and maltreatment are known to have a negative influence on children's development (English et al., 2005; McLoyd, 1998). The findings here provide additional evidence for the negative developmental effects of the previously discussed risk factors.

However, the effects of risk are not necessarily determinable in infants and toddlers, and become more apparent as age-expected developmental competencies become more complex. As a result, services, such as those provided for by Part C, may help offset these risks if provided in the first year of life. Additional services, such as income assistance and parent training might also reduce risk and likelihood of eventual developmental problems (National Scientific Council on the Developing Child, 2007).

There is movement among children between the DRIGs categories. This may be because some risks are potentially transient (e.g., transitional poverty, single parenthood) while addressing others might raise new issues (e.g., removing an abusive parent from the home may mean a child now has a single caregiver and more exposure to poverty). As a result, children classified as *Lower Risk* at the 36-month follow-up may have been in the *High Risk* group or experienced a measured delay at some point.

Finding #2

Compared to classification at the time of initial contact with Child Welfare Services, over time a higher proportion of children tend to be described as having fewer risks or with a low score on a developmental measure.

Information on infants and toddlers from birth to 36 months of age was obtained at baseline, and again 12, 18, and 36 months later. Changes in low scores on developmental measures and risk status when children were older were examined.

Study Findings

Shortly after the time of the initial investigation of child maltreatment 49% of infants and toddlers aged 0 to 36 months were reported to have a *Measured Delay* (see Exhibit 5). A small proportion (3%) of children in the *Measured Delay* category had an established risk condition associated with developmental delay, making them eligible for Part C services regardless of documented delay. In almost all cases, these children also had a low score on one or more developmental measure. The remaining children without a measured delay were classified as having 5 or more risk factors associated with poorer developmental outcomes (*High Risk*, 28%) or having fewer than five risk factors (*Lower Risk*, 23%).

At the 18-month follow-up when children were approximately 18 to 54 months of age, the distribution of children in these categories remained similar (50%, 29%, and 21% respectively). Approximately half of the children with a *Measured Delay* (52%), a third of *High Risk* (36%) and a third of *Lower Risk* (33%) were still classified as such, as can be seen in Exhibit 5. However many individual children changed classification. Of those classified as having a *Measured Delay* at baseline, 31% were described as *High Risk* and 18% *Lower Risk* 18 months later.

Exhibit 5. DRIGs 18 Months after Baseline Compared to Baseline

	Approximately 18 months after Baseline (18-54 months in age)			
	Measured Delay (50%)	High Risk (29%)	Lower Risk (21%)	
Baseline (0-36 months in age)				
Measured Delay (49%)	52	31	18	100
High Risk (28%)	<i>43</i>	36	22	100
Lower Risk (23%)	<i>56</i>	11	33	100

Source: NSCAW.

Note: Numbers in **bold** report the percentages of children who did not change classification between baseline and 18 months later. Numbers in *italic* report the percentages of children who moved into the Measured Delay classification based on the proportion reported at baseline.

Looking at *High Risk* children (28%) at baseline in Exhibit 5, about a third (36%) of them were described that way 18 months later. Forty-three percent of children had moved into the *Measured Delay* category and 22% were classified as *Lower Risk*. Likewise only 33% of *Lower Risk* (23%) at baseline were still classified as such, with more than half (56%) reported to have a *Measured Delay*, and 11% being classified *High Risk* 18 months after baseline.

There was substantial movement of children to the *Measured Delay* category in the first 18 months after entrance into Child Welfare Services. Among the 28% of children who were *High Risk* at baseline, about twice as many (43%) moved into the *Measured Delay* category as moved into the *Lower Risk* (22%) category. Among the 23% of children who started as *Lower Risk*, 56% moved into the *Measured Delay* category 18 months after baseline. This was a larger proportion than what remained in the *Lower Risk* (33%) or became *High Risk* (11%). Taken together, although there is movement across categories, the proportion of children in the *Measured Delay* category remains almost unchanged (49% to 50%) as is true of the other categories.

As shown in Exhibit 6, between 18 and 36 months there was somewhat more stability in the DRIG status of children—at least for the *Measured Delay* and *Lower Risk* groups. Among children with *Measured Delay* (50%) at 18 months, 57% of them remained in that status. Among children who were *Lower Risk* (21%) at 18 months, 72% remained there at 36 months. At the same time, among children who were *High Risk* (29%) at 18 months, a substantial proportion (37%) had a *Measured Delay* by 36 months and among those with *Lower Risk* (21%) at 18 months after baseline, 22% of those were subsequently classified in the *Measured Delay* category. The proportion of children in the *Measured Delay* category does decline from 50% of children at 18 months to 42% of children by 36 months. The percentage of children in the *High Risk* classification declined by more than half from 29% to 13% and children in the *Lower Risk* category more than doubled from 21% to 45%.

Exhibit 6. DRIGs 36 Months after Baseline Compared to 18 Months after Baseline

Approximately 36 months after Baseline (3-6 years of age)				
18 months after Baseline (18-54 months in age)	Measured Delay (42%)	High Risk (13%)	Lower Risk (45%)	
Measured Delay (50%)	57	10	33	100
High Risk (29%)	<i>37</i>	28	35	100
Lower Risk (21%)	<i>22</i>	6	72	100

Source: NSCAW.

Note: Numbers in **bold** report the percentages of children who did not change classification between 18 and 36 months after baseline. Numbers in *italic* report the percentages of children who moved into the *Measured Delay* classification, based on the proportion reported 18 months after baseline.

Reasons for change in DRIG status are not directly discernable from these data. Multiple influences may be at play. Change in the number of risk factors

may be reflective of changes in who is caring for the child. Children placed into foster care can be expected to have a lowered level of risk. Among children who remained in the home, reduction in the number of risk factors may reflect the effect of intervention services provided to caregivers aimed at reducing developmental risk in the child's caregiving environment. Changes in classification are also influenced by the challenges inherent in measuring developmental status in young children, particularly infants. A large proportion of the children at baseline classified as having a *Measured Delay* (38%) were younger than 12 months of age at that time.

The data show no overall change in the proportion of children in the *Measured Delay* and *High Risk* categories in the first 18 months after involvement with Child Welfare Services. After 18 months we would expect that some children would be improving, and they do. By 36 months, the findings are more positive and show a modest reduction (50% to 42%) in the proportion of children in the *Measured Delay* category and a large increase in those who have shown improvement by moving into the *Lower Risk* group (comprising 45% of all children assessed at 36 months).

Comparing the classification of children investigated by Child Welfare Services longitudinally reveals that about half of the children move from being classified as having a *Measured Delay* to not having one. Conversely, about half of the children are indicated to have a *Measured Delay* in at least one area at two time points over an 18-month interval.

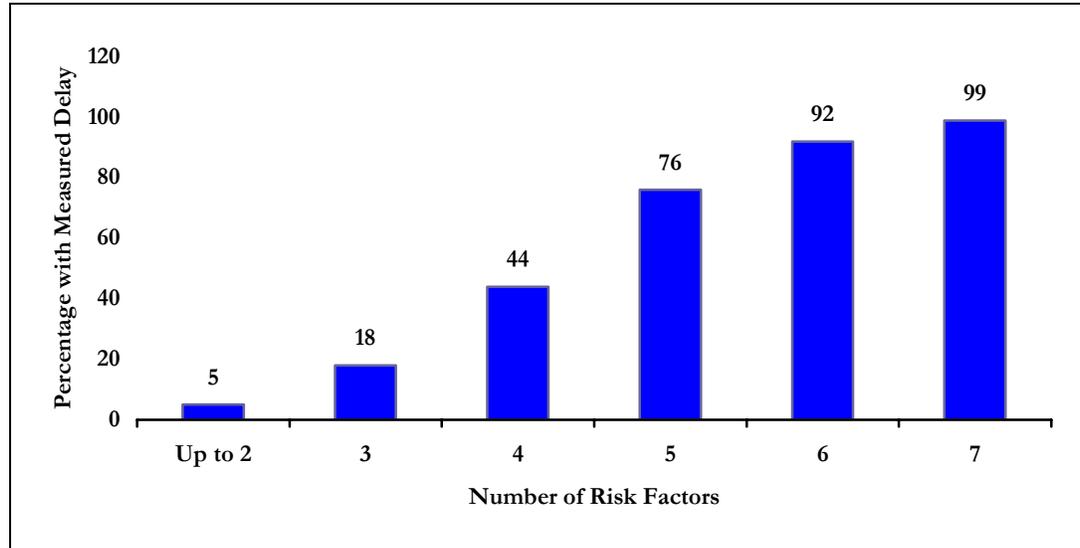
This pattern of findings highlight the potential value of providing these children with a formal screening and intervention process prior to three years of age to determine the nature of their delays and their possible eligibility for Part C services and their ongoing risk of developing developmental delays. It is apparent that many of these children with low scores on a developmental measure who might not meet the local criterion for Part C services or who have multiple risk factors might benefit from child care services or home visiting programs focused on providing a stimulating environment to enhance their developmental outcomes and social-emotional well-being (National Scientific Council on the Developing Child, 2007).

On a positive note, it seems likely that the reduction of the proportion of *High Risk* children might be credited to the intervention of child welfare services. This pattern suggests that the reduced risk in some of the children's caregiving environments would contribute to supporting more optimal outcomes for children maltreated as infants and toddlers.

Examining the relationship of multiple risks to developmental scores at baseline demonstrates a direct connection. When substantiated infants and toddlers are grouped according to the number of risk factors they were reported subject to, a linear relationship can be observed (see Exhibit 7). Only 5% of children exposed to a single risk factor in addition to maltreatment have a measured delay, whereas the percentage of infants and

toddlers reported to have a measured delay ranges from 76% to 99% for children subject to 5, 6, or 7 risks.

Exhibit 7. Percentage of Infants and Toddlers with a Measured Delay by the Number of Risk Factors Present at Baseline



Source: NSCAW.

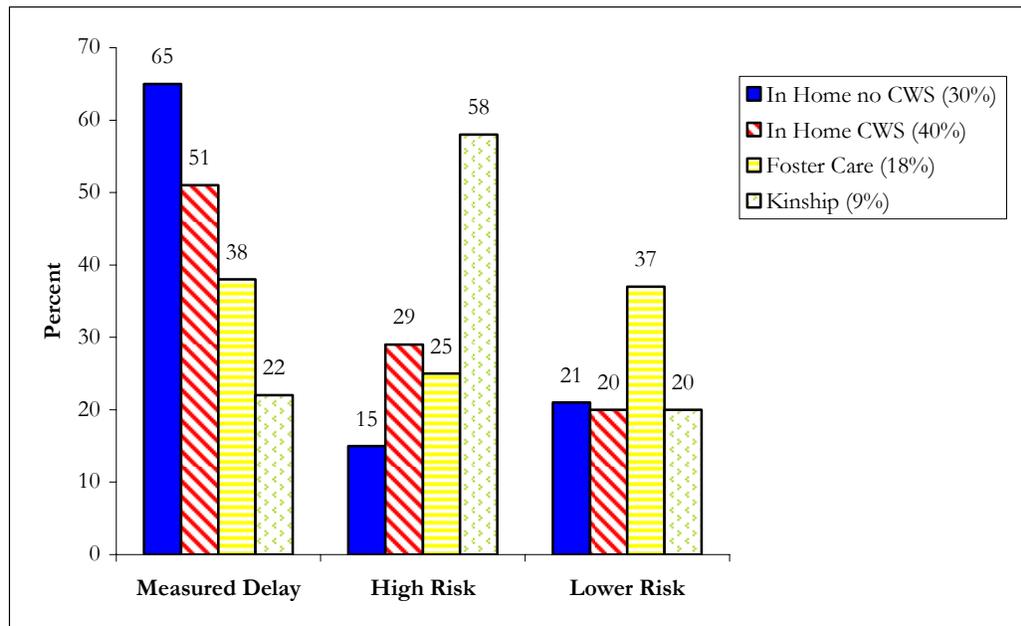
It has been demonstrated that a single risk factor such as poverty (Duncan, Brooks-Gunn, Klebanov, 1994) or maternal mental health (Laucht, Esser, & Schmidt, 2001) can be associated with poorer developmental outcomes for infants and toddlers. The least positive developmental outcomes are, however, associated with the cumulative effect of a range of multiple risk factors (Rutter, 1979; Sameroff, Seifer, Zax, & Barocas, 1987; Sameroff, 1998). Infants and toddlers may be at risk for poorer outcomes by having been the victims of maltreatment; however the clustering of multiple risks has been shown to be strongly associated with increases in the likelihood of poorer developmental outcomes.

Setting and measured delay and risk. At baseline, 40% of infants and toddlers were in home care receiving Child Welfare Services, 30% were in home care not receiving Child Welfare Services, 18% were in foster care, and 9% were in kinship care (see legend in Exhibit 8).

Of the children in home and not receiving Child Welfare Services, 65% had a *Measured Delay*. Fifty-one percent of those in home care receiving Child Welfare Services had a *Measured Delay*. Of children in foster homes, 38% had a *Measured Delay* as well as 22% of those in kinship care.

Those in kinship care were the most highly represented in the *High Risk* category (58%). Children remaining at home without Child Welfare Services had higher rates, overall, of a *Measured Delay* (65%).

Exhibit 8. DRIGs According to Setting at Baseline



Source: NSCAW.

Implications

Reduction in the number of risk factors would be hypothesized to positively affect child outcomes. Brooks-Gunn and colleagues (1992) found among preschoolers that the number of years a child lived in poverty, not the current economic status of the family, was a stronger predictor of developmental status. Similarly for maltreated infants and toddlers, it could be that those who continue to be reared in a caregiving environment subject to multiple risks would be anticipated to have poorer outcomes than children who have a significant reduction or elimination of contextual risk. Research is becoming conclusive regarding the negative impact of such experiences on adult outcomes in cognitive, economic and mental health domains (Anda et al., 2006; Knudsen, Heckman, Cameron & Shonkoff, 2006; Shonkoff & Phillips, 2000). As found in this study, of the 28% of children in the *High Risk* category shortly after the initial investigation 79% were *High Risk* or had a *Measured Delay* approximately 18 months later. Eighteen months later, of the 29% classified as *High Risk* 18 months after baseline, 28% remain *High Risk*, and 37% have a *Measured Delay*. Hence, concern regarding the occurrence of abuse and other commonly co-occurring problems (e.g., poverty) on infants and toddlers is well justified. These findings provide an even stronger basis for assessing the level of environmental risk to children and making referrals for Part C early intervention services based on the assessment of those risks. Information from risk assessment instruments, used in virtually every state during routine child welfare practices, could be used to generate developmental risk scores that would indicate the approximate risk of experiencing a measured developmental delay.

Finding #3

Few infants and toddlers with substantiated cases of maltreatment were reported to have an established risk condition as described in IDEA (e.g., Down syndrome) that would make them eligible for Part C services.

The Individuals with Disabilities Education Act (IDEA) presents a framework for eligibility for Part C early intervention services based on the presence of developmental delay or physical or mental conditions associated with developmental delay. Children with a medical diagnosis of a physical or mental condition associated with a high probability of developmental delay are eligible regardless of their developmental status. A chromosomal abnormality such as Down syndrome is an example of an established risk condition associated with a high probability of delay. Children with such disorders typically enter Part C services at a younger age by virtue of a medical diagnosis (Scarborough, Hebbeler & Schuster, 2008), rather than waiting until delays in development are measurable on standardized assessments.

IDEA provides guidelines regarding the specific conditions of established risk, but some states have added additional conditions to their eligibility criteria (Shackelford, 2006). States may choose to provide services to children in a third category described as at risk, based on the presence of biomedical (e.g., prematurity and low birthweight) or environmental conditions placing children at risk of having substantial delay. Currently five states provide Part C services to children at risk.

In the context of NSCAW analysis, children reported to have an established risk condition were included in the *Measured Delay* category. They represent a special group in that they have a condition known to be associated with developmental delay and, hence, are eligible for Part C services regardless of delay status. This group of children is not large enough to analyze separately.

The presence of certain recognized biomedical conditions place children at increased risk for developmental problems. In NSCAW, caregivers reported what, if any, biomedical risks the participating child has. If the child had at least one such condition, it was counted as a risk factor (see page 10 for the risk factors considered). The biomedical risk conditions included in NSCAW are listed at the bottom of page 21.

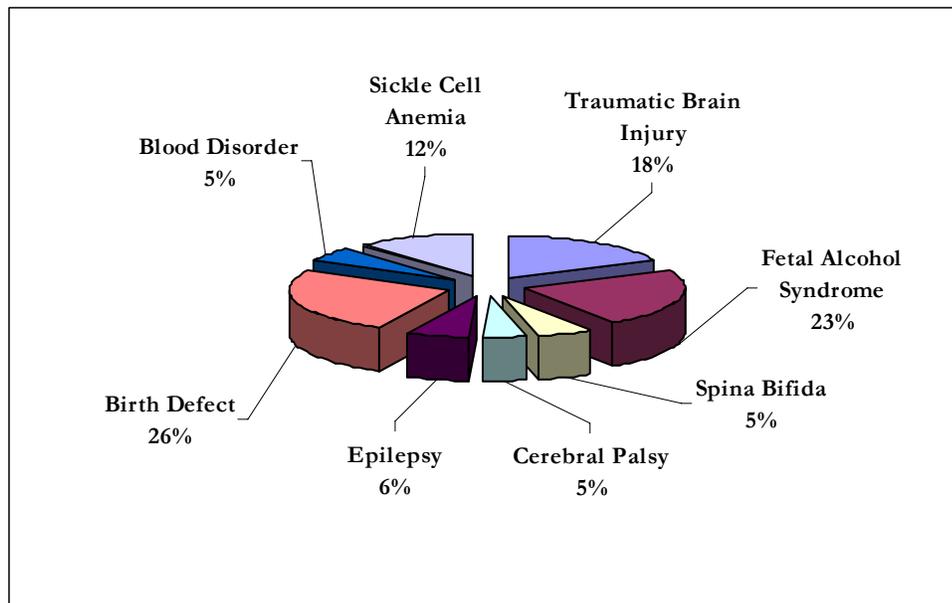
Study Findings

In all, infants and toddlers entering Part C services nationally are markedly more likely to have an *established risk condition* reported by caregivers or service providers than maltreated infants and toddlers (38% vs. 3%). A large

proportion (22%) of maltreated infants and toddlers are, however, subject to biomedical risks in addition to maltreatment, placing them at high risk for poor developmental outcomes.

Based on caregiver or caseworker report, 3% of infants and toddlers with substantiated cases of maltreatment were indicated to have an *established risk condition* that would entitle them to Part C services in all states, regardless of the presence of measured delay. The majority of these children also had a measured delay in at least one domain. Of the *established risk conditions* reported about one quarter were birth defects (26%) and another quarter (23%) were Fetal Alcohol Syndrome (see Exhibit 9).

Exhibit 9. Types of Established Risk Conditions Reported Among Substantiated Infants and Toddlers at Baseline



Source: NSCAW.

Note: This exhibit shows the diagnoses of the 3% of infants and toddlers that have an established risk condition at baseline (unweighted N = 50).

There are also biomedical conditions that place infants and toddlers at risk for developmental delay, though these risks do not inevitably result in developmental delay, they are often associated with poorer developmental outcomes, but individually they do not typically convey Part C eligibility. In order to describe the risk status of substantiated infants and toddlers, any biomedical condition associated with poorer developmental outcomes that was reported by caregivers was classified as a *biomedical risk factor*. Biomedical conditions that were reported include: HIV/AIDS, low birthweight, anemia, arthritis or joint problems, chronic cardiac condition, dental problems, hernia, high blood pressure, lead poisoning, obesity, other respiratory problems, persistent bowel problems, physical deformities, repeated ear infections, severe allergies, orthopedic impairment, and other health

problems. Regardless of the number of biomedical conditions a participating child was reported to have, it was only counted as a single risk factor for the purposes of assigning them to the *High Risk* or *Lower Risk* DRIG grouping. Of the substantiated cases, 22% were reported to have at least one of the aforementioned biomedical risks, in addition to the risk associated with maltreatment.

The NEILS research team constructed a system for categorizing terms provided by Part C services providers to describe the reasons why children were eligible for Part C early intervention. Terms describing a developmental delay were used as the primary classification. For example if the service provider described a child's eligibility because of global delay and Down syndrome, the child was classified as having a developmental delay. This hierarchical classification resulted in 62% of children eligible for service because of a developmental delay, 22% eligible because of an established risk condition, and 17% at risk for developmental delay, with the at-risk reasons primarily associated with biomedical risk (e.g., prematurity), rather than environmental risk (Scarborough et al., 2006).

The NEILS research team also examined information from Part C service providers on why the child was receiving services coupled with information from interviews with caregivers describing their child's developmental and health problems. Using both sources of information revealed that 38% of the infants and toddlers entering Part C services had an established risk condition, with or without a measured developmental delay (Scarborough et al., 2007).

Implications

Comparing findings from two nationally representative studies demonstrates that 38% of infants and toddlers entering Part C are reported to have an established risk condition regardless of reason for eligibility, compared to 3% of infants and toddlers with a substantiated case of maltreatment. Clearly, maltreated infants and toddlers will need to be identified in a manner other than a medical diagnosis in order to receive Part C services. About half of substantiated children do not have a measured delay, implying that they are developing skills in the manner and timing expected. Nevertheless, almost all of the children without measured delay were subject to numerous risk factors associated with poorer academic outcomes as demonstrated in the U.S. Department of Education's Early Childhood Longitudinal Study (Lee & Burkam, 2002). The majority of maltreated infants and toddlers are at high risk for school failure, regardless of their developmental status as indicated on a developmental measure. Those with a measured delay not only are subject to risks associated with school failure, but also have as infants and toddlers, given signs of aberrant development in one or more domains, putting them at additional risk for various types of learning difficulties and cognitive impairments.

For maltreated infants and toddlers, unless they reside in one of the four states that provides Part C early intervention based on environmental risk status or in a location where unique provisions are available for maltreated infants, some will not receive Part C services until they are old enough to demonstrate a significant delay. Typically, documented developmental delay is not measurable until a child is approximately 18 months of age. In states with more rigorous criterion for delay, such as 50% delay, children may never meet eligibility requirements for Part C, despite having a low score on a developmental measure and multiple risk factors. A 50% delay in an 18-month old means that s/he would not have the skills expected in a 9-month old in order to be deemed eligible for Part C services because of a documented developmental delay.

Maltreated infants and toddlers who are subject to multiple risks associated with poor developmental outcomes could benefit from intervention services aimed at both reducing risk factors and in enhancing the caregiving environment. Proactive interventions that begin when children are at younger ages can help prevent or address developmental delay.

B. Developmental Outcomes

Significant problems in the caregiving environment of infants and toddlers are evidenced in the act of maltreating children. Study findings support reason to be concerned about the developmental status of maltreated children regardless of substantiation status. Likewise, problems in the caregiving relationship with the potential to affect developmental outcomes are also indicated in the increased rate of behavioral problems reported by caregivers of young maltreated children.

Finding #4

Among children who have substantiated maltreatment, the proportion with a low score on a developmental measure does not differ markedly from those of children investigated but not found to have substantiated maltreatment.

Previous Research

CAPTA makes a critical distinction between children with substantiated abuse or neglect and those without. Because of the expectations of negative developmental outcomes for maltreated infants and toddlers, the 2003 revision to CAPTA (PL. No. 108-36 § 106(2) (A) (xxi)), mandated that children birth to three years of age with substantiated cases of child maltreatment be referred to Part C early intervention services as described in the Individuals with Disabilities Education Act (IDEA). Part C service providers, or their designee, are required to screen these children and to provide services to those found eligible.

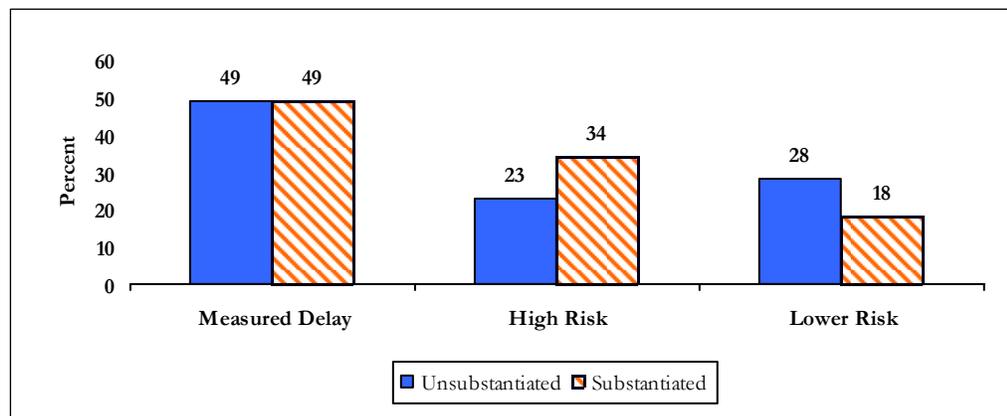
Yet previous research generally shows that children with substantiated cases have more similar case outcomes, over time, to those whose cases are not substantiated. Research does show that children with substantiated cases are more likely to be sexually or physically abused than neglected (US DHHS, 2006; Wolock et al., 2001) and are more likely to have been reported by mandated reporters (Giovannoni, 1995; US DHHS, 2006). Other factors associated with substantiation include the presence of observable injuries and multiple types of maltreatment (Giovannoni, 1989; U.S. DHHS, 2006), and a more complete investigation report. Thus, although some of these indicators could be associated with greater developmental harms, there is not an obvious and direct relationship between substantiation status and developmental well-being of children.

As a result of child welfare policies and practices, children with substantiated cases of maltreatment are more likely to have a child welfare case opened (NSCAW Research Group, 2002). However, in another study among children 4 to 8 years of age who were investigated, though not necessarily substantiated for maltreatment, behavioral and developmental outcomes were not associated with whether the case was substantiated (Hussey et al., 2005). An official determination of maltreatment was not related to the child's developmental and behavioral outcomes. Determining factors that lead to substantiation of child maltreatment in very young children and understanding how their developmental outcomes compare to unsubstantiated cases will help policy makers understand the experiences and needs of these children who are, on legal grounds, quite distinct.

Study Findings

Exhibit 10 shows that there was an identical (49%) proportion of substantiated and unsubstantiated cases with a *Measured Delay*, but a lower proportion in the *High Risk* category in the unsubstantiated group (23 % vs. 34%) and a higher proportion of children in the *Lower Risk* category in the unsubstantiated group (28% vs. 18%).

Exhibit 10. Percentage of Substantiated and Unsubstantiated Cases by DRIGs



Source: NSCAW.

Implications

Children with substantiated maltreatment have been found to be quite similar to those children with unsubstantiated maltreatment (Drake, 1995), but different in that unsubstantiated cases receive fewer services (Drake et al., 2003). This has recently been reconfirmed in the NSCAW data (NSCAW Research Group, 2002), for the general population of children and, now, again for very young children. The current study adds important information in showing that developmental outcomes do not differ by substantiation status. This evidence suggests that children involved in child welfare—even those who have not had their maltreatment substantiated—have an increased likelihood of being Part C eligible.

Finding #5

Maltreated children between 24 to 36 months of the age have relatively high levels of behavior problems reported by their caregivers.

Previous Research

Maltreated children between 24 to 36 months of the age appear to have an increased occurrence of behavior problems as reported by their caregivers using the Child Behavior Checklist (CBCL) (Achenbach, 1991; Stahmer et al., 2005). It is not clear whether maltreating caregivers experience their children's age-expected behavior as more problematic or whether the children have, in fact, more problematic behavior. Recent evidence that compares the ratings of maltreating parents to those of independent observers suggests that maltreating parents are more harsh raters of their children's behavior (Lau, Valeri, McCarty, & Weisz, 2006).

Despite the high frequency of temperamental or behavioral concerns in children with developmental delay of various etiologies, behavioral difficulties are rarely used to describe eligibility for Part C services (Hebbeler et al., 2001). An elevated frequency of behavior problems associated with developmental delay has been described. Studies found that over 40% of children between 4 and 18 years of age with mild intellectual disability could be classified as having severe emotional or behavioral disorders (Einfeld & Tonge, 1996; Gillberg, Perrson, Grufman, & Themner, 1986; Rutter, Tizard, & Whitmore, 1970).³

A child's behavior and development are strongly related. The transactional model of development (Sameroff, 1995) illustrates how the child and the caregiving environment are mutually affected by interaction, e.g. the developing child is influenced by stimuli from the environment and, in turn, provides feedback to the environment that partly determines what future stimuli he or she will receive. As a result, the child's behavior and development play a reciprocal role. For example, a baby quick to smile and respond to caregivers may receive more positive, developmentally important stimuli than a child who is more withdrawn or less responsive. The transactional model recognizes difficulties that caregivers experience with children as a disturbance in the relationship, not as a problem within the child.

Prior research specific to occurrence of behavior problems in young, maltreated children is relatively scarce. NSCAW research on children

³ The report, *Literature Review: Developmental Problems of Maltreated Children and Early Intervention Options for Maltreated Children*, available at <http://aspe.hhs.gov/hsp/07/Children-CPS/litrev/index.htm>, provides additional information on this topic.

entering the study found that 27% of 2- and 3-year-olds had behavior problems reported by their caregivers compared to 5% of the general population (Administration for Children and Families, 2006). Stahmer et al. (2005), also using NSCAW data, found that 26% of 2-year-olds and 32% of 3- to 5-year-olds had serious behavior problems as assessed by the CBCL. Other research on young children entering out-of-home care indicates that this rate could be between 33% and 39% for children entering foster care (Reams, 1999; Urquiza, Wirtz, Peterson, & Singer, 1994). In sum, among maltreated toddlers, behavior problems seem more common than in the general population. These findings provide a basis for further analysis pertaining to young children substantiated for maltreatment.

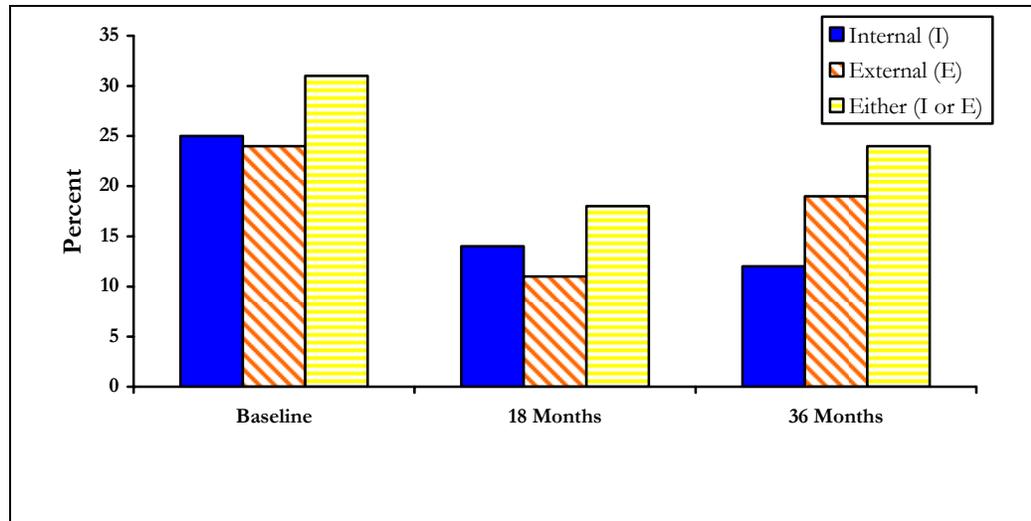
Study Findings

Using the CBCL,⁴ behavior problems are classified into one of two categories. First, behavior problems may be externalizing which are difficult behaviors such as physical aggression. Behavior may also be classified as internalizing. These behaviors include less interpersonal problems such as depressive or anxious symptoms. The behavioral characteristics are not mutually exclusive so a child may have both.

Children with behavior problems emerge as a relatively common phenomenon among this group (see Exhibit 11). Almost one in three children 2- to 3-years-old at the time of initial baseline data collection was reported to have a behavior problem. This is much higher than would be expected in the general population, which would have about 8% with an externalizing or internalizing score. This number drops slightly to about 1 in 4 by the 36-month follow-up, by which time all children in NSCAW would have exited the Part C system.

Exhibit 11. Internalizing, Externalizing, and Any Behavior Problems in Maltreated Children 2 Years of Age and Older at Baseline and 18- and 36-Month Follow-Up

⁴ The CBCL version used in NSCAW has two scales. The first is for children 2- to 3-years old and the second is for children 4 years and older.



Source: NSCAW. Caregiver completes the CBCL.

These behavior problems are quite constant. About 70% of children who were reported by caregivers as having behavior problems at baseline were still having behavior problems at the 36-month follow-up.

Children with behavior problems were not found to be different from children without behavior problems in several areas. For example, children with behavior problems were placed into out-of-home living arrangements no more often than those without behavior problems. Similarly, the distribution of risk and measured delay was similar among children with and without behavior problems.

A key finding is that very young maltreated children were commonly reported by their caregivers to have both internalizing and externalizing problems (as seen in Exhibit 11).

Implications

Young, maltreated children are commonly reported by their caregivers to demonstrate behavior problems. Children at least two years of age are typically reported to have both internalizing and externalizing behavior problems. As a result, child welfare and Part C providers may find these families challenging to work with unless efforts are made to help caregivers learn how to manage problem behaviors. The ratings may suggest serious family dysfunction in which the children are the identified symptom of a troubled family system. The ratings of child behavior may indicate unreasonable behavioral expectations or inability to provide appropriate limits to their children, or to reflect chaos and strife in the life of the caregivers of maltreated toddlers (Scarborough & Poon, 2004). Harrington, Black, Starr and Dubowitz (1998) posit that caregivers living in poverty who ascribe behavior problems to their neglected children may be asking for help, particularly with child-rearing and family functioning. Child-centered interventions will likely be inadequate to remediate these behavioral ratings. Service providers will need to address problems in the aversive caregiver-to-child interaction to effect a positive change. Part C providers specifically need tools for responding to the individual behavioral needs of these children and families (Scarborough, Hebbeler, Spiker, & Simeonsson, 2007).

C. Service Receipt

Prior to CAPTA amendments requiring procedures for referring young children to Part C services, a sizable proportion of infants and toddlers were reported to be receiving Part C services. An even larger proportion of families were receiving parent training or family counseling.

Finding #6

A sizeable proportion of infants and toddlers with substantiated maltreatment were reported to have an Individualized Family Service Plan (IFSP), reflecting eligibility for Part C services.

Previous Research

Little information is available on the use of Part C services by children involved with Child Welfare Services. A notable exception is a demonstration project implemented by The Massachusetts Early Childhood Linkage Initiative (MECLI, 2005). This project attempted to refer all children younger than three years of age involved in substantiated cases of maltreatment to Part C early intervention at three pilot sites in Massachusetts between November 2002 and December 2004. Over the course of the project, 540 children were offered a referral to early intervention.⁵ The majority (82%) of parents or guardians accepted the referral. Of those offered a referral, 40% (218 children) were eventually evaluated to determine eligibility for services (Lippitt, 2007). Of those evaluated, 74% were deemed eligible (see Exhibit 12). Interpretation of the findings in terms of the proportion of children eligible for services are complicated by the fact that a sizable proportion of families were not offered a referral based on the discretion of the local child welfare workers (Mills, 2007). Although these data are from only one state, they provide a rare glimpse at the patterns of referral, service acceptance by parents, and eligibility. Additional information is now available based on our analyses of NSCAW and NEILS data.

Exhibit 12. Part C Eligibility of MECLI Referred and Assessed Infants and Toddlers

	Number	Percentage
Total	218	100
Eligibility among those assessed	161	74
Developmental Delay	107	49
At risk	37	17
Professional judgment	2	<1
Established risk condition	1	<1
Unknown	14	6

Source: MECLI Report, 2005.

⁵ 27% of the referrals were not received by Part C: 18% refused the referral, 19% accepted the referral but for various reasons did not engage with Part C.

Part C early intervention services are provided to infants and toddlers with disabilities to maximize the child's developmental potential. Eligibility for Part C services extends from birth to 36 months of age. The types of Part C services received nationally by infants and toddlers with disabilities can be seen in Exhibit 13.

Exhibit 13. Infants and Toddlers Ages Birth through Two Receiving Services under IDEA, Part C, in the U.S. and Outlying Areas, 2003

Part C Service	Total	Percent
Assistive Technology	8,121	3.0
Audiology	13,756	5.0
Family Training	52,300	19.1
Health Services	6,496	2.4
Medical Services	7,256	2.6
Nursing Services	9,693	3.5
Nutrition Services	9,959	3.6
Occupational Therapy	89,840	32.7
Physical Therapy	90,231	32.9
Psychological Services	7,110	2.6
Respite Care	9,161	3.3
Social Work Services	16,187	5.9
Special Instruction	125,327	45.7
Speech Language	133,768	48.7
Transportation	15,599	5.7
Vision Services	5,934	2.2
Other Services such as interpretation or behavioral analysis	22,171	8.1

Source: U.S. Department of Education, Office of Special Education Programs, Data Analysis System (DANS). https://www.ideadata.org/tables28th%5Car_6-12.htm. Report of early intervention services on IFSPs provided to infants and toddlers and their families in accordance with Part C," 2003. Data updated as of July 30, 2005.

Notes: Percent = Number reported in the service category divided by the 2003 child count multiplied by 100. The denominator is not available in the report.

Study Findings

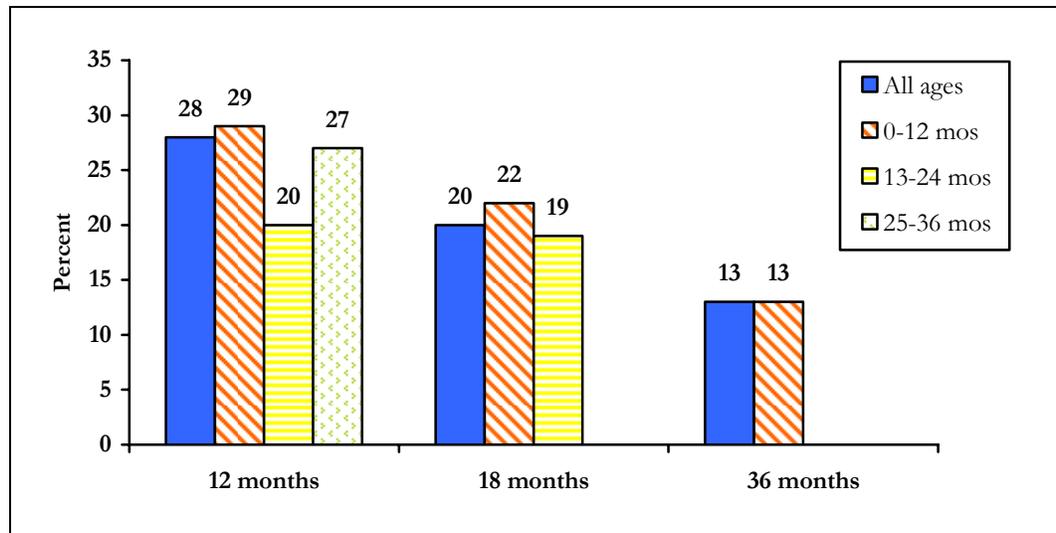
An Individualized Family Service Plan (IFSP) is a formal document designating eligibility for Part C services and an agreement between service providers and caregivers regarding the type and amount of services to be provided. In the NSCAW data we examined the proportion of substantiated infants and toddlers reported to have received Part C services. Twelve months after baseline, when maltreated infants and toddlers ranged in age from approximately 12 to 48 months of age, 28% of children still younger than 36 months of age were reported by caseworkers to have an IFSP (see Exhibit 14). This proportion of substantiated infants and toddlers receiving Part C services is prior to implementation of the CAPTA requirement of

referral of substantiated cases. Information regarding the type of Part C services children and families received was not available.

Among children reported to have an IFSP 12 months after baseline, the largest proportions were among those who were between 0 to 12 months (29%) and 25 to 36 months (27%) of age at baseline (Exhibit 14). Eighteen months after baseline, when children were approximately 18 to 42 months of age, the proportion with an IFSP was slightly less (20%). At this time point the proportion with an IFSP among children 0 to 12 months at baseline dropped from 29% to 22%, whereas the proportion of those with an IFSP who were between 13 to 24 months at baseline remains fairly stable at 19% compared to 20%, at the 12-month follow-up.

By the 36-month follow-up only children who were between 0-12 months of age at baseline were still age eligible for Part C, and 13%, down from 29% and 22% at earlier time points, were reported to have an IFSP. (Because of study procedures, some of the interviews from the 36-month wave occurred after children were three years of age—this could have resulted in a lower estimate of the proportion of children who were identified as having an IFSP in the 18 months prior to data collection 36 months after baseline.)

Exhibit 14. Percentage of Children Reported to Have an IFSP by Age at Baseline, 12, 18 and 36 Months Later



Source: NSCAW. Child Welfare providers supply information regarding the IFSP.

Overall, these findings suggest that the reduction in the proportion of children with an IFSP among those investigated as infants 0 to 12 months of age may be attributable to loss of Part C eligibility. Loss of eligibility can be due to no longer needing or qualifying for services or the parent's choice to no longer participate in services. NEILS found that 16% of children entering Part C in 1997/98 left Part C prior to 36 months of age when Part C

eligibility ends (Hebbeler et al., 2007). Data reported by individual states in 2002/03 showed 20% of children who received services left Part C prior to 36 months of age because they no longer required services (U.S. Department of Education, 2004).⁶

The more stable proportion of children 13 to 24 months of age at baseline with an IFSP over time suggests the possibility that a higher proportion of these children were deemed eligible for Part C because of a documented delay, rather than risk status. Children eligible because of risk factors are often deemed eligible shortly after birth, whereas children with developmental delays have to be old enough to demonstrate the required discrepancy between their developmental status and their chronological age. Often developmental delays due to chromosomal or neurological disorders are not remediable. Many of these children remain eligible and receive special education services when they become school age.⁷ Some will receive special education services until they age out of the special education system at 21 years of age. In NEILS 58% of children who entered Part C services in 1997/98, had an Individualized Education Program in kindergarten, indicating the receipt of special education services. Another 10% had a disability, but were not receiving special education services (Hebbeler et al., 2007).

NEILS found that 63% of the children who entered Part C services went on to receive preschool special education services (Hebbeler et al., 2007). Numbers from the individual states indicate that 43% of children who received Part C services were Part B eligible (U.S. Department of Education, 2005).

⁶ Eligibility can be lost in several ways. For example, in some states children deemed eligible because of clinical opinion must be evaluated within 6 months. At that time the child must meet eligibility criteria for services to continue. Similarly, children are periodically reevaluated while receiving Part C services. If the degree of delay no longer meets criteria or if the child has met IFSP objectives the child will no longer be eligible for services. In states that designate eligibility based on risk status, if the number of required risks is no longer evident the child will lose eligibility. Infants with an IFSP based on risk may lose eligibility, after a period of time, if no delay is apparent. Another likely source of decline in IFSP rates is family choice not to continue receiving services.

⁷ As children approach age 3, the local education agency (LEA) determines eligibility for Part B Section 619 preschool services. Section 619 services are provided through Part B of IDEA. Eligibility for Section 619 services is different than Part C. Risk status does not influence eligibility for Part B services. Section 619 services are for children with a disability including: mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities who need special education and related services. There is an optional category of developmental delay for children ages 3 through 9, at the discretion of the state and the LEA, for children experiencing developmental delays in one or more of these areas: physical development, cognitive development, communication development, social or emotional development, or adaptive development (Danaher, 2005).

The proportion of maltreated infants and toddlers with an IFSP suggest that many came to the attention of Part C agencies prior to CAPTA reforms that now require the referral of substantiated cases. A high percentage of maltreated infants and toddlers (28% at 12 months after baseline) were reported to have an IFSP, indicating eligibility for Part C services compared to the percentage of children (2.4%) the same age receiving Part C services in the U.S. (U.S. Department of Education, 2005).

Some similarities can be seen in examining the proportions of infants and toddlers by age at entry to Part C services in NEILS. Of children entering Part C nationally 38% are less than 12 months of age, 28% are 12 to 24 months, and 34% are older than 24 months of age. The higher representation among children younger than 12 months and older than 24 months is similar to maltreated infants and toddlers with an IFSP. Children younger than 12 months of age tend to enter Part C because of biomedical or environmental risk factors or established risk conditions rather than developmental delays whereas children 24 months of age and older tend to enter Part C because of documented developmental delay (Scarborough et al., 2004).

The number of maltreated infants and toddlers who received Part C services prior to CAPTA was not officially recorded. The information presented is based on data collected as part of a survey of maltreated children, and portrays a national picture of the receipt of Part C services among substantiated cases of maltreatment of infants and toddlers investigated in 1999 and 2000. Since the implementation of CAPTA, a few states have begun to keep records on the number of referrals from child welfare and the children deemed eligible for services; that information is not currently available.

Implications

The Massachusetts Early Childhood Linkage Initiative (MECLI) demonstration project referring families to Part C resulted in rates of substantiated cases being found eligible for services that were higher than those found in NSCAW. The differences could be partially attributable to different data collection methods at different points in time. The differences may, however, result from the efforts in Massachusetts to refer all substantiated cases of maltreated infants and toddlers to Part C early intervention services and, more generally, to respond to the needs of children at high risk for developmental delay. Massachusetts is one of the five states providing services to at-risk children. This is accomplished through funds available from public health insurance for children that is used to help pay for Part C services. MECLI findings show that a larger proportion of substantiated cases of maltreated infants and toddlers with families willing to pursue a Part C evaluation were found eligible for Part C services, than those reported to have an IFSP in NSCAW. MECLI also found that some child welfare workers used their own discretion as to who should be referred.

Some of this unofficial 'screening' and family self-selection likely served to increase the proportion of assessed children found eligible (74%). Though the capacity of child welfare workers to screen for referral may be arguable, this process is supported by some Part C providers because it enables them to expend limited resources to determine the eligibility of children who may have a developmental delay, rather than on those who clearly do not.

In 2003, the federal government amended CAPTA, which required states to have provisions and procedures in place for the referral of children younger than the age of three years with substantiated maltreatment. CAPTA does not require that every child younger than the age of three who is involved in a substantiated case of child abuse or neglect be referred to Part C services. States have the discretion to refer every such child younger than the age of three for Part C early intervention services or to use a screening process to determine whether a referral is needed.

The 2004 reauthorization of IDEA included similar changes in Part C child find practices by requiring states to have a description of the policies and procedures that require the referral for early intervention services of a child under the age of three who is involved in a substantiated case of child abuse or neglect. To receive Part C federal funds, states must have child find efforts in place to locate eligible children. Part C requires that infants and toddlers with substantiated cases of maltreatment be screened by a Part C provider or designated primary referral source to determine whether a referral for an evaluation for early intervention services under Part C is warranted. If the screening indicates the need for a referral, a referral is expected to be made. IDEA specifies that this provision is not intended to require that every child involved in a substantiated case of child abuse or neglect receive an evaluation or early intervention services under Part C.

The numbers of children that might be referred to Part C is dependent on many factors including the number of substantiated cases of maltreatment. Variation in the rates of substantiation ranges from less than 2% to over 40% among states (U.S. DHHS, 2007). This variation coupled with differences in eligibility criteria among individual states, limits the ability to make inferences regarding the extent to which CAPTA legislation might affect the number of referrals to Part C. In many states, the number of infants and toddlers involved in Child Welfare Services outstrips the numbers being provided with Part C services. Child Welfare Services is usually unable to determine the proportion of substantiated cases that subsequently receive Part C services. This is often unknown because Child Welfare Services can only verify that the referral process is explained to the family, but has no court-ordered justification to determine whether services are received. This is the case because much of the information regarding eligibility for Part C is confidential and except in a few states is not related to maltreatment status. In some states, evidence of participation in Part C services may help caregivers fulfill their court-ordered service plans. This area of coordination

needs additional research and analysis to determine typical and best practices (Stahmer et al., 2008).

Additionally there are substantial challenges in verification of what happens after referrals are made. States in which Child Welfare Services and Part C services are housed within the same agency have information systems that are configured to allow for better coordination of information and accountability. During expert interviews, some practitioners reported that a shared database was in the process of being developed. Substantiated cases of maltreatment that can be identified in case record systems will improve the efficiency of referrals, and likely improve knowledge of whether Part C services were received.

In order to expedite referrals some states have initiated joint training. This involves training sessions in the screening and referral procedure included in orientation sessions of all new child welfare workers. Training in using a simple screening instrument is included. The Utah Part C agency developed a book and curriculum to train child welfare workers. In Utah, children substantiated for abuse must be interviewed by Child Welfare Services. For infants and toddlers this interview, which utilizes a screening tool, constitutes screening for referral. Utah uses the Nipissing Developmental screen, a normed checklist developed in Canada, derived from Ages and Stages Questionnaires (ASQ): A Parent-Completed, Child-Monitoring System (Bricker & Squires, 1999). The ASQ is one instrument that is frequently used for screening young children for developmental problems, as is the Battelle Developmental Inventory Screener (Newborg, 2004). New Mexico Part C trains guardian ad litem, judges, and child welfare personnel, but acknowledges the challenges involved in repeated training because of changing personnel. The positive aspect of training sessions is the result of contributing to the formation of county teams to address the needs and referrals of maltreated infants and toddlers.

Finding #7

Families are receiving parent training and family counseling services through child welfare services or by referral. It is unclear the extent to which these services provide interventions focused on enhancing child development.

Study Findings

Seven services were reported in NSCAW. This included vision services, hearing services, therapeutic nursery, parenting training (including use of a case aide), family counseling, receipt of special educational services (e.g., IFSP), and receipt of developmental child care (e.g., Head Start or other). Approximately 39% to 67% of the families of infants and toddlers with substantiated cases of maltreatment received parent training or family counseling through child welfare systems in the period of time prior to the 18-month follow-up (see Exhibit 15). Between 18 months and 36 months after baseline, the percentage of families reported to still be receiving parent training or family counseling decreased, ranging from 9% to 31%, suggesting that for some children and families the needs for these services was no longer critical or they may have completed a time-limited or structured intervention. A small proportion of children had vision or hearing services, in the same time period, with slightly more infants (18% and 14%, respectively) receiving services than toddlers. The percentage of children with vision and hearing services between 18 and 36 months after baseline also was slightly less ranging from 6% to 15% across ages at baseline.

Exhibit 15. Percentage of Children and Families Receiving Child Welfare Services by Age at Baseline

Age at baseline	Services Received Between Baseline and 18 Months					
	Parent Training	Family Counseling	Vision	Hearing	Therapeutic Nursery	Head Start [†]
	%	%	%	%	%	%
0-12 months	64	39	18	14	<1	34
13-24 months	66	51	16	8	<1	50
25-36 months	67	54	10	6	<1	45
	Services Received Between 18 Months and 36 Months					
0-12 months	14	16	9	15	<1	39
13-24 months	30	31	13	11	3	56
25-36 months	9	20	6	6	0	36

Source: NSCAW.

[†] Head Start or other developmentally-oriented care program (Special Education programs are not included).

One-third of infants 0 to 12 months of age at baseline (34%) were in a child care setting in the time period between baseline and the 18 months follow-up. Half of children 13 to 24 months of age (50%) and 45% of those 25 months and older at baseline were reported to be in Head Start or a similar child care setting, in the same time period. It would be expected that the proportion in child care would be smaller for the youngest children. In the period of time between 18 and 36 months after baseline the proportion of children in Head Start was similar, with the children 25 months of age and older at baseline decreasing from 45% to 36%, reflecting that the oldest children were school-aged and no longer age appropriate for Head Start. The percentage of children in therapeutic nursery of all ages, at all time points was small, ranging from 3% to less than 1%.

These seven services were combined to indicate whether the child or family received any services during their child welfare case duration. A statistical analysis was conducted to examine the association of gender, race, maltreatment type, child welfare setting, prior contact with child welfare, number of children in the home, and whether the child and family lived in an urban setting with the receipt of any of the services. This analysis indicated that living in a non-urban area was associated with not receiving services, whereas neglected children were more likely to receive services compared to children whose maltreatment was described as abuse. These analyses showed no other significant differences between children who did or did not receive any of the services.

Implications

Receipt of Child Welfare Services suggests that as children get older there may be less perceived need for parent training. The proportion of families reported to receive family counseling also declines in this time period. Receipt of services appears to be related temporally to the time of initial investigation. This reduction in services may be associated with the effectiveness of services in reducing risk factors, particularly those associated with conditions in the home directly associated with substantiation of maltreatment. Alternatively, this reduction may indicate a declining ability of services to engage families. Analyses of child welfare parent training services provided under the auspices of Child Welfare Services suggest that only a fraction are evidence-based and that there are relatively few models that have been developed that are appropriate for younger children (Barth et al., 2005; Hurlburt et al., in press).

D. Considerations for Successful Interventions

Discussions with experts revealed concerns that Part C providers may be unprepared to provide effective services to maltreated children and their families. Successful implementation of CAPTA may require structured collaboration between Child Welfare Services, Part C, including procedures for accessing needed services and strategies to provide needed interventions.

Finding #8

Part C providers may not be familiar with the unique challenges associated with providing services to maltreated children and their families.

Recent CAPTA legislation mandated that all substantiated cases of maltreatment of infants and toddlers be referred to early intervention services to determine eligibility. Given the elevated levels of risk and delays reported, getting eligible maltreated children, ages birth through two years of age into Part C services seems an important task, perhaps more so because of the importance of this time period in child development. Part C service providers, however, may need new strategies to engage and work with maltreated children and their families. In addition to the negative consequences of maltreatment on children's behavior and development, children's families may be disorganized, suspicious of providers' motives, overwhelmed by multiple services and providers, coping with substance abuse or early sobriety, or coping with other difficult problems. As a result, these children and their caretakers may not respond to routine early intervention practices.

Previous Research

Children coming to services from maltreatment backgrounds bring a new set of challenges to many early intervention practitioners. In addition to their developmental problems, maltreated infants and children may bring severe behavior problems (e.g., attachment disordered behaviors), problems in the family of origin, substitute caregivers who may not be knowledgeable about the child (e.g., a new foster family), multiple service providers and payment sources, and other challenges for interventionists to resolve (Vig, Chinitz & Shulman, 2005).

In particular, intervention with maltreated children, whether the child is in foster care or remaining with their family of origin, requires the active participation of family members. Part C services are by definition supposed to be directed to both children and families, in that the goal is to help caregivers incorporate intervention activities into the child's daily routines. Because behavioral and mental health disorders are related to maltreatment,

Child Welfare Services interventions are often recommended to include parent training and other family-centered components because of the enormous influence parents' have on their children's outcomes, developmental or otherwise (Vig et al., 2005). Recent developments in parenting of maltreated children have focused on helping the caregivers to be more responsive to the variations in the child's response and to stay positively involved with their care, even if the children are initially unresponsive (Fisher, Burraston, & Pears, 2005).

Many Part C early intervention providers may not be well prepared to address the special considerations required when working with maltreated children. Many Part C providers are speech language therapists, occupational therapists and physical therapists. As Vig et al. (2005) point out; increasing interventionists' knowledge will improve services and outcomes. In addition to developing new skills, early interventionists may use, or collaborate with others who are using specific treatment regimens designed to improve maltreated children's behavior, address mental health problems including attachment problems, and promote development.

Study Findings

Discussions with Part C early intervention experts supported the concern that early intervention providers do not have extensive experience or training to work with children and particularly adults with mental health issues. Even for service providers experienced with such families, service provision can be difficult. Providing Part C providers with knowledge and professional support can greatly increase the likelihood of effective service provision with the end result of better child outcomes.

A major concern expressed by experts was that Part C early intervention primarily provides therapeutic services that are child-focused. Family-focused services in Part C are centered on family involvement in supporting child development. Part C does not typically provide services that include services for other family members, though Part C services may be adult focused; it is generally in the form of training for the parent to work with the child. In most cases, Child Welfare Services emphasize providing family-centered services because research, past experience, and theory suggest this will be the most effective intervention model for resolving behavior and mental health problems in the child and promoting a strong sense of 'connectedness' among family members.

Part C services are based on the child's eligibility for services, predicated on developmental delay not maltreatment. The vast majority of services provided are speech-language therapy, physical therapy, occupational therapy, or home-based services from a developmental specialist or early interventionist. It is unusual for infants or toddlers to be eligible for Part C services because of behavior, though behavior is a concern for many parents of children with disabilities (Scarborough et al., 2007).

Families involved in child welfare may also present with problems that inhibit service provision. They may be suspicious of, or hostile towards, service providers. In the MECLI Study in Massachusetts, it is estimated that in addition to the 18% who refused referral that another 19% of families who accepted the referral did not engage with Part C (Lippitt, 2007). Court-ordered involvement may cause parents or caregivers to view a service provider as an intrusion rather than as a source of assistance. Home environments may be chaotic or, in the case of homelessness or residence in a shelter, non-existent.

Receipt of Part C services is voluntary, so court-ordered services are not part of the service culture, and for most, an unwelcome notion. Delivering court-ordered Part C services would require the development of procedural guidelines. A national survey of state Part C providers indicated that in regards to this matter there needs to be a determination of when to challenge caregivers' decision to decline services. Specifically the differences in Part C and child welfare agency culture regarding mandating services should be resolved at the state and local level (Stahmer et al., 2008).

Implications

In sum, three major challenges often need to be addressed by Part C early intervention providers. First, the focus of service should address the child's needs within the context of the family. Second, special strategies and techniques are often needed to engage, retain, and successfully serve child welfare families in Part C early intervention services. Finally, when possible, the intensity of services should be matched to the needs of children and families in order to facilitate a positive outcome.

Individualized Part C early intervention services as typically delivered to infants and toddlers with disabilities are unlikely to be of sufficient intensity, nor are they designed to be effective in addressing the root causes of maltreatment and severe family dysfunction. The effectiveness of Part C is generally predicated on the intervention that occurs as part of the child's daily routine between therapeutic sessions, rather than during sessions. Budget constraints or practitioner schedules may limit visits to as few as once a month. When missed and canceled appointments are factored in, visits may be even less frequent. Yet, maltreated children are often behind their peers developmentally, have behavior problems, and continue to experience poorly functioning home environments. These multiple needs call for intensive services to make a meaningful impact. Both families and providers may quickly become frustrated when low-intensity (infrequent or brief) services fail to provide a noticeable developmental benefit to cases in which higher intensity services are probably necessary.

Some immediate assistance for Part C providers, and their child welfare and mental health collaborators, in being able to refer children and families to

specific treatment regimens designed for maltreated children or with direct applicability to them could be useful. Early Intervention Foster Care (Fisher et al., 2005) and The Incredible Years Parenting Program (Bauer & Webster-Stratton, 2006) are two examples of evidence based interventions that have shown success with pre-school aged maltreated children. Specific issues have been laid out for interventionists, but it is not known to what degree Part C providers have begun to address these concerns.

Finding #9

Increased training and collaboration of Child Welfare and Part C service providers may be a useful approach to facilitate CAPTA compliance and enhance developmental outcomes for children.

There are clear differences between the Part C and Child Welfare systems in their general approaches or philosophy and clients served. For example, the focus of Child Welfare Services is on protecting the child's safety and dealing with the perpetrator and Part C's focus is providing services to children with disabilities and their families. Also, maltreated children and their families may present new challenges to Part C practitioners. These differences create a gap between staff hired to serve child welfare population who are now being asked to recognize the developmental needs of children, and Part C practitioners trained to work with children with disabilities and their families. Our discussions with experts have identified ways to possibly address this issue.

Previous Research

As stated earlier, maltreated children receiving services bring a new set of challenges to many Part C service providers. In addition to their developmental problems, maltreated infants and children may bring behavior problems, problems in the family of origin, substitute caregivers who may not be knowledgeable about the child, multiple service providers and payment sources, and other challenges for interventionists to resolve (Vig et al., 2005). Previous research also supports the idea that increasing interventionists' knowledge will improve services and outcomes. Vig et al. argue that early intervention providers may not be well prepared to address these special considerations when working with maltreated children.

The training, collaboration, and knowledge of child welfare staff could have important ramifications. There is evidence to suggest that Part C and other early intervention programs may be underutilized (Horwitz, Owens, & Simms, 2000; Robinson & Rosenberg, 2004). This underutilization is associated with the inability of some child welfare professionals to recognize potential developmental problems (which result in low referral rates), as well as low intervention participation (and high attrition) among parents and caregivers (Giardino, Hudson, & Marsh, 2003; Hurlburt et al., 2004). Having better trained staff could potentially improve referral rates.

Among agencies providing services for maltreated children there is a gap between advances in basic science (what we believe works) and what is provided (Barth et al., 2005; Wolfe & Wekerle, 1993). Although most practitioners who work with maltreated children and their families want to

provide the best treatment possible, they do not have the opportunity, financial resources, knowledge, training, or incentives to provide best practices. Experts consulted have suggested the following strategies for closing the gap: (a) financial changes and incentives (e.g., increased programmatic funding for education and direct costs for hiring more educated workers, higher reimbursement for empirically-based treatments, only paying for empirically-based treatments), and (b) a variety of dissemination plans including providing materials, training, supervision and consultation opportunities from universities, research society conferences, and in-house training facilities (Brown, Zaslow, Weitzman, 2006; Mahler et al., 2002; Malone, McKinsey, Thyer, & Straka, 2000).

Study Findings

During discussions with Part C and Child Welfare experts, an issue raised was that increased training and collaboration of Child Welfare and Part C service providers could be a useful approach to facilitate CAPTA compliance and enhance developmental outcomes for children.

Experts we spoke with were concerned about both Part C and Child Welfare workers being able to manage high-risk families in the Part C service environment. According to the experts, very few Part C providers have both early intervention and social work training and knowledge. Many states hire BA-level Child Welfare front-line workers who do not have a social work, psychology, or human services background. At the most basic level, Child Welfare workers may not be able to identify infants and toddlers who need developmental services and will need more training to know which children to refer. Referring based on substantiation is likely to result in many false positives (substantiated cases with no need for developmental services) and many false negatives (unsubstantiated cases with a need for developmental services). Therefore, the experts suggest that additional training is needed for these workers.

The experts suggest cross-training, better developmental education for front-line Child Welfare workers, and specialized case coordination. Specific topical areas for training for Child Welfare workers include:

- Basic infant development
- How and when to make referrals

The experts suggest training for both Child Welfare Services and Part C workers in these areas:

- Infant mental health problems and interventions
- Understanding of the specific roles and functions of Part C and Child Welfare Services

The experts made a point to emphasize that both Part C and Child Welfare front-line workers and supervisors need to be trained. According to the experts, supervisors have an important role in helping front-line staff understand the collaborative system between Part C and Child Welfare Services. Supervisors need to understand the specific roles and functions of Part C and Child Welfare Services and to be able to train their own staff on these issues.

In addition to training, enhanced collaboration could also facilitate CAPTA compliance and improve child outcomes. Experts expressed concern over the lack of centralized authority or responsibility for implementation of the CAPTA requirements. In the majority of jurisdictions, the lead agency for Part C is not the department of social services. Thus, coordination between Part C and Child Welfare Services can be challenging.

An added element to the coordination mix is that the court system may be involved. One of many issues that does require a coordinated response involves the handling of court-ordered services—quite common in cases in which child maltreatment is substantiated—but not familiar to Part C providers, because Part C services are voluntary. When family involvement in Part C services is mandated by the courts, this creates many new issues to be resolved regarding confidentiality, reporting back to the courts, protocol for noncompliance by the family, and the unfamiliarity and likely discomfort of the Part C provider with the role of mandated service provider.

Ideally, states need to have effective collaborative service plans. While this project did not conduct a comprehensive analysis of existing models across the nation, during conversations with experts, Delaware and Utah were identified as states that have successful collaborative models. Alaska has acted to bring all prevention services together under Child Welfare Services. Colorado has also just moved their lead Part C services agency from education to health services. Potentially, other states could look at the work in these four states to determine if any promising practices could be implemented in their own state.

Implications

Of course, any implementation of a training curriculum or enhanced collaboration model may have cost implications. Training needs vary by state. A few states have negotiated agreements between Part C and Child Welfare agencies, so that child welfare workers become a designated referral source responsible for screening prior to referral, with training provided by Part C agencies. States already providing Part C services to children at-risk seemed to need less procedural change to serve maltreated infants and toddlers. Screening does not seem to be a problematic issue for these states. States that have a tradition of working with at-risk children are likely better prepared to provide services to maltreated infants and toddlers.

However, the majority of states do not have a tradition of working with at-risk children or a collaborative working relationship between Child Welfare Services and Part C, nor does there appear to be a system of accountability, except perhaps in those states where the same lead agency is responsible for both systems. Opportunities for joint Part C and Child Welfare Services trainings would enable staff and supervisors from both systems to better understand their specific roles and functions.

As our findings demonstrate, Part C professionals are somewhat familiar with maltreating and very high-risk families, as demonstrated by the 28% of infants and toddlers with an IFSP 12 months after baseline. However, those children were receiving services prior to the CAPTA mandate and as such likely represent voluntary participation in Part C. Part C service providers (e.g., physical therapists, speech therapists, developmental specialists) are typically not trained to work with infant and particularly not adult mental health issues. To meet the needs of child developmental problems rooted in dysfunctional child/caregiver interactions will require Part C or Child Welfare Services to access Infant Mental Health services in behalf of these children.

III. Areas for Future Research

The new and reviewed findings presented suggest several potentially important directions for future research. New research can help inform how service providers for Child Welfare and Part C early intervention interact with clients as well as each other. Some areas are:

Intervention research. Matching level of service with the needs of children and their families is important only if the services are effective. Intervention research to demonstrate methods, test the impact of variation of the intensity and duration of service, and present results to the field is needed. Very little information is available to show which methods have the greatest impact on the development of maltreated children or on the development of children served under Part C. Intervention trials are needed and could teach us about drop-out rates, which children are not benefiting, and which children receive the greatest boost from which interventions.

Characteristics of families. Research is needed to better understand certain sub-groups of families who receive Child Welfare and Part C Services. One expert mentioned that we should improve our understanding of effective services for older mothers who often have several children, a history of domestic violence, substance abuse, and repeatedly have children entering into Child Welfare Services. Another sub-group of interest is caregivers with disabilities.

Substantiation as a criterion for CAPTA-mandated referrals. Another area requiring further investigation is the extent to which substantiation status is the optimal indicator of which children reported to Child Welfare Services may need developmental assistance. Taken in combination with prior findings (e.g., Hussey et al., 2005), this research suggests children who are not substantiated for maltreatment are at similar developmental risk as those who are. This study provides information suggesting that the count of environmental and biomedical risk factors may be a robust indicator of future developmental delay and may be a useful indicator of which children should be referred for Part C early intervention services. A more precise calculation of which risks and what count of risks are the best indicators of poorer developmental outcomes would likely result in referrals with a more empirical basis than the current reliance on substantiation status.

Development of intervention practices. For many Part C providers, working with children and families involved with Child Welfare Services is an unfamiliar experience. Conversely, for many Child Welfare workers, experience with services designed to address a child's developmental needs may be limited. It is not clear to what extent Child Welfare and Part C practices can be adapted and when new methods will have to be developed.

We expect that considerable advances in parent engagement and training approaches employed by Child Welfare Services and Part C will be necessary for the provision of effective services. In particular, this research highlights the need for new expertise and interventions for infants (i.e., the first year of life).

Best practices on collaboration models. Central to identification of eligible children and effective service delivery is collaboration between Child Welfare and Part C professionals. However, in many areas Part C and Child Welfare providers have not worked together often in the past. As a result, they must learn to collaborate with each other to maximize the efficiency of referrals and the efficacy of services provided. Experts often pointed out that service providers often do not have a basic competency in each other's knowledge base or practice methods. As a consequence, research on "best practices" in collaboration could help to identify innovations in referrals, screening, assessment, communications between Part C and Child Welfare Services and Part C and the courts, and interactions between Child Welfare Services, Early Head Start, and Part C and, later, school-based services. These innovations could help ensure that children had the level of service that was most commensurate with their developmental needs.

Through discussion with experts we learned that a number of states are now placing Part C Services under the same umbrella agency as Child Welfare Services, along with other health services. Organizational structures may influence accountability and thus the effective delivery of services and this possibility could also be further analyzed.

Funding models and services receipt. An area which might benefit from additional research is the issue of funding sources for services and types of services provided. Experts almost uniformly mentioned that these policies were passed without any additional federal funding authorizations for Part C or CAPTA. Experts also suggested that what services are provided to children involved with Child Welfare Services depend on what funding authorities are willing to pay for. State-run children's health insurance programs, Medicaid, Part C, private insurers, and other payment sources have an important role in determining what services will be received. The effects of eligibility criteria, compensation systems, and payment amounts on services should be investigated. The extent to which providers and case coordinators are knowledgeable of these issues may also play a role.

School readiness. Additional NSCAW research would be helpful in understanding the longer-term developmental implications of early maltreatment and early intervention on children's development. Of particular interest would be the school-readiness of the NSCAW sample of children. This research found them to be at-risk and often measurably delayed in one or more developmental domains. Recently, a 66 month follow-up was completed with children in NSCAW who were 0 to 12 months old at baseline (i.e., the infants) Ranging in age from approximately 5 ½ to 6 ½

these children are now entering the educational system through kindergarten or first grade. It remains to be seen if their problems have persisted and what factors might have promoted developmental recovery (e.g., interventions from child welfare or others). More comprehensive measures of development would help to identify genuine developmental aberration, acknowledging that the inherent variation associated with testing the rapidly changing developmental status of young children is challenging, particularly in a non-clinical setting.

Summary. Opportunities for new research exist at all levels of Child Welfare and Part C programming. A better understanding of the effects of maternal age, substance abuse, and other child, family and case characteristics is necessary for the development of new developmental intervention strategies. In addition, further research is needed to help practitioners from both Child Welfare and Part C systems communicate with each other and collaborate more effectively. Finally, new research may help enhance understanding the role that local, state, and federal funding plays in service delivery to maltreated children with developmental needs. Because resources are limited in both Part C and Child Welfare systems, it is important that services be delivered in the most effective and efficient manner possible. Obtaining the knowledge to achieve this goal requires more investigation.

IV. Conclusion

CAPTA and IDEA recognize that child maltreatment signals a substantial risk to the development of children. Their requirements call for action to address the developmental problems of children substantiated for maltreatment. Together, these Acts generate a clear expectation for efforts to mitigate the developmental harms of maltreatment.

This study confirms that the level of risk for developmental delay is high for maltreated children and that it remains high, years after the initial maltreatment. The rates of developmental and behavioral problems are well above those in the general population and the rates of environmental risk and serious problems within the dyadic relationship between child and caregiver are above those of children typically encountered by Part C service providers.

The majority of these infants and toddlers are subject to risk factors known to predict academic difficulties (Lee & Burkam, 2002). These high rates of developmental concern are similar among children judged to have experienced substantiated maltreatment as well as those who have had the child maltreatment investigation closed with no finding of maltreatment. Because these factors are apparent among infants, it is clear they require intervention services as early as possible to avoid developmental problems, rather than waiting for delays to become intractable or trying to remediate academic failure. CAPTA and IDEA reforms offer the opportunity to markedly address and reduce developmental delay among maltreated children.

Much work can be done to better achieve the goals of CAPTA and IDEA. The implementation of successful services for maltreated infants is clearly complicated and, according to experts, unfulfilled. The findings of this report call for further review of effective strategies and consideration of new efforts, and related research, to implement these innovative policies. This research should involve rigorously conducted evaluations of best practice models so that the knowledge gained from these evaluations can add measurably to the information provided by the surveys upon which this study was based.

References

- Administration for Children and Families. (2006). Child maltreatment 2002. Washington, DC: Author.
- Anda, R. F., Felitti, V. J., Bremner, D., Walker, J. D., Witfield, C., Perry, B. D., Dube, S. R., & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood: A convergence of evidence from neurobiology and epidemiology. European Archives of Clinical Neuroscience, *256*, 174-186.
- Barth, R. P., Landsverk, J., Chamberlain, P., Reid, J., Rolls, J., Hurlburt, M., Farmer, E. M. Z., James, S., McCabe, K. M., & Kohl, P. L. (2005). Parent training in child welfare services: Planning for a more evidence based approach to serving biological parents. Research on Social Work Practice, *15*, 353-371.
- Bauer, N. S., & Webster-Stratton, C. (2006). Prevention of behavioral disorders in primary care. Current Opinion in Pediatrics, *18*(6), 654-660.
- Beers, S. R., & De Bellis M. D. (2002). Outcomes of child abuse. Neurosurgery Clinics of North America, *13*, 235.
- Bricker, D., & Squires, J. (1999). Ages and Stages Questionnaires (ASQ): A parent-completed, child-monitoring system. Baltimore: Brookes Publishing.
- Brooks-Gunn, J., Duncan, G. J., Klebanov, P. K., & Sealand, N. (1992). Do neighborhoods influence child and adolescent development? American Journal of Sociology, *353-395*.
- Brown, J., Zaslow, M., & Weitzman, M. (2006, February). Studying and tracking early child development from a health perspective: A review of available data sources. Washington, DC: Child Trends; Available at <http://www.childtrends.org/Files/BBCommonwealthPaper.pdf>.
- CAPTA. (2003). Keeping children and families safe Act of 2003. Available at http://www.acf.dhhs.gov/programs/cb/laws_policies/policy/im/im0304a.pdf.
- Danaher, J. (2005). Eligibility policies and practices for young children under Part B of IDEA (NECTAC Notes No. 15). Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.
- Drake, B. (1995). Associations between reporter type and assessment outcomes in child protective services referrals. Children and Youth Services Review, *17*(4), 503-522.
- Drake, B., Jonson-Reid, M., Way, I., & Chung, S. (2003). Substantiation and recidivism. Child Maltreatment, *8*, 248-260.
- Duncan, G., Brooks-Gunn, J., & Klebanov, P. K. (1994). Economic deprivation and early childhood development. Child Development, *65*, 296-318.
- Edwards, A., Shipman, K., & Brown, A. (2005). The socialization of emotional understanding: A comparison of neglected and nonneglectful mothers and their children. Child Maltreatment, *10*, 293-304.

- Eigsti, I. M., & Cicchetti D. (2004). The impact of child maltreatment on expressive syntax at 60 months. Developmental Science, *7*, 88-102.
- Einfeld, S. L., & Tonge, B. J. (1996). Population prevalence of psychopathology in children and adolescents with intellectual disability: II epidemiological findings. Journal of Intellectual Disability Research, *49*, 99-109.
- English, D. J., Upadhyaya, M. P., Litrownik, A. J., Marshall, J. M., Runyan, D. K., Graham, J. C., & Dubowitz, H. (2005). Maltreatment's wake: The relationship of maltreatment dimensions to child outcomes. Child Abuse & Neglect, *29*, 597-619.
- Fisher, P. A., Burraston, B., & Pears, K. (2005). The early intervention Foster Care Program: Permanent placement outcomes from a randomized trial. Child Maltreatment, *10*(1), 61.
- Gillberg, C., Perrson, E., Grufman, M., & Themner, U. (1986). Psychiatric disorders in mildly and severely retarded urban children and adolescents: Epidemiological aspects. British Journal of Psychiatry, *149*, 68-74.71.
- Giovannoni, J. M. (1989). Substantiated and unsubstantiated reports of child maltreatment. Child and Youth Services Review, *11*, 299-318.
- Giovannoni, J. M. (1995). Reports of child maltreatment from mandated and non-mandated reporters. Child and Youth Services Review, *17*, 487-501.
- Harbison, E., Parnes, J., & Macomber, J. (2007). Vulnerable infants and toddlers in four service systems. (Brief no. 1). The Urban Institute: Washington, DC.
- Harrington, D., Black, M. M., Starr, R. H., & Dubowitz, H. (1998). Child neglect: Relation to child temperament and family context. American Journal of Orthopsychiatry, *68*, 108-116.
- Hebbeler, K., Spiker, D., Mallik, S., Scarborough, A., & Simeonsson, R. (2003). Demographic characteristics of children and families entering early intervention. [NEILS Data Report No. 3]. Menlo Park, CA: SRI International.
- Hebbeler, K., Spiker, D., Bailey, D., Scarborough, A., Mallik, S., Simeonsson, R., Singer, M., & Nelson, L. (2007). Early intervention for infants and toddlers with disabilities and their families: Participants, services, and outcomes. [NEILS Data Report]. Menlo Park, CA: SRI International.
- Hebbeler, K., Wagner, M., Spiker, D., Scarborough, A., Simeonsson, R., & Collier, M. (2001). The National Early Intervention Longitudinal Study: A first look at the characteristics of children and families entering early intervention (NEILS Data Report No. 1). Menlo Park, CA: SRI International.
- Hoffman-Plotkin, D., & Twentyman, C. T. (1984). A multimodal assessment of behavioral and cognitive deficits in abused and neglected preschoolers. Child Development, *55*, 794-802.
- Horwitz, S. M., Owens P., & Simms M. D. (2000). Specialized assessments for children in foster care. Pediatrics, *106*, 59-66.
- House Report 108-779. (2004). Individuals with Disabilities Education Improvement Act. Available at: [http://www.congress.gov/cgi-bin/cpquery/R?cp108:FLD010:@1\(hr779\)](http://www.congress.gov/cgi-bin/cpquery/R?cp108:FLD010:@1(hr779)).
- Howes, P. W., Cicchetti D., Toth, S. L., & Rogosch, F. A. (2000). Affective, organizational, and relational characteristics of maltreating families: A systems perspective. Journal of Family Psychology, *14*, 95-110.

- Hurlburt, M., Barth, R. P., Leslie, L., McCrae, J. S., & Landsverk, J. (in press). Organization and delivery of parent training in child welfare services. In R. Haskins, M Webb, and F. Wulczyn (Eds.). Child protection: Improving policy and practice through research. Washington, DC: Brookings Institute.
- Hussey, J. M., Marshall, J. M., English, D. J., Knight, E. D., Lau, A. S., Dubowitz, H., & Kotch, J. B. (2005). Defining maltreatment according to substantiation: A distinction without a difference. Child Abuse & Neglect, *29*, 479-492.
- Individuals with Disabilities Education Improvement Act of 2004. (2004). Individuals with Disabilities Education Act (IDEA), 20 U.S.C. § 1400. Available at: [http://www.congress.gov/cgi-bin/cpquery/R?cp108:FLD010:@1\(hr779\)](http://www.congress.gov/cgi-bin/cpquery/R?cp108:FLD010:@1(hr779)).
- Javitz, H., Spiker, D., Hebbeler, K., & Wagner, M. (2002). National Early Intervention Longitudinal Study: Sampling and weighting procedures: Enrollment form, family interview, service records (NEILS Methodology Report No. 1). Menlo Park, CA: SRI International.
- Knudsen, E. I., Heckman, J. J., Cameron, J. L., & Shonkoff, J. P. (2006). Economic, neurobiological, and behavioral perspectives on building America's future workforce. Proceedings from the National Academy of Science, *103*, 10155-10162.
- Koenig, A. L., Cicchetti D., & Rogosch F. A. (2000). Child compliance/noncompliance and maternal contributors to internalization in maltreating and nonmaltreating dyads. Child Development, *71*, 1018-1032.
- Lau, A. S., Valeri, S. M., McCarty, C. A., & Weisz, J. R. (2006). Abusive parents' reports of child behavior problems: Relationship to observed parent-child interactions. Child Abuse & Neglect, *30*(6), 639-655.
- Laucht, M., Esser, G., & Schmidt, M. H. (2001). Differential development of infants at risk for psychopathology: the moderating role of early maternal responsivity. Developmental Medicine and Child Neurology, *43*, 292-300.
- Lee, V. E., & Burkam, D. T. (2002). Inequality at the starting gate: Social background differences in achievement as children begin school. Economic Policy Institute, Washington: DC.
- Leiter, J., Myers, K. A. & Zingraff, M. T. (1994). Substantiated and unsubstantiated cases of child maltreatment: Do there consequences differ? Social Work Research, *18*, 67-83.
- Leslie, L. K., Hurlburt, M. S., Landsverk, J., Rolls, J. A., Wood, P. A., & Kelleher, K. J. (2003). Comprehensive assessments for children entering foster care: A national perspective. Pediatrics, *112*(1), 134-142.
- Lippitt, J. A. (2007, May). MECLI and Referrals of Abused or Neglected Children to Early Intervention. Conference call sponsored by The OSEP Part C Identification Community of Practice and The National Early Childhood Technical Assistance Center.
- Mahler, K., Kreader, J. L, Godber, Y, Knitzer, J., & Douglas-Hall, A. (2002, November). Promoting the well-being of infants, toddlers, and their families: Innovative community and state strategies. Available at www.nccp.org/it_index.html.
- Mills, K. J. S. (2007, May). Factors Found to Influence the Implementation of Early Intervention Referral Offers by Child Welfare Caseworkers. Conference call sponsored by The OSEP Part C Identification Community of Practice and The National Early Childhood Technical Assistance Center.

- Malone, D. M., McKinsey, P. D., Thyer, B. A., & Straka, E. (2000). Social work early intervention for young children with developmental disabilities. Health & Social Work, *25*, 169–180.
- McLoyd, V. C. (1998). Socioeconomic disadvantage and child development. American Psychologist, *53*, 185-204.
- The Massachusetts Early Childhood Linkage Initiative. Based at the Institute for Child, Youth, and Family Policy. (2005). MECLI report: Executive summary. The Heller School for Social Policy and Management, Brandeis University.
- Newborg, J. (2004). Battelle developmental inventory, Second Edition. Itasca, IL: Riverside.
- National Research Council and Institute of Medicine (2000). In J. P. Shonkoff & D. A. Phillips (Eds.), Neurons to neighborhoods: The science of early childhood development (Committee on Integrating the Science of Early Childhood Development, Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education). Washington, DC: National Academy Press.
- NSCAW Research Group. (2002). Methodological lessons from the national survey of child and adolescent wellbeing: The first three years of the USA's first national probability study of children and families investigated for abuse and neglect. Children and Youth Services Review, *24*(6/7), 513–541.
- Pears, K. & Fisher, P. A. (2005). Developmental, cognitive, and neuropsychological functioning in preschool-aged foster children: Associations with prior maltreatment and placement history. Journal of Developmental and Behavioral Pediatrics, *26*, 112-122.
- Porter, C., Lawson, J. S., & Bigler, E. D. (2005). Neurobehavioral sequelae of child sexual abuse. Child Neuropsychology, *11*, 203–220.
- Reams, R. (1999). Children birth to three entering the state's custody. Infant Mental Health Journal, *20*, 166–174.
- Robinson, C., & Rosenberg, S. (2004). Child welfare referrals to Part C. Journal of Early Intervention, *26*, 284-291.
- Rosenberg, S., & Robinson, C. (2004). Out-of-home placement for young children with developmental and medical conditions. Children and Youth Services Review, *26*, 711-723.
- Rosenberg, S., Smith, E., & Levinson, A. (2005). Rates of Part C eligibility for young maltreated children. Report to the Office of Special Education Programs (OSEP). Washington, DC: OSEP.
- Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M. W. Kent & J. E. Rolf, (Eds.), Primary prevention of psychopathology. III. Social competence in children (pp.49-74). Hanover, NH: University Press of New England.
- Rutter M., Tizard, J., & Whitmore, K. (1970). The Isle of Wight and its services for children. In M. Rutter, J. Tizard, & K. Whitmore (Eds.), Education, health, and behaviour (pp.7-16) London: Longman.
- Sameroff, A. J. (1995). General systems theory and developmental psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), Developmental psychopathology: Vol. 1. Theory and methods (pp. 659-695).
- Sameroff, A. J. (1998). Environmental risk factors in infancy. Pediatrics, *102* (5), 1287-1292.

- Sameroff, A. J., Seifer, R., Zax, M., & Barocas, R. (1987). Intelligence quotient scores of 4-year old children: Social-environmental risk factors. *Pediatrics*, *79*, 343-350.
- Scarborough, A. A., Hebbeler, K. M., & Schuster, J. M. (2008). Predictors of age at entry to Part C early intervention services. (Manuscript in preparation).
- Scarborough, A. A., Hebbeler, K. M., & Spiker, D. (2006). Eligibility characteristics of infants and toddlers entering early intervention services in the United States. *Journal of Policy and Practice in Intellectual Disabilities*, *3*(1), 57-64.
- Scarborough, A. A., Hebbeler, K. M., Spiker, D., & Simeonsson, R. J. (2007). Dimensions of behavior of toddlers entering early intervention: Child and family correlates. *Infant Behavior and Development*, 466-478.
- Scarborough, A. A., & Poon, K. K. (2004). The ecological context of challenging behavior in young children with developmental disabilities. In L. M. Glidden (Ed.), *International review of research in mental retardation* (pp.229-260). San Diego: Academic Press.
- Scarborough, A. A., Spiker, D., Mallik, S., Hebbeler, K. M., Bailey, D. B., & Simeonsson, R. J. (2004). A national look at children and families entering early intervention. *Exceptional Children*, *70* (4), 469-483.
- National Scientific Council on the Developing Child. (2007). *The Science of Early Childhood Development*. Available at <http://www.developingchild.net>
- Shackelford, J. (2006). State and jurisdictional eligibility definitions for infants and toddlers with disabilities under IDEA. (NECTAC Notes, No. 21). Chapel Hill, NC: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.
- Shipman, K. L. & Zeman, J. (1999). Emotional understanding: A comparison of physically maltreating and nonmaltreating mother-child dyads. *Journal of Clinical Child Psychology*, *28*, 407-417.
- Shonk, S. M. & Cicchetti, D. (2001). Maltreatment, competency deficits, and risk for academic and behavioral maladjustment. *Developmental Psychology*, *37*, 3-17.
- Shonkoff, J., & Meisels, S. (1991). Defining eligibility for services under Public Law 99-457. *Journal of Early Intervention*, *15*(1), 21-25.
- Shonkoff, J. P., & Phillips, D. A. (2000). Executive summary. In J. P. Shonkoff, & D. A. Phillips (Eds.), *From neurons to neighborhoods: The science of early childhood development* (pp. 1-16). Washington DC: National Academy Press.
- Stahmer, A. C., Laurel, L. K., Hurlburt, M., Barth, R. P., Webb, M. B., Landsverk, J., & Zhang, J. (2005). Developmental and Behavior Needs and Service Use for Young Children in Child Welfare. *Pediatrics*, *116*, 891-900.
- Stahmer, A., Sutton, D., Fox, L., & Leslie, L. (2008). State Part C agency practices and the Child Abuse Prevention and Treatment Act (CAPTA). (Manuscript under review).
- Toth, S. L. & Cicchetti, D. (1996). Patterns of relatedness, depressive symptomatology, and perceived competence in maltreated children. *Journal of Consulting and Clinical Psychology*, *64*, 32-41.

- U.S. Department of Education. (2004). [IDEA data web site]. Office of Special Education Programs, Data Analysis System (DANS). Number of infants and toddlers ages birth through 2 exiting Part C programs, during the 2002-2003 reporting year. (updated July 31, 2004). Available at http://www.ideadata.org/tables27th%5Car_ah4.htm.
- U.S. Department of Education. (2005). [IDEA data web site]. Number and percentage (based on 2005 population estimates) of infants and toddlers receiving early intervention services. Fall 2005. Available at http://www.ideadata.org/arc_toc7.asp#partcCC.
- U.S. Department of Education. (2005). [IDEA data web site]. Office of Special Education Programs. Data Analysis System (DANS). Number of infants and toddlers ages birth through 2 exiting Part C programs, by early intervention setting and state: Fall 2004. U.S. Data updated as of July 30, 2005. Available at http://www.ideadata.org/tables29th%5Car_6-4htm.
- U.S. Department of Health and Human Services. (2004). Child maltreatment 2002. Washington, DC: U.S. Government Printing Office.
- U.S. Department of Health and Human Services. (2006). Child maltreatment 2004. Washington, DC: U.S. Government Printing Office.
- U.S. Department of Health and Human Services. (2007). Child maltreatment 2005. Washington, DC: U.S. Government Printing Office.
- Urquiza, A. J., Wirtz, S. J., Peterson, M. S., & Singer, V. A. (1994). Screening and evaluating abused and neglected children entering protective custody. Child Welfare, *73*, 155–171.
- Vig, S., Chinitz, S., & Shulman, L. (2005). Young children in foster care: Multiple vulnerabilities and complex service needs. Infants & Young Children, *18* (2), 147-160.
- Wolfe, D. A., & Wekerle, C. (1993). Treatment strategies for child physical abuse and neglect: A critical progress report. Clinical Psychology Review, *13*, 473–500.
- Wolock I., Sherman, P., Feldman, L. H., & Metzger, B. (2001). Child abuse and neglect referral patterns: A longitudinal study. Children and Youth Services Review, *23* (1), 21-47.
- Wulczyn, F., Barth, R. P., Yuan, Y. Y., Jones-Harden, B., & Landsverk, J. (2005). Evidence for child welfare policy reform. New York: Transaction De Gruyter.
- Yasik, A. E. (1998). A comparative analysis of the memory functioning of stress-exposed youth with and without posttraumatic stress disorder. New York: City University of New York.

Appendix A: Glossary of Terms

Baseline: The “baseline” NSCAW assessment occurred following the report of a child for child maltreatment and the subsequent investigation by child welfare services (and closing of the investigation).

Biomedical Risk Factors: States have the option to provide Part C services to children with medical or other biologically-based problems which increase the likelihood of developmental problems. These included arthritis, joint problems or other orthopedic impairment, chronic cardiac problems, dental problems, hernia, hypertension, lead poisoning, obesity, persistent bowel problems, physical deformities, repeated ear infections, severe allergies, respiratory problems, acquired immune deficiency syndrome, low birthweight, anemia, and other similar health problems.

Caregiver: Caregiver refers to the person who has legal custody of the child or is the foster parent. The caregiver completes the assessment questions about the child as well as the self-report questions about family characteristics. In NSCAW, more than 80% of the caregivers are mothers (biological and foster), but there are some grandmothers, aunts, biological fathers, and unrelated adults who are also caregivers.

Child Welfare Setting: The place of physical residence of the child combined with the type of service. In NSCAW this may be In Home Without On-Going Services, In Home With On-Going Child Welfare Services, Foster Care, Kinship Care, Group Care, or Other Out-of-Home Care.

Developmental and Risk Indicator Groups (DRIGs): In order to describe the developmental characteristics of maltreated infants and toddlers, children were classified into one of three mutually exclusive groups called Developmental and Risk Indicator Groups (DRIGs). The *Measured Delay* group consisted of those who had a measured delay on one or more developmental measure. These children were subject to varying number of risk factors. This category also included a small proportion of children with an established risk condition which made them eligible for Part C services (e.g., cerebral palsy) regardless of measured delay, however almost all of the children with an established risk condition also had a measured delay. A second group, the *High Risk* group, consisted of children who had at least five risk factors associated with developmental problems (e.g., poverty level, active domestic violence, substance abuse), but no measured delay. All children in NSCAW had at least one risk factor; a maltreatment experience. The final group, the *Lower Risk* group, had fewer than 5 risk factors and no measured delay. The groups are mutually exclusive so a child with a measured delay was in that group regardless of the number of risk factors they experienced.

Developmental Delay: Under Part C of IDEA, states must provide services to any child “under 3 years of age who needs early intervention services” (IDEA 2004, §632(5)(A)) because the child: “(i) is experiencing *developmental delays*, as measured by appropriate diagnostic instruments and procedures in 1 or more of the areas of cognitive development, physical development, communication development, social or emotional development, and adaptive development (Shackelford, 2006). The degree of delay, number of areas and how it is measured is up to the individual states to define.

Environmental Risk Factors: Children at environmental risk include those whose caregiving circumstances and current family situation place them at greater risk for delay than the general population. As with biological/medical risk, states are not required, but may choose to include children at environmental risk under the optional Part C eligibility category of at risk. Examples of environmental risk factors may include parental substance abuse, family social disorganization, poverty, homelessness, parental developmental disability, parental age, parental educational attainment, and child abuse or neglect.

Established Risk Condition: A condition of established risk is defined as a “diagnosed physical or mental condition which has a high probability of resulting in developmental delay.” Children with these conditions are eligible for Part C services without documentation of delay. These conditions include, but are not limited to, chromosomal abnormalities; genetic or congenital disorders; severe sensory impairments, including hearing and vision; inborn errors of metabolism; disorders reflecting disturbance of the development of the nervous system; congenital infections; disorders secondary to exposure to toxic substances, including fetal alcohol syndrome; and severe attachment disorders.

High Risk (in the context of child welfare): A child welfare case in which there exists strong reason to believe maltreatment will occur in the future, absent intervention, regardless of whether maltreatment has occurred in the past.

Indicated Maltreatment: A child welfare case in which there is not sufficient evidence to meet the standard of substantiation, but where some evidence of maltreatment does exist. Not used in every state or court.

Logistic Regression: An adaptation of the linear regression model suitable for use with dichotomous outcomes.

Measured Delay: An infant or toddler in NSCAW who scored at least one standard deviation below the mean on any two developmental instruments or at least one and one-half standard deviations below the mean on any single developmental instrument. Because screener versions or only portions of instruments were used, the young age of the children at baseline, and because these scores do not constitute a formal evaluation, a measured delay is not a diagnosis of developmental delay.

Risk Factors: Risk factors such as poverty or maternal mental health have been shown to be associated with poorer outcomes for infants and toddlers. However the most detrimental effects on child development are the cumulative effect of multiple risk factors (such as low caregiver education, teenage caregiver, biomedical risk, minority status, single caregiver, caregiver substance abuse, active domestic violence against the caregiver, caregiver mental health problems, and poverty).

Substantiated Maltreatment: A child welfare case in which there is sufficient evidence to determine that maltreatment occurred. This standard varies by state and court.

Unsubstantiated maltreatment: A child welfare case in which there is not sufficient evidence to determine that maltreatment occurred.