

# Design Phase of the National Study of Child Care Supply and Demand (NSCCSD):

## *Final Report*

### Prepared for:

Ivelisse Martinez-Beck, Ph.D.  
Federal Project Officer  
U.S. Department of Health and Human Services  
Administration for Children and Families  
Office of Planning, Research and Evaluation

### Developed by:

A. Rupa Datta  
Robert Goerge  
Ting Yan

### Additional Contributors:

Ann Witte	Deanna Schexnayder
Lina Guzman	Martha Zaslow
Lee Kreader	Nicole Forry
Roberta Weber	Kirk Wolter

National Opinion Research Center (NORC)  
at the University of Chicago

Contract HHSP23320045020XI  
Task Order HHSP233200700005T

**January 31, 2010**

---

---

---

# The Design Phase Project Team

## At OPRE

Ivelisse Martinez-Beck, Federal Project Officer  
Susan Jekielek

## At NORC at the University of Chicago

A. Rupa Datta, Project Director	
Kirk Wolter, Chief Statistician	Ting Yan
Marietta Bowman	Jill Connelly
Ned English	Katie Dekker
Val Cooke	Mike Cooke
Rebecca Jessoe	Warren Jones
Kate Baldwin	Nora Broege
Nekole Shelton	Bernard Dugoni
Vince Welch, Jr.	Sheri Hamilton

## At Chapin Hall Center for Children at the University of Chicago

Robert Goerge, Principal Investigator  
Shannon Gultinan  
Matt Stagner  
Wladimir Zanoni

## At Child Trends

Lina Guzman, Child Trends Project Director	
Nicole Forry	Megan Kuhfeld
Martha Zaslow	Laura Wandner
Akemi Kinukawa	Astrid Atienza
Andrew Rivers	Camille Whitney

## Additional Team Members

Ann Witte, Co-Principal Investigator, Wellesley College  
Roberta Weber, Oregon State University  
Deanna Schexnayder, Ray Marshall Center for the Study of Human Resources,  
The University of Texas at Austin  
Lee Kreader, National Center for Children in Poverty, Columbia University

## Contributing Members of Expert Panel

Alison Aughinbaugh	Richard Brandon
Marsha Meyers	Lynda Laughlin
Douglas Besharov	Gina Adams
Christine Ross	Ann Collins
Steve Barnett	

# Table of Contents

- Disclaimer ..... iv
- Suggested citation for this document: ..... iv
- Executive Summary ..... 1
- I. Overview: National Study of Child Care Supply and Demand Design Phase Recommendations . 5
  - Context..... 6
  - Key Terminology ..... 8
  - Overview of design..... 11
  - Remainder of the report..... 18
- II. Analysis Plan ..... 20
  - Families ..... 20
  - Providers ..... 23
  - Interactions between families and providers ..... 26
- III. Selected Design-Related Issues ..... 33
  - Other data sources..... 33
  - Income threshold for low-income and near-low-income..... 36
  - Recommended sample sizes..... 38
  - Cost drivers..... 39
  - Noteworthy risks of NSECE implementation ..... 40
- IV. Design Options for the NSECE ..... 43
  - Summary of options..... 43
    - Age threshold ..... 44
    - Sample sizes and analyses that can be supported ..... 44
    - Other data quality issues ..... 45
    - Comparisons that can be made, and populations to which results can be generalized .... 47
    - Cost implications ..... 48
  - IV.A. Demand to age 13..... 50
  - IV.B. Demand to age 6..... 51
  - IV.C. Low-income-only Demand..... 52
  - IV.D. Supply to age 13..... 57

IV.E.	Supply to age 6.....	57
IV.F	Low-income-only Supply.....	58
V.	Selected Supplements to Research Design.....	64
A.	Enhancing NSECE Demand Survey Responses with Administrative Data.....	65
I.	Description of supplement: Administrative data options (demand) .....	65
II.	Importance to the analytic agenda.....	65
III.	Costs/benefits of linking to the main study.....	65
B.	Supplementing State-Level Samples .....	66
I.	Description of supplement .....	66
II.	Importance to the analytic agenda.....	67
III.	Costs/benefits of linking to the main study.....	67
C.	Options for an Embedded Observational Study within the National Study of Child Care Supply and Demand .....	67
Overview.....	67	
Option 1: Comparing Center and Licensed Home-Based Care among 3-5 Year Olds .....	69	
I.	Description of supplement.....	69
II.	Importance to analytic agenda .....	70
III.	Costs/benefits of linking to the main study.....	70
Option 2: Looking Across the Age Range in Center-Based Care.....	71	
I.	Description of supplement.....	71
II.	Importance to analytic agenda .....	72
III.	Costs/benefits of linking to the main study.....	72
Option 3: Comparison of Different Types of Center-Based Care among 3-5 Year Olds.....	73	
I.	Description of supplement.....	73
II.	Importance to analytic agenda .....	73
III.	Costs/benefits of linking to the main study.....	74
Option 4: In-Depth Study of Infant and Toddler Care in Licensed Center-Based and Home- Based Care.....	74	
I.	Description of supplement.....	74
II.	Importance to analytic agenda .....	75
III.	Costs/benefits of linking to the main study.....	75
D.	Use of Collaborative Funding by Providers .....	75
I.	Description of supplement.....	75
II.	Importance to analytic—and policy—agenda .....	76

III. Costs/benefits of linking to the main study.....	76
E. List-Based Sample of Subsidy Recipients (and Possibly TANF Recipients) to Supplement Demand Survey Sample.....	77
I. Description of the supplement.....	77
II. Importance to analytic agenda .....	77
III. Costs/benefits of linking to the main study.....	78
F. Costs and Financing of Child Care .....	79
I. Description of the supplement.....	79
II. Importance to analytic agenda .....	80
III. Costs/benefits of linking to the main study.....	80
G. Recessions and Child Care Supply.....	80
I. Description of supplement.....	80
II. Importance to analytic agenda .....	81
III. Costs/benefits of linking to main study .....	82
H. Caregiving Staff in Center-Based Providers.....	82
I. Description of the supplement.....	83
II. Importance to analytic agenda .....	83
III. Costs/benefits to linking to main study .....	83
I. Administrative Data Options —Provider .....	83
I. Description of supplement.....	84
II. Importance to analytic agenda .....	84
III. Costs/benefits of linking to the main study.....	84

## Disclaimer

The views expressed in this report are those of the author(s) and do not necessarily reflect the opinions or policies of the Administration for Children and Families or the U.S. Department of Health and Human Services.

Suggested citation for this document:

Datta, A. R., Goerge, R., and Yan, T. 2010. *Design Phase of the National Study of Child Care Supply and Demand (NSCCSD): Final Report*. With additional contributions by Witte, A. Guzman, L., Kreader, L., Weber, R., Schexnayder, D., Zaslow, M., Forry, N., and Wolter, K. Chicago: NORC.

## Executive Summary

The Design Phase of the National Study of Child Care Supply and Demand (NSCCSD) is now complete. The project was conducted under contract to the Office of Planning, Research and Evaluation (OPRE), Administration for Children and Families, U.S. Department of Health and Human Services by the National Opinion Research Center (NORC) at the University of Chicago with partners Chapin Hall Center for Children at the University of Chicago, Child Trends, and experts from various universities. Several products from the project are available, including a Final Report. The Design Phase final report provides an overview of the proposed study design and describes the specific policy research questions that would be answered through implementation of the proposed design. As directed by OPRE, we refer to the proposed main study that might implement the work of the Design Phase as the National Survey of Early Care and Education (NSECE). Subsequent chapters highlight additional design issues such as potential overlap with other federal surveys, cost drivers, and risks to the proposed design. As requested by OPRE, the project team evaluates six possible options for the study design. The report concludes with a set of descriptions for supplements to the main study that could enhance the value of the main study and fulfill additional policy research objectives.

Child-care policy for children under age 13 addresses the development of young children, employment (and schooling or training) support for their parents, the overall quality of early education and care provision in the nation, and the expansion of access to quality child care for low-income families. Child-care policies affecting families and providers are implemented at all levels of government, necessitating research data that allow for local-level analyses as well as national estimates. This complex environment represents the context for a next national study of child care supply and demand.

Some highlights from the final report:

The NSCCSD Design Phase products call for three interrelated sample surveys: a demand survey of parents of young and school-age children, a supply survey of (formal) center-based and regulated home-based providers of early and school-age education and child care, and a supply survey of providers of informal home-based care to young and school-age children. To facilitate joint analysis of the demand for and supply of child care services, we have devised a ‘provider cluster’ sampling approach that allows providers to be selected from a small geographic area

surrounding the locations of sampled households. The design calls for sample in all 50 states and the District of Columbia, including 17,512 household interviews, interviews with a minimum of 12,520 formal providers (ideally, 25,040), and over 4,000 informal home-based provider interviews. The household survey is conducted with a parent or guardian regarding all age-eligible children within the household. For center-based providers, the respondent is the program director.

The proposed NSECE would further policy research capabilities for early and school-age care in a number of ways:

- No nationally representative data from providers exist today spanning all sectors that contribute care (publicly funded, privately-funded, formal and informal home-based). The last such data set is 20 years old, and did not adequately cover the informal sector. The supply surveys have embedded within them a nationally representative probability sample of the child-care workforce.
- Child care is inherently local, with families typically seeking care near their residences, and providers responding to local demand conditions. Policy-setting also has a strong local (and state-based) component. The proposed provider cluster methodology will generate nationally representative probability samples of households and families while simultaneously enabling joint supply and demand analyses in small geographically-defined locales.
- The intersection of parental employment with child-care usage will be explicated at a detailed level through collection of a full week's schedule of all parental employment, schooling and training activities as well as all child-care events during that week. The schedules will permit enhanced understanding of children in multiple care arrangements, and of parental juggling of employment commitments with child care availability. Mothers, fathers, and other household members providing care are studied.
- Geographical boundaries are essential to understanding child-care behavior and effective policy implementation. The NSECE will enable definition of child care markets for privately-paid (market-based) care, the implicit boundaries parents define for publicly-funded and informally provided care, and the extent to which these informal or publicly-funded sectors interact with the supply of market-based care.
- Child-care policy is concerned both with the functioning of direct public subsidy systems (such as Child Care and Development Fund (CCDF) and Temporary Assistance to Needy Families (TANF)), as well as the extent to which families in need are able to secure help paying for child care, regardless of the source of help. The proposed design emphasizes all sources of help received, and collects information on direct subsidies as well as other publicly subsidized care (such as Head Start and pre-K). It will also merge easily with



geographically-based data on program rules and implementation for use in evaluation of policy elements (such as reimbursement rates and priority rules).

- Child care cost burden is also relevant for families not receiving subsidies. The proposed design is unusual in capturing costs by arrangement and for each age-eligible child in the household.
- The demand survey collects extensive detail about child care search behavior so that parental preferences can be understood through self-reported factors and revealed preference estimation techniques. Providers' outreach and marketing activities to parents are also captured.
- The design exploits the tremendous power of Geographic Information Systems (GIS) through capture of precise locations of providers, households, and parental employers. We also propose a comprehensive, geo-coded dataset of all 'listable' providers of child-care to be used as a sampling frame and as a stand-alone research tool.

This report describes some challenges around terminology in this field. Although we may not have solved these issues, we attempt to articulate them. In particular, we emphasize the inclusive notion of 'child care' in the demand survey: any non-parental care to children under age 13 other than regular K-12 schooling. For the supply survey, we propose some additional restrictions, but emphasize the inclusion of publicly-funded programs such as Head Start, Pre-K and 21<sup>st</sup> Century Community Learning Centers; privately funded programs such as community-based pre-schools, for-profit day cares, and school- and community-based after-school programs; and Family Child Care as well as informal home-based care whether provided by household members, other family, friends or neighbors, or persons with whom the child had no personal relationship prior to the start of child-care provision. We note that the most common definitions of 'child care' among formal providers, informal providers, and parents seem to conflict with the definition we have adopted.

In order to ensure adequate coverage of low-income and near-low-income households receiving subsidies, eligible for subsidies, and at risk of eligibility, we recommend oversampling households with income up to 250 percent of the federal poverty level (FPL). This recommendation is rooted in policy concerns with identifying the targeted families, and with providing scope for analyzing possible policy alternatives or to identify additional sub-groups with critical needs.

As requested by OPRE, the Design Phase project team has considered three possible variations for the demand survey: children to age 6, not yet in kindergarten; children to age 13; and only low-income children to age 13. The same three variations have also been considered for the supply survey: providers to children under age 6, not yet in kindergarten; providers to children under age 13; and only providers to low-income children to age 13. The low-income supply and demand variations are not recommended because the team's assessment is that these options would not meet today's major policy research needs regarding the use and provision of care to children under age 13. Coverage of school-age care issues is seen as a critical contribution of a potential NSECE, so preference is given to demand and supply surveys that cover all children under age 13. Nonetheless, the integrity of an 'under 6' study might be greater because of some logistical challenges that apply only to the school-age care population. The 'under 6' options are seen as reasonable choices for the main study, but the recommended design is to cover all children under age 13 in both the supply and demand surveys. If resources allowed, some expansion of sample sizes would be recommended.

The research team sees the NSECE as an attractive potential platform for additional research that would be valuable enhancements to the main study as well as important policy resources in their own rights. Nine possible supplements are described briefly for OPRE's consideration: (A) link administrative data from CCDF, TANF and/or the Supplemental Nutrition Assistance Program to demand survey data; (B) allow states to supplement or 'buy-in' to the study to add sample size to what will be included in the national study; (C) collect observational data on quality in some subset of providers in the supply survey; (D) study in-depth providers that are blending funding from different sources; (E) incorporate a list sample of households that are subsidy recipients in order to increase sample sizes of demand survey households participating in CCDF or TANF; (F) conduct detailed data collection and analysis on providers' costs of child-care provision and their means of financing those costs; (G) exploit the timing of the main study to collect some over-time data that captures dynamics of household and provider behavior prior to and during the 2008-2009 slowdown in the U.S. economy; (H) interview care-giving staff in center-based providers to learn more about workforce issues and program content; and (I) appending administrative data about provider program participation to the supply survey data. The Design Team particularly urges that supplement (A) be included as a core element of the main study design because of its salience to study objectives, fulfillment of a data need that cannot be accomplished through the survey data, and relatively low cost.

# I. Overview: National Study of Child Care Supply and Demand

## Design Phase Recommendations

This document summarizes and synthesizes 27 months of work completed in the Design Phase of the National Study of Child Care Supply and Demand (NSCCSD). The Design Phase was completed under contract to the Office of Planning, Research and Evaluation (OPRE), Administration for Children and Families, U.S. Department of Health and Human Services. The project team was led by the National Opinion Research Center (NORC) at the University of Chicago, with its partners Chapin Hall Center for Children at the University of Chicago, Child Trends, and individuals from Wellesley College, Oregon State University, the Ray Marshall Center for the Study of Human Resources at The University of Texas at Austin, and the National Center for Children in Poverty at Columbia University.

As requested by OPRE, the work of the Design Phase culminates not in a single final design, but rather in a set of articulated options. Informed by these options, OPRE will be able to make a set of choices that best fulfills its needs and deploys its resources at the time a national child care supply and demand study is implemented. OPRE has specified that the project title “National Survey of Early Care and Education (NSECE)” be used to refer to the study to be implemented; we follow that convention in the remainder of this report.

The purpose of this document is to describe what choices have been made to date, and to provide information about a set of choices still pending in defining the scope of the national study. Choices that have been made include:

- definitions of target providers on the supply side and the household as the unit of observation on the demand side;
- an approach for integration of supply and demand surveys for maximal relevance to key analytic needs;
- identification of the key analysis questions to be addressed through the study design and analysis of its data;
- the structure and contents of three questionnaires (household, home-based provider, and center-based provider); and
- recommendations on sample sizes, sampling approach, and data collection modes for the main study.

Among choices still pending are two articulated by OPRE: 1) what should be the definition of near-low-income and low-income for the purpose of oversampling households in the demand sample, and 2) which of three designs are most useful for the demand and supply surveys—restricting to children under age 6 (not yet in kindergarten), restricting to children under age 13, or restricting to low-income and near-low-income families? An additional set of pending choices is initiated by the project team. Through our work, we have come to see the main study as a potential platform for supplemental work. As supplements to the main study rather than stand-alone research efforts, additional pursuits could address related research questions at lower incremental cost and greater analytic utility. We describe them in the final chapter of this report for OPRE’s consideration.

In the rest of this chapter, we recall the research and policy context for the Design Phase of the NSCCSD, clarify some key definitions and concepts, and provide an overview of our proposed design.

## ***Context***

The Request for Proposals for the Design Phase of the National Study of Child Care Supply and Demand (NSCCSD) was both far-reaching in terms of the populations to be studied and deep as it relates to the early childhood care and education issues that need to be addressed. This broad approach is necessary as a study of this kind has not been done in 20 years and because the early childhood field has become more complex, with higher stakes for children and their parents. The scope of these services now includes addressing both the child care needs of employed parents, as well as parents who are students, and the developmental needs of children ages 0-13.

Although both the federal and state governments have an interest in children of all socioeconomic levels, the primary public responsibility lies in responding to the needs of low-income families. The child care subsidy system (primarily through CCDF) addresses the needs of low-income families for the purpose of allowing parents to enter and stay in the labor force. That program and the Head Start program respond to the development and early learning needs of children from poor families. Indeed, in 2007, States and Territories spent \$935 million in CCDF funds on quality improvement activities, accounting for 9 percent of total CCDF expenditures. These benefit all families, not just those with low incomes. State pre-kindergarten (pre-K) programs have traditionally focused on children at risk of educational failure, but recently there has been an expansion of these programs to serve more children and, in some states, the intention is to be

universal. For school-age children, out-of-school-time programs have proliferated, and the purpose of these programs is different from what it was 20 years ago. The current intention is for out-of-school-time programs to have a complementary role to the school day, as well as to provide recreational opportunities for elementary school-age children.

The intention of the NSECE is to understand families' use of these programs as well as the overlap of these programs within and across the organizations that provide them. The commingling of funds and resources is a new phenomenon that was not an issue 20 years ago. Poor families have been required to obtain or seek employment as a result of welfare reform, and the dynamics of early childhood program use have changed as more parents move in and out of jobs and as more "universal" programs, such as pre-K and out-of-school-time programs, become available.

Families and public policy are also shifting in their understanding of early childhood, seeing it increasingly as a time for making an investment in the individual that can be reaped throughout the life cycle. Child care as employment support and as an opportunity to enrich the early experiences of low-income children are joined with an interest in high quality, integrated, early education experiences for children from all families.

Clearly, the most important aspect of this study is to relate the demand for early childhood education and early and school-age care with the supply of providers of this care. Identifying child care markets, from both the demand and supply perspective, is critical to a better understanding of how government policy can help families achieve their goals. The very local nature of child care usage intensifies the importance of collecting and analyzing data in matched geographic areas. Policy is not advanced by knowing that the nation's total number of child care slots is equal to the total number of children needing placement if we cannot also determine how many of those slots are accessible to the children who need them.

We hypothesize that families' decision-making and behavior will be strongly affected by what is available to them—be it formal organization-based programs, or friends and family members who are available to care for their children. Similarly, understanding how providers make decisions about both prices and groups they can serve must be done within the context of other providers with whom they compete. Only when the field knows the choices that families and providers make in their own contexts will policymakers understand what aspects of policy and program administration need to change in order to improve the responsiveness of the system to families' needs.

## ***Key Terminology***

Throughout the period of the Design Phase, the team has consistently struggled with terminology. We have found that parents and providers often define terms differently, and that there may be yet more definitions in use within the research and policy communities. Such multiplicities of definitions compromise the usefulness of the terms, since they are then open to misinterpretation or must constantly be re-defined for clarity. In other cases, we have not found a satisfactory term for the particular construct we wish to label. There are a few key terms we have struggled with in particular, and we discuss these briefly below.

**Child Care.** The term “child care” has been sufficiently problematic among providers, parents, researchers, and policymakers that we recommend considering an alternative title for the main study. For the purposes of the NSECE design, we have defined child care to mean any non-parental care of children under age 13 other than regular K-12 schooling. This definition includes, for example, family child care, grandparents caring for their grandchildren, a Montessori or preschool for young children, before or after-school care at an elementary school (but not the regular school day), a for-profit day care center, or a co-resident maternal uncle who watches a child for an hour after school until the child’s mother returns from work. The definition excludes kindergarten, which we treat as we do all other grades of K-12 schooling. The term was difficult for many providers of early education, who object to having their work classified as child care when they consider it to have a higher quality, educational function. The term was equally difficult for many informal providers, especially family, friends, and neighbors, who may look after children as a favor to the parents, but who consider child care a more formal, child-centric activity than what they perform. Parents who have children in preschool or have 12-year olds in after-school programs sometimes reported that they did not have any demand for child care, either because they thought of preschool as education, not care, or because they did not think of 12-year olds as children. Many researchers and policymakers were unsure whether Head Start or pre-K should fall into the same classification as babysitting services. We believe main study implementation would benefit from use of alternate terminology to better convey the set of child experiences the study is intended to cover.

Of course, we have given preference to some types of child care over others. We suggest that summer care be explicitly excluded from the scope of the NSCCSD, primarily because it varies so substantially from school-year care that adequate treatment would effectively require two separate

studies conducted at different times of the year. We recognize that many parents use single-activity programs as child care for older school-age children (for example, tutoring programs or hockey practice every day from 3-5 pm). We propose to capture such usage in the demand survey, but recommend omitting single-activity providers from the supply survey. Among other reasons, single-activity providers do not consider themselves child care providers and are not eligible for most child care subsidies. We have built the questionnaires to answer specific questions about child care as support for parental schooling, training or employment, although child care usage for children’s development, parental relief, or for no reason at all, are captured with the same attention.

Throughout project materials, we refer to “early education and school-age care” or to “early and school-age care” and other unwieldy variants. Despite the awkward terminology, we are always referring to this broad constellation of non-parental care providers and activities.

**Markets and Choice Sets.** The definition of child care adopted for the project follows easily from our central focus, which is to understand how the availability of non-parental care interacts with the needs and preferences of parents and guardians to result in the patterns of child care usage that we observe. In this formulation, the “supply” that we portray should comprise all alternatives that parents might consider for how their young children will spend their days (outside of elementary school). For a four-year old, that might include only parental care, care by a family friend, enrollment in pre-K, attendance at a for-profit facility, or if eligible, Head Start participation. Across various social science disciplines, we might consider this collection of alternatives a “choice set” or “market”; other terms also apply. In particular, the collection of alternatives includes: options that exist in the market that we conceive of in economic terms (and that child care “market” rate surveys target), options that are available to all but do not charge fees (like Head Start or some pre-K), or options that are available only to that particular four-year old (for example, his co-resident grandmother who is not interested in caring for anyone else).

The proposed design is careful to aim for this “choice set” of all possible alternatives in the questionnaires and through the sample design. Some of our research questions (discussed in the next chapter) focus on better understanding how parents draw the boundaries for their choice sets, defining those choice sets by local demographic characteristics, and understanding the variation across choice sets. At the same time, we believe that current and accurate depiction of the economic market for child care (necessarily a narrower construct than the full choice set) is also an important

objective of the main study. Additional research questions hone in on the economic market and the implications of its characteristics for providers, parents, and children.

**Household.** In reviewing the available literature and in conducting our own qualitative work, the project team determined that the evidence suggests that parents make child care choices based on joint consideration of many household members, including commute patterns of parents, educational and care needs of other young children, etc. For this reason, we have developed a design questionnaire that includes all age-eligible children within a household, and treats mothers and fathers symmetrically. We feel that a core strength of our design would be to systematically capture the extraordinary range of combinations of care across children, and the ways in which parents and other co-resident caregivers juggle work, school, and other commitments to accomplish their child care arrangements. Specifically, we have avoided choosing a “focal child” or emphasizing only the maternal work patterns, but do so understanding that the commitment to breadth is a simultaneous compromise on detail.

**Program Participation/Subsidy.** When we think of families receiving subsidized child care, we think immediately of the Child Care and Development Fund and its subsidies, which indeed represent an enormous commitment on the part of the federal government towards the care of young children. Yet, even restricted to federal dollars, this narrow interpretation of subsidy ignores Head Start for preschool children, as well as after-school programs such as 21<sup>st</sup> Century Community Learning Centers and Community Development Block Grant funds for school-age children, not to mention the Child Care Tax Credit and subsidies through Dependent Care Flexible Spending Accounts. Moving to other levels of government and non-governmental programming introduces an array of other ways in which parents may receive help obtaining adequate supervision and enrichment for their young children. Although both the demand and supply surveys address specific programs, the focus of the survey is on identifying all of the ways in which parents may receive help and providers may receive support in caring for children outside of elementary school.

**Provider.** From the start, OPRE’s instructions have been that family, friend, and neighbor (FFN) care must be included in the design of the NSECE. This mandate meshes well with the project team’s expansive notion of a choice set. The large fraction of child care that is actually provided within this sector, the issues concerning appropriate rules for subsidization for this sector, and the potential importance of FFN care in preparing all children for success in elementary school, all underscore the importance of including FFN providers within the study. Among center-based



providers, we again hearken back to the notion of a choice set, spanning across a variety of public and private types of providers outside of home-based settings. We adopt a narrower definition for the supply survey sample than for demand; the narrowing rules are described in the following section.

## ***Overview of design***

The National Survey of Early Care and Education (NSECE) has two overarching aims: to collect and analyze information on 1) early and school-age care available to parents and young children, and on 2) the use of non-parental child care and early education services by parents at all levels of household income. To address these dual goals, we propose three interrelated sample surveys: a *demand survey* of parents of young and school-age children, a *supply survey* of (formal) providers of early and school-age education and child care, and a *supply survey* of providers of (informal) home-based care to young and school-age children. To facilitate joint analysis of the demand for and supply of child care services, we recommend that the demand and supply surveys should be conducted in a common set of geographic areas.

Although much of this report discusses the possibilities of two different age cut-offs or a low-income-only study, we believe it is useful in this initial exposition to adhere to the definitions originally provided by OPRE. Thus, in the first three chapters of this report, we shall assume that the target population for the demand survey will consist of all children, regardless of the level of family income, who are under age 13 and residing in regular housing units within the 50 states and the District of Columbia.

The target population for the supply study will include all centers, programs, facilities, and individuals in the 50 states and the District of Columbia that offer regular non-parental child care services for preschool children or before/after school programs for school-age children.

The sampling design for the overall NSECE is driven by four broad requirements:

- The sample for the demand survey should be probability-based and be fully representative of the target population of age-eligible children;
- The sample for the demand survey should include a large enough sample of children in low-income households to permit separate analysis of this population of children;
- The sample for the supply survey should be probability-based and be fully representative of the target population of eligible providers; and

- The samples for the demand and supply surveys should be coordinated so as to permit study of the associations between the supply of services and the demand for services within common child care localities.

For the demand survey, we propose a sample of households to provide a nationally representative sample of all children in the target population. In brief, we propose a three-stage address-based sampling design, selecting counties (or county-clusters in the case of very small counties) at the first stage, Census tracts or minor civil divisions within the selected counties at the second stage, and residential addresses or telephone numbers within the selected second-stage units at the third stage. The demand sample would also embody an oversample of low-income and near-low-income households. We recognize the importance of studying demand and supply factors for children in low-income households, and propose a method to oversample such households without the need for screening on household income. We believe this method will find enough low-income households for data analysis and will preserve the nationally-representative and probability-based nature of the sample design.

For the demand sample, we propose a mixed-mode design involving telephone and in-person data collection that exploits the cost efficiencies of telephone data collection while achieving the desirable coverage properties of address-based designs. The demand-survey respondent would be an adult in the household who is responsible for at least one of the children under age 13 and who is knowledgeable about that child's schedule and time in non-parental care (care by custodians or guardians would qualify as parental care). That respondent would report on the child care arrangements of all children under age 13 in the household and on all adults in the household who are parents/guardians of or regular child care providers for the age-eligible children in the household. There is more information collected about the employment/schooling/training of the respondent and his/her spouse or partner than about other adults in the household.

Further details of the demand sample and data collection approach are available in the NSCCSD Design Phase Revised Sampling Plan and Addendum (January 2010), as well as in the memoranda proposing revisions to the three feasibility test questionnaires.

One key feature of the demand questionnaire is a full week's schedule of all non-parental care (including elementary school attendance) of all age-eligible children in the household and all employment, schooling, and training activity of all parents or regular caregivers within the household. Another area of emphasis lies in understanding the schedule, financial, and geographic

constraints that condition the parent's child care choices, as well as documenting the parent's most recent search process in a way that supports self-reported and empirically revealed models of parental decision-making. Other topical coverage is discussed in Chapter II as the research priorities are explicated.

Sample sizes have been calculated to minimize cost while providing adequate sub-samples for analyses by race (Black, Hispanic, Other (including White)) and for analyses of two-parent households vs. one-parent households; of low-income, near-low-income, and higher income households; and of households with mothers in the labor force vs. those who are not in the labor force.

During the course of the screener for the demand survey, another screener would also be administered for home-based providers. The age threshold for children cared for by home-based providers need not be the same as for the demand survey. A sample of *home-based providers* would thus be identified from the same households that are screened for the presence of age-eligible children. In this design, some households would be eligible for both the home-based provider survey and the demand survey; other households would be eligible for only one or the other. The home-based provider survey distinguishes between market-based providers who do or are willing to care for children with whom they have no prior personal relationship, and non-market providers who are only willing to care for children with whom they have a prior personal relationship. The latter category includes much of the FFN sector, including providers who care only for family members or individuals with whom they share households. These non-market providers may or may not be paid for the care that they provide.

We propose a *sample of providers* to be selected and interviewed within the same geographic areas that are employed for the demand sample. In brief, we propose a three-stage sampling design for these providers. The first stage would share the same samples of counties as would be selected for the demand survey. At the second stage of the three-stage design option, we would sample broad *provider clusters*, determined to consist of the demand-survey second-stage unit and a ring of Census tracts surrounding this unit. Then at the third stage of sampling, we would sample providers within the selected provider clusters from lists of providers that we would construct for the purpose. The respondent to the provider survey would be the director of an eligible program (or another person most knowledgeable about the program). Where multiple

eligible programs exist at a single physical address, one such program would be selected at random for participation.

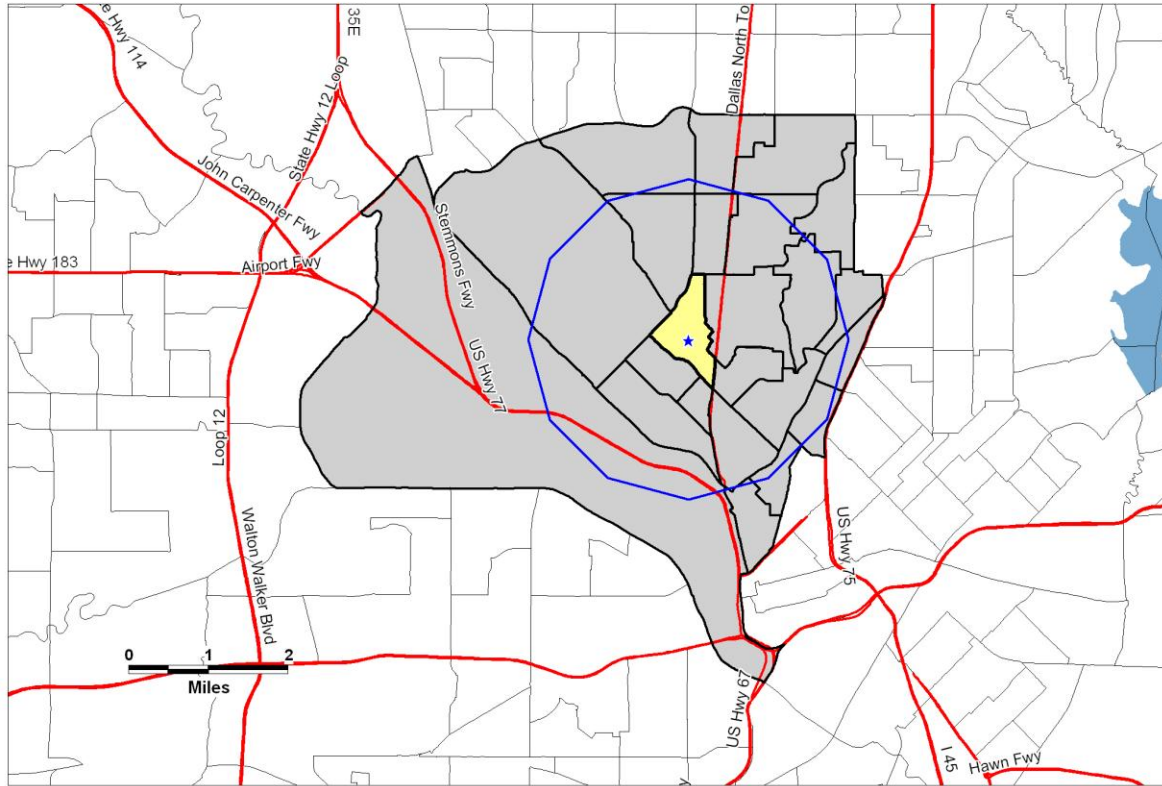
The provider cluster definition is discussed further in the Revised Sampling Report and Addendum, but we include an example cluster map in Figure 1 to help the reader visualize this concept, which is core to our design. The area shown would be the provider cluster for a particular Census tract in Dallas, Texas. The central tract, marked with a star, indicates the area from which demand households and informal home-based providers would be sampled. The shaded area surrounding that central tract, together with the central tract itself, represents the area from which center-based and formal home-based providers would be selected.

The center-based provider questionnaire collects a variety of information about the characteristics of the provider, including structural characteristics of care, revenue sources, enrollment, and admissions and marketing. Three notable features are 1) attempts to identify the economic market of each provider, 2) data about the extent to which the provider is blending funding or engaged in collaborations with other providers, and 3) a “representative classroom” approach to asking workforce and structural characteristics of care questions that generates nationally representative samples of center-based provider instructional staff and center-based provider classrooms.

The categories of large home-based providers or licensed family child care can resemble both home-based informal providers and center-based providers. In our design, the actual sampling distinction is between providers who appear on licensing or other public lists, versus those who cannot be found on such lists. This roughly amounts to a sample of center-based and licensed home-based providers in the provider sample, and informal home-based providers in the sample spawned through screening of households. The demand survey and informal home-based provider survey will be conducted in the center of the provider cluster only, while the center-based and licensed home-based providers will be drawn from throughout the broader provider cluster, within and around its center.

Figure 1. Example provider cluster map

## Dallas County 0006.01



It is known from the literature that parents' willingness to travel for child care varies by the type of care (e.g., center-based vs. home-based vs. school-based).<sup>1</sup> What is possible is that zoning and other conditions may lead to localities that are more dense in providers (e.g., commercial districts) or more dense in households (e.g., purely residential neighborhoods). Public schools and home-based providers would typically be spread throughout residential areas, but center-based providers may not be. To facilitate analysis of the supply and demand data, we do not want to impose on the sampling design a mismatch between the samples of households and of providers. If we want researchers to be able to empirically explore alternative market boundaries and choice set definitions, then it seems useful to select providers from a wider area than the area in which we

<sup>1</sup> See Kisker, Hofferth, Philips, Farquhar (1991); Meyers and Jordan (2006); and Willer, Hofferth, Kisker, Divine-Hawkins, Farquhar, and Glantz (1991).

select the sample of households. It is this thinking that leads us to propose the selection of providers from broad provider clusters while clustering the selection of households more narrowly within localities.

A first stage of the supply survey implementation is the construction of a *sampling frame of “listable” providers* from available lists. Details of the construction are provided in the addendum to the Revised Sampling Report. As we have noted above, there is no such data source available currently. As part of the Design Phase activities, we have constructed such a frame for early education and child care providers. We observe that the frame, which typically also has the associated number of slots per provider and which can be geocoded based on provider address, is itself enormously useful as a portrait of child care supply. The scope for linking such a frame to detailed demographic data from the American Community Survey or other Census products is tremendous. Because of the relatively low cost of constructing such a frame for any state or the nation, we recommend that OPRE consider constructing such a frame every three years or so as a repeated cross-sectional portrait of child care supply.

Given the topical coverage of the questionnaire, it is essential that the supply and demand surveys are conducted well within the bounds of the school year, ideally outside of significant school vacations and certainly with no overlap of the summer holiday. In general, data collection is ill-advised in school-based settings until at least mid-October, when enrollments have begun to stabilize and administrators are somewhat less busy getting the school year launched. Although fall data collection is possible, we strongly recommend targeting a data collection that runs from early January through mid-spring. This period allows for sufficient elapsed time for the substantial data collection that is required, without the interruption of the winter holidays. We have observed that Address-Based Samples can take a bit longer to complete, since they involve a sequenced data collection approach that begins in the telephone shop and then moves into the field for in-person interviewing.

Throughout the proposed design, we have implemented opportunities for extending the value of the data collection. For example, we have left open the possibility of checking provider names against licensing and/or accreditation records for the purpose of incorporating these status variables into analyses. We also are capturing consent to consult administrative records to accurately attach CCDF, TANF, and other program participation data to demand survey households.

While these enhancements can be enormously valuable, they require access to highly confidential data.

Another underlying design principle has been to exploit the tremendous potential of Geographical Information Systems (GIS) in social science research, particularly in localized contexts like child care. Data items in the various questionnaires and survey materials will capture the locations of households, parental employers, and all child care providers used by the households. In addition, the sampling frame and supply survey data will permit mapping of all “listable” providers, and therefore of such constructed variables as the number of Head Start providers within three miles of each household in the sample. This extraordinary level of detail should be immeasurably helpful in understanding markets and choice sets as parents define them, as well as in documenting variation in supply across the nation.

A central challenge with the GIS data also pertains to other aspects of the dataset that would arise from implementation of the proposed design and questionnaires. These data are planned to be rich in details such as provider names and salient locations. But this same level of detail heightens the risk of disclosure. Indeed, many items collected will actually constitute individual identifying information, a riskier category of information which can lead to deductive disclosure. (The difference is between having the exact name and address of a provider versus having a for-profit preschool with more than 100 children in a county where there is only one such provider. One could deduce the name of that unique provider, but one still requires a few additional pieces of information to do so.)

We envision that making full use of our design would require several layers of data access: 1) a public-use file, which can be used by anyone and which clears all acceptable thresholds of disclosure risk; 2) a restricted-use file, which embodies some levels of disclosure risk, but provides researchers limited access under strict legal conditions; 3) a file including identifying information that a contractor would use to make use of the highly confidential data in order to construct the restricted-use and public-use files. For example, this contractor could secure program participation records to merge onto demand survey data files, then create variables acceptable for the public-use and restricted-use data files. The identifying information might never again be accessed except under additional contract with OPRE for further data file analysis or development.

We see a few different alternatives for OPRE. The dataset could be used only for data analysis as part of the main study contract, with no further data available for researchers. We do

not recommend this path. A next alternative would be to invest resources in creation of a user-friendly data file, whether restricted-use or public-use. Given the complexity of these questionnaires and the intricate inter-relationships of the samples, it is essential that this step be taken in order for the data to have a long, useful life. The third alternative would be to take one further step and merge in many of the additional data files—household-level program participation histories, provider-level accreditation, and presence on CCDF provider lists, etc. Although the most expensive, we believe this third alternative would ultimately generate the best value for the NSCCSD main study investment. We note that the second and third alternatives could be exercised in separate contracts in separate fiscal years and from separate funding sources from the main study data collection.

### ***Remainder of the report***

In the next chapter, Chapter II, we describe the analysis plan for the study, articulating the research questions that have shaped the design of the questionnaires, sample design, and data collection approach.

In Chapter III, we discuss related datasets or planned data collections which may complement the NSECE or identify opportunities for reducing overlap across federal initiatives. We also discuss further the notion of the “provider cluster” and our efforts to integrate supply and demand sides for maximal possible relevance to the analysis priorities. A key decision for OPRE is the definition of low and near-low income. Working with the agency, we have identified two most likely definitions, 185% of poverty or 250% of poverty. We take some time to elucidate the implications of choosing one or the other threshold for (near-) low-income status. We close with a general discussion of some key logistical constraints or other risks of the proposed design.

Having laid this foundation for the study design, we turn to six specific options that OPRE has asked us to explicate, three each for the demand and supply surveys. In brief, these are: 1) study only children up to age 6, not yet in kindergarten (or their providers), 2) study children up to age 13 (or their providers)—this is the original design, and 3) study only low-income children (or their providers). In Chapter IV we summarize these options and briefly discuss the conditions under which one or the other might be the optimal choice for OPRE. We then take each option in turn and elaborate more fully on the advantages and disadvantages of adopting it as the design for the main study. In the course of designing the NSCCSD, we have come to realize that the main study would



provide a platform for several supplemental studies which could address related and valuable research questions that are outside of the scope of the main study.

In Chapter V, we provide brief discussions of nine such supplements, including the research questions they would address and the extent to which appending them to the NSECE achieves cost efficiencies or extends their analytic utility relative to conducting stand-alone versions of the same supplements.

## II. Analysis Plan

In this chapter, we present the analysis plan for the study, articulating the research questions that have shaped the design of the questionnaires, sample design, and data collection approach—essentially, what we will learn from the study.

The study, as designed, will allow us to understand the forces that drive parental and provider behavior in their context, from both geographic and socioeconomic perspectives. Cost, parental work and school schedules, household structure, and socioeconomic status are forces that affect parental behavior. Demographics, social and economic policy, revenue source, program rules, and market forces interact to determine the workforce, prices, and characteristics of care providers.

We note that the study design and the analysis plan on which it was built both presume extensive supplementation of study data with other data sources. For example, subsidy system policies, licensing requirements, and other rules are much better measured directly from regulations than by asking providers to report them. Many of the policy questions posed below can be answered directly from the study data. Other questions will require merging external data sources with the study data.

We begin by highlighting demand-side issues that would be addressed by the study, and then focus on issues specific to providers. A third set of issues brings together families and providers.

### ***Families***

Our approach to understanding families' child care experiences and preferences has three components: usage and search behavior, cost considerations, and participation in government subsidy programs.

Understanding how parents search for care and what they use and do not use is critical for understanding how the market (or system) for early education and school-age care operates. We will have an accurate estimate of what parents are searching for and what they are actually using. This will provide a highly specific aggregate description of demand and how utilization does or does not match the search requirements of parents. We will also examine how parents search and

the criteria they use. This study permits “revealed preference” estimation. It will allow us to better understand what families think is available to them and what they prefer. By examining searches that did not result in new arrangements, a better understanding of the choice sets will be obtained. Combining this information with provider characteristics will allow us to analyze the constraints under which parents conduct their searches and will allow a fuller analysis of their child care utilization. This study will include both formal and informal providers considered, their characteristics, and factors constraining parental decision-making. Specifically, the number and age of all children in the household, parental work and education schedules, income, program participation (TANF), other individuals in the household, and ethnic and cultural characteristics will determine parental search and ultimately utilization of non-parental care and early education.

<b><i>Usage</i></b>	Who uses non-parental care, what kind of care is it, and how much is used?
<b><i>Demand Utilization</i></b>	What are the characteristics of families that use (and don't use) different types (or combinations) of child care and other ECE and out-of-school programs?
<b><i>Reasons for Non-Parental Care:</i></b>	What are the reasons that families do or do not use non-parental care?
<b><i>Reasons for Non-Parental Care—parent schedules vs. child care usage</i></b>	What are parents' work, school, and extracurricular schedules relative to their child care usage?
<b><i>Parental Search/Choice—parental methods and process factors</i></b>	How do parents search for care? What family characteristics or neighborhood factors affect the search process?
<b><i>Parental Search/Choice—care options</i></b>	How do parents perceive their options? In other words, what is their assessment of the characteristics of options available to them?
<b><i>Parental Search/Choice— aids and constraints</i></b>	What factors constrain, aid, and determine their search and choices?
<b><i>Combinations of Care</i></b>	How and why do parents assemble combinations of care arrangements? What are the attractions of combining care arrangements? What are the difficulties? What gaps are most difficult for parents to deal with?

Parents' work and school schedules are a primary determinant of what they need and use for care, as child care has become a major employment support. Because of their schedules, families often have to combine different types of care for coverage and to promote their children's development. A lack of flexible scheduling may be a barrier that prevents certain families from being able to take advantage of certain types of care. For example, do low-income parents' work

schedules prevent them from taking advantage of certain care options? Do their schedules force them to use FFN? Because of the comprehensive collection of schedules for all parents and all children, this study will provide data for a full quantitative analysis of this issue. We will also be able to see whether provider flexibility around family schedules increases the likelihood that those providers will be used.

<b><i>Family Cost Burden— child care costs</i></b>	How much are families spending on early child care and out-of-school time care?
<b><i>Family Cost Burden— % of family income</i></b>	What percentage of family income goes to non-parental care?
<b><i>Family Cost Burden— parental methods for paying for care</i></b>	How are families paying for the non-parental care they use? What fraction is not paying at all? What assistance (in-kind, direct, or indirect) do they receive?

How families balance cost and quality is an issue that needs to be understood more thoroughly if policies are to be designed to effectively address parents’ and children’s needs. Which families pay an extraordinarily high percentage of their income for child care? Relative to cost, for those families who cannot afford the highest price providers, where do they go for financial aid if they wish to receive that care? Is it financially feasible for low-income families to have the same type of care that middle- and high-income families use? Do the rates that providers charge, with or without subsidy, make some arrangements difficult or impossible for certain families to access?

To model the likelihood of receipt of public support, the design has several elements: 1) identification of the exact providers being used by the family, from administrative lists (so that those providers can be examined as CCDF providers, Head Start programs, etc.), 2) family income, 3) use of local program terms to assist in respondent recognition of applicable program participation, 4) items about co-pay requirements and linkage of child care participation with work requirements that the respondent may be aware of (even in the absence of understanding that s/he participates in the program), 5) ability to link in to local program rules, for example, to determine if a family lives in an area with a means-tested pre-K program. Several surveys and our own testing have found that parents are unable to reliably report actual amounts of subsidies received, and to correctly identify the specific subsidy program in which they participate (e.g., CCDF vs. TANF). The demand instrument therefore collects only that a particular child’s care from a specific provider is covered by some ‘help’ paying for that care, rather than the amount or program source for that

help. Parents are also asked about the amounts that they themselves pay for each care arrangement.

In the event that a family attends a program that is also in the supply survey, additional information would be available regarding that program’s receipt of public funds such as CCDF subsidies or contracts, Head Start monies, etc.

The survey takes a broad view of subsidies, including participation in such publicly funded programs as Head Start and pre-K as well as the receipt of direct subsidies such as CCDF or TANF.

<b><i>Take-up rates</i></b>	What determines which eligible families actually use government-supported programs?
<b><i>Co-payments</i></b>	What is the impact of States’ and providers’ CCDF co-payment policies and practices on choice of care for families?

The household decision to participate in a subsidy program is often complicated by what can be purchased and how the options fit with a family’s circumstances. With the data that we collected from both the family and provider sides of the equation, we will learn what affects the take up of government-supported care (Head Start, child care, pre-K) when families are eligible. Co-payments vary substantially across the country and some providers’ co-payment assessment and collection practices may provide substantial work disincentives as well as incentives for changing providers as incomes increase. Because there is variation across the country, the data will support analyses of how different co-pay levels affect utilization of different options. For example, states that require higher co-pays may see more families using FFN. It may also be that choosing programs with no cost (e.g., Head Start or pre-K) is more attractive to families than the CCDF program if copays are high.

## ***Providers***

<b><i>Variation in supply</i></b>	What is the supply of care and how does it vary? What are the characteristics of providers? How do these vary by geography, provider type, policy environment, characteristics of the local population, and regulations and administrative practices?
-----------------------------------	---

The data collected will allow extensive analysis of how the supply varies. Do the demographics of providers’ service areas drive the prices that they charge and the quality they

provide? Are providers that operate in communities with sufficient numbers of middle- and high-income families able to ignore the needs of low-income families because there is sufficient demand for certain types of arrangements (high-quality center-based care)?

Different policies affect different providers. Separate policies and funding sources exist for families below the poverty line (Head Start); low-income families who are employed, in school, or training (CCDF); and families who have children who are at risk of academic failure (pre-K). How do providers balance the requirements of each policy and the funding available through each funding source? In other words, what is the set of providers that are providing non-parental care as a function of these policies? This can be compared to the set of providers that existed as a function of the policy and funding regime in 1990.

Each community will be operating under a different set of rules based on the choices made by each state or local government relative to a particular policy. For example, the 2007 Head Start reauthorization expanded eligibility to allow Head Start grantees, under certain conditions, to fill up to 35 percent of their slots with children from families with income between 100 percent and 130 percent of the poverty line. Under what conditions do Head Start providers make that choice? Similarly, how does the choice of the income threshold and total subsidy amount affect whom a provider serves, since that varies greatly across states? Subsidy system policy relative to who has preference (e.g., TANF families), income thresholds, work-hour requirements, re-determination periods, and co-payment requirements will vary.

<b><i>Provider Finances— cost structure</i></b>	How are providers' costs structured? How do they vary by type of provider and other provider characteristics?
<b><i>Provider Finances— revenue sources</i></b>	What revenue sources do providers draw from? How does this vary by type of provider and other provider characteristics?
<b><i>Enrollment Characteristics:</i></b>	What is the composition of children served by providers? How does that composition vary by provider characteristics?
<b><i>Supply-Side Search and Rationing— child population</i></b>	What determines the number and kind of children a provider serves?
<b><i>Supply-Side Search and Rationing— recruiting/admissions</i></b>	How do providers market to, recruit, and admit children to enroll?
<b><i>Regulatory Requirements— standards and cost</i></b>	How do minimum standards affect prices and the characteristics of care?
<b><i>Regulatory Requirements— regulations and compliance</i></b>	How do providers comply with specific regulations and requirements (e.g., fire code, liability insurance requirement, group size, staff-child ratios)? How do they track compliance, and how burdensome are these obligations?
<b><i>Factors Affecting Supply</i></b>	What factors, such as policies, state and local regulation, and the local labor market, affect the supply of care?

Providers must balance multiple regulatory requirements and maintain or improve quality, while at the same time relying on public funding that is often inadequate and/or private sources of revenue that are affected by competition. This study will provide a rich array of data that will describe what providers do to balance the services they provide with the revenues they receive. For the first time, the field will understand how providers blend funding from multiple sources. It will be possible to see whether those providers who blend funding provide a different type of care from a structural perspective and service different populations than those providers who do not.

We will understand the dynamics for provision from their perspective—the stability and mix of the group of families they serve, how they recruit families, and what other services they must provide to either meet governmental regulations or remain competitive in their market. Using provider data, it will be possible to see whether providers in local areas with extensive local coordination and active local involvement in building and improving early learning systems provide more comprehensive services and use more diverse funding streams than providers in local areas with limited coordination and local involvement. Using parent data, we can document the fact that parents are able to more effectively and simply satisfy their early education and child care needs in local areas with effective early learning systems.

<b><i>Family, Friends, and Neighbors Care—variation in use</i></b>	How does the use of friend, family, and neighbor care vary across communities? Whom do FFN serve?
--	---

With this study, we will develop a comprehensive understanding, for the first time, of family, friend, and neighbor care. We will understand the FFN’s demographic characteristics and how they see their role in caring for children and helping the parents of children. This is important for policymakers in their decisions concerning the financing and support of FFN care.

<b><i>Family, Friends, and Neighbors Care—availability</i></b>	How does the availability of FFN affect the market for early and school-age care and vice versa?
--	--

We will also have data to describe and analyze how and which American families use FFN and how its availability varies by community, socioeconomic status of families, and formal child care market characteristics. This will allow us to determine how FFN use affects formal providers, because in some states where it is subsidized, it is a major portion of subsidized care.

### ***Interactions between families and providers***

<b><i>Parental Employment</i></b>	What is the relationship between the availability, cost, and characteristics of early and school-age care and parental employment, particularly the employment of low-income families?
-----------------------------------	--

The FFN issue interacts with how the availability, cost, and characteristics of early and school-age care affect parental decision-making about employment. We will see how FFN care differs among low-income and moderate-income families. If good options for care—in terms of parental assessment of cost and quality—are available to them, their labor force participation will differ from what it would if good options are not available.

<b><i>Quality of Care:</i></b>	What is the quality of early and school-age care? How does it vary by characteristics of the provider (e.g., type) and of the child (e.g., poverty)?
--------------------------------	--

Without classroom observations, the study is limited in its ability to characterize provider quality, but data collected from providers will allow extensive analysis of the structural factors in the quality of child care. How these measures of quality vary by types of programs, characteristics of families served, and geography will offer a comprehensive snapshot of where the country is on



the issue of how well children are taken care of from a developmental perspective outside of their home across the entire range of non-parental care options. In particular, having information on the professional development of the professionals who are with these children on a daily basis will inform what needs to be done to better support and prepare them.

<b><i>Market Boundaries</i></b>	How do parents and providers define the boundaries of their choice sets, markets, and catchment areas?
<b><i>Market Outcomes</i></b>	How do the prices and characteristics of care vary across child care markets?

The data from this study will allow us to define child care markets rigorously for the first time. Little is known about how parents and providers define their markets. Because the market for child care is highly localized, but varies by demographic characteristics, provider type, and geography, the measurement of supply and demand must be coordinated. Our data collection is based on the extensive economics literature on defining markets. We will have data on providers' identification of local competitors, providers in geographic clusters, and family choice sets through parents' description of their search process.

Perhaps for the first time, the information on both parental behavior and provider behavior can be brought together at a local level to understand how the market for non-parental care operates across different parts of the country. We will have an accurate depiction of the formal providers available in the area in and surrounding the region where the families in our sample live and how much care capacity these providers have (sample provider frame). From Census data, we will be able to estimate the overall size of the population that could utilize formal provider slots. Combining this Census data and sample provider frame will allow the calculation of absolute and relative slots available to families within Census tracts. An example of this estimation in Chicago is depicted below in Figure 2.<sup>2</sup> The map shows the number of state-licensed child care slots per child ages 0–5 by Census tract by Chicago community area in 2006. The tract-by-tract slots per child will affect the rates providers charge, the families they serve, and the funding sources they seek and utilize. Clearly, in those areas where there are fewer slots per child, there will be a greater demand for those slots, all else being equal, and providers will be able to be more selective.

---

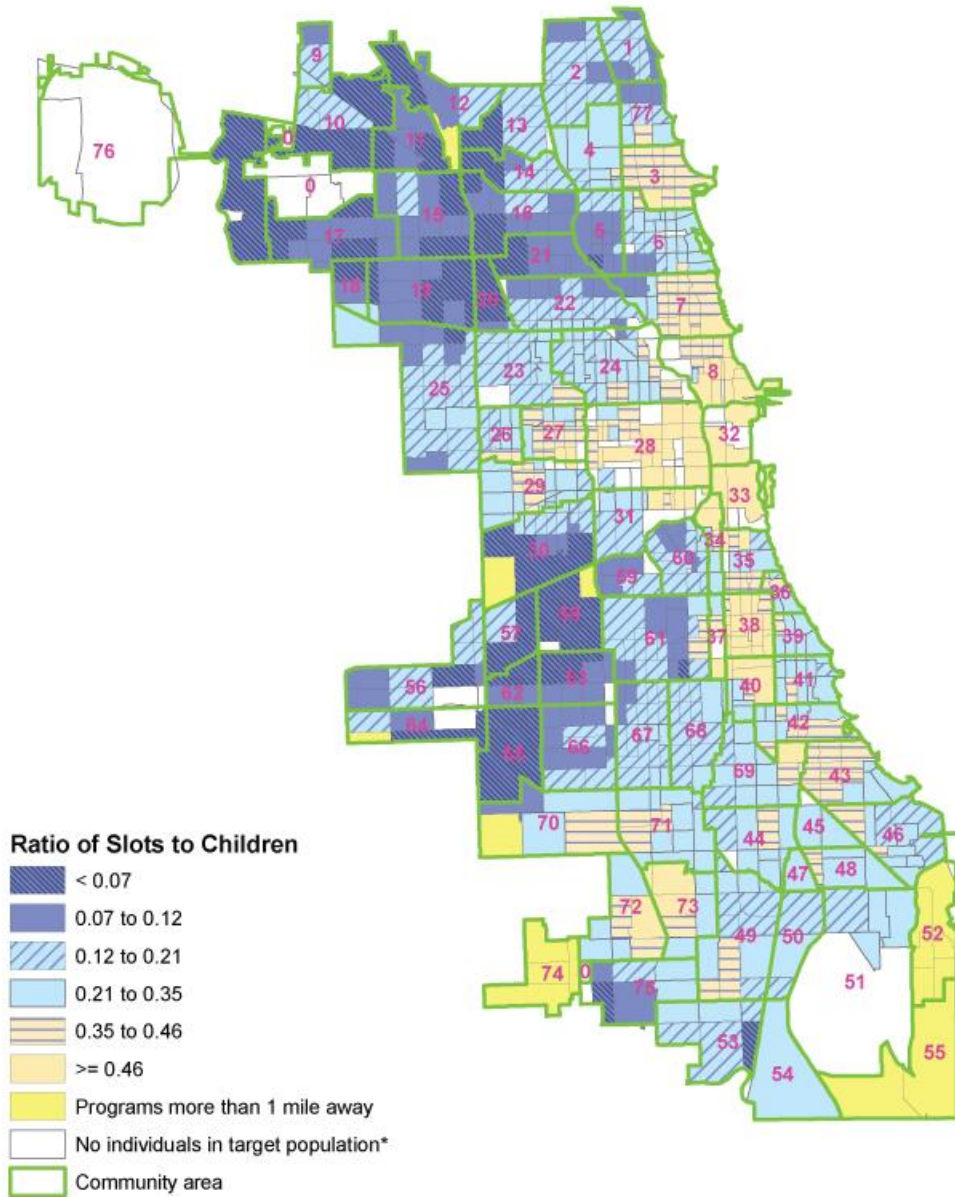
<sup>2</sup> Goerge, R., Dilts, J., Yang, D., Wasseman, M. and Clary, A. (2007) *Chicago Children and Youth 1990-2010: Changing Population Trends and Their Implications*. Chicago: Chapin Hall Center for Children at the University of Chicago.

Data from the study will allow us to understand the prices of child care across the country and how it varies by geographic, demographic, policy, and socioeconomic characteristics.

Using data from both the supply and demand side questionnaires, communities that are effectively coordinating programs and combining resources to provide more comprehensive services to children and their families will be distinguished from those that are not. To some extent, in low-income communities, this will be a state budgetary issue, in that the states are making decisions to be more or less generous in their policies. It may be less of an issue in higher income communities, where the market consists primarily of providers who are not reliant on public funds, and where coordinating programs and combining resources is more a function of the private sector than the public one.

The unique contribution of this design is in its potential to link demand and supply at a very local level. We note that data can be analyzed at the local level, but not reported at the local level.

Figure 2. 2006 State-licensed child care slots per child ages 0–5 by Census tract by Chicago community area



\*Green borders denote community area. White sections within green borders may represent, for example, census tracts that are parks, industrial areas, or not part of the city.

For example, one would be able to answer questions like, “How many providers lie within 2 miles of this household, and to what extent are they affordable to this household?” but then report the results by groups of respondents, such as those who are rural, those who are high school graduates, those who live in states with stringent licensing requirements for home-based care, etc. We do not anticipate that data would be reportable below the state level, and even at that level, standard errors and small cell sizes may preclude reporting or interpretation of some states’ data.

We close this chapter with two illustrative examples of the ways in which the various components of the proposed design will come together to inform our understanding of child care supply and demand. The examples are chosen to demonstrate the variety of information in the main study, and not necessarily to imply a particular priority level for these.

*Example: To what extent is lack of information an obstacle to parents finding child care arrangements that meet their needs?*

One reason parents choose child care arrangements that they consider sub-optimal is that adequate supply is unavailable for the arrangement characteristics considered by the parent. An additional reason might be lack of information about available care, its flexibility, or the availability of help to pay for such care. The NSECE data would address the question of information gaps in multiple ways.

- The demand questionnaire includes detailed questions about the parent’s most recent search for child care. These data will indicate the number of providers considered by the parent, search characteristics such as sources consulted and information sought, as well as the choice made.
- The provider questionnaires include detailed questions about the ways in which providers formulate outreach to prospective parents, including the types of information accessible to parents.
- Among the search questions in the demand questionnaire are questions that determine whether or not the parent was aware of the existence of certain provider types within the local area. These data can then be mapped to the “listable” provider sample frame data to understand the extent to which parents are well-informed about the types of care that exist locally.
- Other data that might indicate information quality—for example, CCR&R usage or QRIS implementation—could be merged in to the NSECE data based on geography. Analyses

could then be conducted assessing whether or not improved information quality was associated with improved matches of parents with child care arrangements.

*Example: Does the prevalence of family, friend, and neighbor (FFN) usage indicate gaps in the accessibility or availability of formal care?*

It could be that some parents use FFN because they are unable to find alternative care that meets their scheduling needs, fits within their budget constraints, or delivers quality that they find acceptable. In these situations, policy changes could alter the choices that parents make. The NSECE will shed light on this topic in the following ways.

- FFN usage can be measured in the demand survey by counting hours spent in FFN care by children of various ages. FFN usage can also be measured through the density of FFN providers identified for the informal home-based provider survey.
- The FFN survey will also collect information about the reason the provider provides care, which may include the parent's inability to find other timely or affordable care.
- Parents' work schedules are also available in the demand survey, so that we can see if parents working evening hours or irregular schedules are more likely to use FFN care during those hours or time slots. The formal provider survey will produce data on care provided on evenings or weekends and on rates charged to parents for care. These data for each parent's provider cluster will support inferences about the parent's ability to find non-FFN care that meets his/her scheduling needs and fits into the family's budget constraints within the local geographic area.
- The center-based provider survey collects structural characteristics of care. If FFN usage were higher in areas with poor measures of structural characteristics, that could be an indication that parents are opting for FFN due to dissatisfaction with available options. This would be compelling if the pattern was obtained at different levels of parental and local income.
- Child care schedules in the demand survey will enable identification of families that may use FFN in conjunction with other care arrangements, for example, to deal with unpredictable work schedules, late-night hours, or other non-traditional care needs.
- The demand survey collects information about the local presence of relatives and whether or not they would be able to provide care for young children, so the availability of potential FFN providers can be distinguished from the actual use of such providers.

For example, one could find that the percentage of local relatives who provide FFN care varies according to how affordable local formal care is relative to local median income.

- The demand survey also collects information about the search procedure, which includes information about whether or not potential providers could have covered the hours, been affordable, or offered satisfactory quality to the parent.

### III. Selected Design-Related Issues

In this chapter we discuss a few design-related issues. We begin by reviewing available datasets and the opportunities for reducing overlap across federal surveys. We then discuss the appropriate income threshold to be used for oversampling low-income and near-low-income households into the demand survey. We review information in the revised sampling report regarding the proposed sample sizes and their derivations. We close with some comments on major cost drivers, logistical constraints, or other risks to this design.

#### *Other data sources*

Any study of the size and scope of the NSECE will require a substantial commitment of research dollars. For that reason alone, it is worth considering the related data sources that present possibilities for overlap, extend the value of this dataset, or affect the value of this study.

On the demand side, a few major federal surveys overlap with the topics of the NSECE. These include the National Center for Education Statistics' (NCES) National Household Education Survey (NHES), the Census Bureau's Survey of Income and Program Participation (SIPP), and, to a lesser extent, NCES's Early Childhood Longitudinal Survey Birth (ECLS-B) and Kindergarten (ECLS-K) Cohorts. All of these are household surveys that at least capture child care usage, and in the case of SIPP, also capture cost data from nationally representative samples of households. The SIPP covers the full age-range from 0 to 13 years, and up to five age-eligible children in the household. The NHES addresses only children who are not yet school age. NCES discontinued the school-age component of the NHES some years ago. The ECLS-B and ECLS-K samples represent narrow ranges of birth years and so are not representative of the full age spectrum of the NSCCSD. The After School Alliance recently completed a study entitled "America after 3pm" that documents after-school usage among school-age youths. At the time of this writing, both the NHES and the SIPP are undergoing significant re-design. They are tentatively planned for re-fielding in 2012, but those plans are subject to change. The NHES in particular, could change substantially in the level of detail it captures, but is unlikely to expand its coverage beyond usage into such topics as parental employment or decision-making.

Table III-1. Comparison of data on early care and education collected in NSCCSD and other federal statistical surveys

Survey	Sample Population	Mode of Collection	Unit of Analysis	Early Care and Education Arrangements			
				Informal Care		Formal Care	
				Relative	Friend/Neighbor	Family Group Care	Center-Based Care
<b>1990 National Child Care Survey</b>	Households with children under 13	Telephone	Family	√	~ 1	~ 1	√
<b>Proposed National Survey of Early Care and Education<sup>2</sup></b>	Households with children under 13	Telephone and in person	Focal child, all children, family	√	√	√	√
<b>National Household Education Survey: Early Childhood Program Participation (NHES:ECPP 2011)<sup>3</sup></b>	Households with children ages 0-6 (not yet in kindergarten)	Mail survey	Focal child	√	~ 4	~ 4	√
<b>Survey of Income and Program Participation<sup>2</sup></b>	U.S. households	Telephone and in person	All children under 13	√	~ 5	√	√
<b>Early Childhood Long. Study-Kindergarten 2011 cohort)<sup>2</sup></b>	Children attending kindergarten in 2010-11	Telephone	Focal child	√	~ 6	~ 6	√

<sup>1</sup> The NCCS provides data that allows the identification of relatives but not friend and neighbor care providers. Friends and neighbors were categorized as “other people not related” and cannot be isolated as their own group.

<sup>2</sup> Information summarized reflects most recent questionnaires and sample design for upcoming studies and may be subject to change prior to national fielding.

<sup>3</sup> Information is summarized based on sample design and questionnaires compiled for the 2009 pre-pilot of the NHES re-design.

<sup>4</sup> NHES collects data on whether a non-relative is providing care, whether the care is provided at child’s home or elsewhere, and whether the provider was someone the child’s parents already knew. Data are not collected on whether other unrelated children are cared for by provider. As such, friend and neighbor and family care providers cannot be distinguished with accuracy from other non-relative care providers.

<sup>5</sup> SIPP collects data on whether care was provided by a friend, neighbor, nanny, or au pair, but does not distinguish which among these is providing care. Additionally, SIPP does not collect data on pre-existing or personal relationships with provider or whether other non-related children are cared for.

<sup>6</sup> ECLS-K collects data on care provided by non-relatives, whether it is provided at the child’s or provider’s home, and whether other children are cared for by provider. However, the data collected do not allow analysts to distinguish between friend and neighbor and family care providers.



**Table III-1 (cont.). Comparison of data on early care and education collected in NSCCSD and other federal statistical surveys**

Survey	Before/After School Care	Parental Choice	Parental Search	Child Care Quality	Work/Child Care	
					Barriers	Match
1990 National Child Care Survey	√	√	√	√	√	
Proposed National Survey of Early Care and Education	√	√	√	√	√	√
National Household Education Survey: Early Childhood Program Participation (NHES:ECPP 2011)	N/A	√	√			
Survey of Income and Program Participation	√				√	
Early Childhood Long. Study-Kindergarten (2011 cohort)	√					

<sup>1</sup> The NCCS provides data that allows the identification of relatives but not friend and neighbor care providers. Friends and neighbors were categorized as “other people not related” and cannot be isolated as their own group.

<sup>2</sup> Information summarized reflects most recent questionnaires and sample design for upcoming studies and are subject to change prior to national fielding.

<sup>3</sup> Information is summarized based on sample design and questionnaires compiled for the 2009 pre-pilot of the NHES re-design.

<sup>4</sup> NHES collects data on whether a non-relative is providing care, whether the care is provided at child’s home or elsewhere, and whether the provider was someone the child’s parents already knew. Data are not collected on whether other unrelated children are cared for by provider. As such, friend and neighbor and family care providers cannot be distinguished with accuracy from other non-relative care providers.

<sup>5</sup> SIPP collects data on whether care was provided by a friend, neighbor, nanny, or au pair, but does not distinguish which among these is providing care. Additionally, SIPP does not collect data on pre-existing or personal relationships with provider or whether other non-related children are cared for.

<sup>6</sup> ECLS-K collects data on care provided by non-relatives, whether it is provided at the child’s or provider’s home, and whether other children are cared for by provider. However, the data collected do not allow analysts to distinguish between friend and neighbor and family care providers.

On the supply side, the landscape is starkly different and sparse. Not only is there no comprehensive survey of providers of early education and care or school-age care, there are not even good lists of such providers. The 1990 Profile of Child Care Settings was the last such comprehensive survey attempted. There have been surveys by sector, for example, of Head Start programs, or after-school programs of a certain type or in a specific city. There are also data resources for selected sectors, such as the pre-K yearbooks published by the National Institute on Early Education Research. Indeed it appears that something like the supply survey designed for the NSECE would be a necessary precursor to doing additional nationally representative provider studies across sectors, for example, on specific topics such as the child care workforce, or collaborative funding by providers of early education and care.

Table III-1 shows the overlap of the proposed NSECE design with the 1990 National Child Care Study and with three other studies of households. In summary, there are some household surveys that overlap topically with the proposed NSECE design. In principle, it would make sense to reduce the overlap across these studies, but the primary area of overlap is documenting child care usage, which cannot be excised from the NSECE demand survey without compromising almost all of the study's other priorities. The primary advantage of the NHES over the NSECE would be that the NHES is designed as a repeated cross-sectional study, so there would be a time series in place to compare future and prior data. As a one-time cross-sectional survey, based on the information available to date, the NSECE should achieve the goals of the NHES with similar sample sizes.

On the supply side, the need for a comprehensive survey of child care providers from different sectors is urgent, made all the more so by current policy emphases on integration of early education services.

### ***Income threshold for low-income and near-low-income***

The Request for Proposals specified that the NSECE should oversample households that are receiving subsidies, are at risk of receiving subsidies, or have received subsidies recently. Because CCDF and TANF subsidy recipients are actually a very small proportion of the population, the middle of these groups is the largest of the three and is best approximated through household income. So the mandate for the demand sample is that it should include an oversample of households with low or near-low income.

In the Revised Sampling Report, NORC prepared estimates of the sample size implications for oversampling households at or below 185% of poverty. After reviewing sample sizes and distributions, OPRE requested that additional estimates be generated for oversampling households at or below 250% of poverty. We include those estimates in the Addendum to the Revised Sampling Report.

The motivations for oversampling low-income families are primarily that those are the families of greatest interest for public policy. They are the target groups for CCDF subsidy, TANF direct subsidy, Head Start, means-tested pre-K, and many other policy interventions for expanding access to high-quality care. The original threshold, 185% of poverty, is the eligibility level for many means-tested programs, including the National School Lunch Program, the Children’s Health Insurance Program, and Food Stamps. The CCDF eligibility ceiling is 85% of state median income, but that is a difficult (variable) threshold to implement in a national survey, and there are also very few states in which families are actually eligible up to that maximum ceiling. Families above the eligibility threshold are of interest in the NSECE for several reasons. Among them: 1) low-income families’ incomes can be quite variable, so that families meeting the threshold today may exceed it next quarter, and vice versa; 2) for policy analysis purposes, it would be helpful to have data just above the eligibility level to see the effect of ineligibility on families and to be able to make projections for what might happen under altered eligibility rules; and, 3) other research has indicated that child care affordability might be worst among lower middle-income families that are well above eligibility thresholds for subsidies, yet lack sufficient income to afford quality child care without assistance.

The various issues under consideration include: 1) how many low-income or near-low-income cases are expected in the demand survey sample and how many are required for various analyses; 2) how aggressive is the rate of over-sampling and how much does that compromise comparisons between non-low-income and low-income populations; and 3) what are the most meaningful income classifications for the NSECE analysis questions? Given these considerations, we conclude that both of the cut-offs—185% of poverty and 250% of poverty—are reasonable and feasible. In the absence of additional information on OPRE priorities, we note that the NSECE will best serve OPRE not simply by addressing today’s policies, but also as a tool for analyzing possible policies of tomorrow. To this end, having a broader range of low- and near-low-income families seems to offer greater flexibility for studying the implications of a variety of possible policies. In addition, we are compelled by the question of child care affordability among the “middle” group and

feel that this is a potentially policy-actionable topic. Indeed, recent moves toward universal pre-K or efforts at integrating early education services across sectors may have significant implications for this middle population that might not otherwise be easy to study. We note that a recent GAO review (in draft) found that in 2009, the median income eligibility level among states was about 192 percent of FPL.<sup>3</sup>

With all this in mind, we conclude that both the thresholds 185 percent FPL and 250 percent of FPL are statistically feasible choices for oversampling low-income households. With regard to the policy research priorities of the study, we recommend the 250% of poverty threshold for oversampling into the demand survey.

### ***Recommended sample sizes***

The bulk of this report comprises options for sample sizes on the demand and supply surveys, so we do not have a single set of numbers to offer at this time. We observe that we have taken care to propose sample sizes that will be adequate to addressing the highest priority analysis questions for the study, while minimizing total cost. A corollary of any sample design is that there will be some valuable analysis questions for which sample sizes are inadequate to detect statistical significance or which simply cannot be implemented in the data. Two members of the project team have recently been frustrated even by inadequate sample sizes in the American Community Survey, the largest sample survey in the nation. Sample sizes can easily be re-visited when the main study is implemented and if new analysis priorities emerge, but we emphasize the importance of clear priorities in successful selection of appropriate sample sizes.

The Revised Sampling Report and Addendum indicates the method through which draft sample sizes were constructed for the Demand Survey. Specifically, with OPRE's guidance, we identified the minimum sample size required in a single cell to detect a difference in proportions from .50 to .55 with .80 power and an alpha level of .05. We then ensured that the key univariate cell sizes would all meet that minimum. The cells most at issue were: Black, Hispanic, Low-Income and Near-Low-Income. The proposed sample sizes ensure that we achieve minimum required cell sizes for these four relatively more rare groups. A more sample intensive requirement would be to

---

<sup>3</sup> Written communication from Andrew Williams of the Child Care Bureau to Ivelisse Martinez-Beck, dated January 25, 2010.

require minimum cell sizes in certain combinations of characteristics, for example, 2-parent Black households or near-low-income Hispanic households. Trying to accommodate all such 2-way or 3-way combinations requires sample sizes that are so large as to be cost-prohibitive. If the agency had clear priorities for a small number of such cells, however, those could possibly be accommodated within a reasonable total cost study.

Most discussions below presume a sample size of 17,512 demand interviews completed with households with age-eligible children. The number of home-based provider interviews is not known, but estimated to be approximately one-third of the number of demand interviews (5,837). We propose a minimum supply survey sample of approximately 12,520 completed provider interviews, and a preferred supply survey sample of approximately 25,040 completed provider interviews. Sample sizes are discussed at greater length in the Revised Sampling Report and Addendum.

### ***Cost drivers***

There are four components to the household survey costs: households needing to be screened by telephone, interviews to be completed by telephone, households to be screened in person, and interviews to be completed in person. The more rare the population being screened for, the more expensive is the total screening effort (because more households must be screened for each eligible household sought).

In the feasibility test, we were successful with a mixed-mode approach that involved field interviewers working cases flexibly, including completing cases by telephone, completing them in person, making in-person visits to encourage self-administration of a paper-and-pencil instrument, and other variants. In this protocol, field interviewers were able to achieve high response rates at relatively low cost. The main modification we propose for the main study is that there also be a Web version of the center-based provider instrument, which was not the case for the feasibility test. A paper-and-pencil version for the main study center-based provider instrument may be feasible but will be challenging, given the complexity of the questionnaire. We reserve judgment on the usefulness of this mode, recommending that it be held in reserve for the event that an acceptable paper-and-pencil instrument is achieved and other modes are not successful in reaching response rate targets. The Addendum to the Revised Sampling Report includes a fuller discussion of the recommended data collection approach for the center-based provider data collection.

Supply survey costs, are primarily constructed off of the number of provider interviews to be conducted.

There are a number of other cost drivers that might have been manipulated, but which we have already converged on in previous discussions with the agency. The single most important is the rejection of Random-Digit Dialing as the demand survey sampling approach because of poor coverage properties among low-income and minority families. A second is the decision to include demand and supply sample in each of the 50 states and the District of Columbia. Both of these decisions increase costs relative to their alternatives. Another driver is the number of second stage units/provider clusters. The fewer the clusters, the lower the fielding cost. But the larger the clusters (as is necessary if there are fewer of them), the less they approximate child care choice set boundaries, and the smaller the sample size for analyses that treat the provider cluster as the unit of observation. We have tried to take as fixed the optimal size of provider clusters in densely populated areas, then minimized costs for determining numbers and sizes of clusters outside of those areas. All of these issues are discussed in greater depth in the Revised Sampling Report and Addendum.

### ***Noteworthy risks of NSECE implementation***

Such a major undertaking as the NSECE would necessarily face some risks. In this section, we have tried to identify and elaborate on the risks (if realized), that would have the largest impact on the study's success.

The address-based sampling (ABS) approach proposed for this study seems to be clearly the most appropriate design for the study objectives. The ABS approach has been developed incrementally over the last several years and is being adopted by almost every agency and every survey organization. Even so, stable cost estimates and response rate targets are still evolving for this design. To date, it appears that the telephone component of an ABS design strongly resembles a random-digit dial study in terms of costs per case and achievable response and completion rates. Again in terms of achievable response and completion rates and costs per case, the field portion of an ABS study resembles traditional area-probability field studies. Both the Random-Digit Dialing and in-person area-probability studies are mature data collection approaches for which survey houses can develop reasonable cost estimates and response rate projections. As of this writing, Westat is conducting a feasibility test for fielding the NHES in an address-based sampling approach using telephone and mail modes of data collection. NORC is conducting three address-based

sampling approaches, two using in-person, phone, and self-administered modes, and one using only in-person and phone modes. These include studies for the Centers for Disease Control and the Census Bureau. All of these target either households with young children, or racial and ethnic minorities, and so bear some resemblance to the NSECE design and its low-income oversample of households with children. By the time of the NSECE main study, we expect that additional fielding information will be available for survey organizations to make accurate estimates and so avoid costly over-runs or difficulties in implementing a design. We view the main risk factor of the ABS design to be the fraction of addresses that can be completed by telephone; we have attempted to be conservative in this factor.

A second risk is present for all household surveys that require screening for specific populations, and that is that fewer households will be identified than would be predicted by Census data. This risk can threaten both cost (because additional sample needs to be released), and quality (because the identified households are not representative of all eligible households). Again, we have tried to be conservative in our assumptions regarding the eligibility rates we will experience.

In terms of the design, we have submitted memoranda recommending revisions to the instruments tested in the feasibility test. We note that all three memoranda begin with recommendations for reducing administration time. We strongly urge that these recommendations be taken seriously, as the instruments without revisions are certainly too long for effective administration and maximizing of response rates. Entering data collection with overly long questionnaires will certainly jeopardize response rates, fielding schedule, and data collection costs.

Poor response rates due to lack of cooperation by survey respondents is always a risk of major surveys. In fact, it is not low response rates per se, but nonresponse bias that is the greater threat to data quality. In the case of the supply survey, one can imagine systematic nonresponse patterns, for example, among for-profit chains or public school districts, which would compromise the overall generalizability of the study results. These are populations, however, that can be successfully surveyed, so our advice is that OPRE and its main study contractor pay special attention to emerging categories of nonrespondents and implement remediating actions swiftly and aggressively to minimize those threats. (Such actions might include enlisting membership organizations or state agencies to communicate their encouragement for providers to participate in the survey, increased incentive payments to providers, or identification of selected questionnaire

items that might be omitted so that overall participation can be retained while the most objectionable items are rejected.)

Another potential risk for the NSECE is the general state of the macro-economy at the time of the main study fielding. It is likely that descriptive results of a main study conducted in a booming economy would be quite different from those of a main study conducted in the midst of a deep recession. Because child care has a strong role as employment support, and because early education can consume a significant fraction of household income, child care usage is strongly responsive to economic conditions, especially unemployment rates. Specifically, on the demand side, we may see more parents juggling schedules to use only parental care, and more families relying on family, friend, and neighbor care. On the supply side, there may be more “deaths” of providers unable to sustain themselves financially in the face of decreased demand; there may also be more responsiveness by providers to parent wishes than there would be in a time of waiting lists and excess demand. For example, the incidence of providers accepting part-time children is believed to be higher during economic slowdowns. Capturing the dynamics of child care in economic downtimes may be no less important than capturing them in economic peaks. Alternatively, it may be that the dynamics are the same, but the fractions of households and providers in varying situations may differ. Finally, as we note in one of our supplemental study designs, the main study timing may provide a unique opportunity to introduce a set of longitudinal questions that would capture changes in behavior before and after the current recession and so shed direct light on the responsiveness of child care to macroeconomic conditions.



## IV. Design Options for the NSECE

### *Summary of options*

As requested by OPRE, the Design Phase project team has considered three possible options for the demand survey: children to age 6, not yet in kindergarten; children to age 13; and only low-income children to age 13. The same three options have also been considered for the supply survey: providers to children under age 6, not yet in kindergarten; providers to children under age 13; and only providers to low-income children to age 13. In this Chapter, we discuss the relative merits and weaknesses of these variations. We begin with a summary of the issues and a comparative overview. We then turn to each variation separately and elaborate on its implications. Although we have indicated some of our own preferences, we have primarily tried to provide adequate information so that OPRE can make a final determination about its needs for the design of the main study as the agency assesses the resources available and the most urgent policy and research priorities for the study.

In reviewing these variations, there are several dimensions on which their differences are apparent. We discuss each of these briefly in turn:

- Substantive domains that can be addressed
- Alternative resources for researching these questions in other datasets
- Sample sizes and analyses that can be supported
- Other data quality issues
- Comparisons that can be made, and populations to which results can be generalized
- Cost implications relative to other variations

Having described the dimensions of difference across the various designs, we then conclude with specific comments about each of the six options and the nine possible combinations they allow.

## ***Age threshold***

OPRE has suggested that age 6 (not yet in kindergarten) and age 13 are alternative thresholds for the age-eligibility of children to be studied in the NSECE. Entry into kindergarten is clearly a milestone in children's lives, and their time spent in non-parental care changes substantially as they begin elementary school. The landscape of center-based early care and education is fairly distinct from that of center-based school-age programs, including community-based preschools, Head Start, and pre-K. These programs are generally licensed or license-exempt. Center-based programs for school-age children are a more heterogeneous collection of programs, often with different types of activities and different types of providers.

The original age 13 threshold for the study was defined in part on the basis of CCDF rules, which cover child care for children up to age 13 (and further if children have special needs). Although the 13-year cut-off is somewhat arbitrary, the fraction of families whose child care needs extend past age 13 is quite small. In contrast, almost all American families feel that 6-year-old children require adult supervision. From a policy perspective, the "optimal" age threshold to study school-age child care use may be somewhere between ages 6 and 13, but data collection considerations actually make age 13 the lowest cost threshold for studying before and after-school care. (This is primarily due to the cost of screening for households in which the desired school-age children reside: the narrower that age-range, the more expensive the screening effort.) If one wishes to understand child care issues for school-agers at all in this study, age 13 is the most cost-effective age threshold.

A primary question, then, is whether or not school-age child care issues are important for the NSECE. There are some secondary issues pertaining to data quality, logistics, and sample sizes that are also relevant to the choice of age threshold. Some of these are discussed below.

## ***Sample sizes and analyses that can be supported***

The Revised Sampling Report and Addendum and our brief discussion in Section I above describe our process of deriving sample sizes for the surveys. Cost constraints ensure that some analyses addressing important policy issues will not be possible because there will not be sufficient sample size for the population of interest. For example, studying two-parent, low-income families separately by race may be a valid policy interest, but ensuring that such analyses would yield statistically significant results requires a cost-prohibitively large sample size. Our challenge has been to identify the required number of cases for the analyses needed to support policy decisions of

greatest importance to the Administration for Children and Families and the broader early and school-age care communities, while controlling the overall study cost. The variations discussed below are all ways of re-allocating completed interviews (and therefore data collection dollars) to cases that may have greater analytic priority, for example children under age 6 or low-income families. For each variation, we discuss any changes to sample sizes relative to other options, and what those changes mean substantively in terms of additional analyses that could be supported. In some cases, there are other constraints that limit how many additional completed interviews can be achieved in a rare population but for which there are major policy questions. The sample size of Head Start programs, for example, is limited more by their relative rarity among early education and care programs and their geographic dispersion than by cost constraints per se. The sample size issue is almost exclusively about how narrowly subgroups can be defined—Hispanics only, low-income Hispanics only, low-income Hispanics in two-parent households only, etc.

On the whole, the Design Phase of the NSCCSD has focused on capturing the complexity of the provider community and family circumstances. We have chosen to collect data on all age-eligible children and all arrangements—for example, to collect intensive detail on child care schedules and parental activities—and have tried to be inclusive on the provider side to an extent virtually never seen in a single dataset (including public and community-based center care, licensed and unlicensed family child care, and family, friend, and neighbor care). Viewing child care supply from parent and community perspectives provides the best chance of understanding both parent and provider behavior. We believe in keeping with this general approach, that the primary contribution of the study would be in depicting the whole of the child care experience for all American households and providers, perhaps (regrettably) at the expense of supporting some more detailed questions about specific subgroups.

### ***Other data quality issues***

*Ability of providers to distinguish between early and school-age care provided.* Home-based providers routinely care for children older and younger than age 6 and in combinations that vary on days of the week and from week to week. It may not be possible for the majority of home-based providers to answer questions only for younger children. The same is true for center-based providers, but to a lesser extent.

*Coverage of school-age child care by programs eligible for supply survey.* The Design Phase project team articulated a definition of providers eligible for the supply survey that excludes single activity offerings (such as skating lessons or tutoring houses) and drop-in care, among other programming. We suspect that the demand survey will indicate that many parents use these types of programs as child care, especially as children grow older. While the demand survey will be able to more accurately document the extent to which school-age children are in child care programs outside of the scope of the supply survey, we begin with the expectation that the supply survey covers less than the entire set of programs which parents use for their school-age children. In contrast, we believe that the definition of supply providers for early education and care is fairly comprehensive.

*Operational considerations for the school-age care survey.* Because school-age care is not always licensed in the same manner as early education and care, and because of the heterogeneity of school-age care providers, construction of the school-age provider sampling frame is itself a heterogeneous activity, involving list-building from: K-6 schools, Statewide Networks (where they exist), YMCA and Boys and Girls Clubs, United Way grantee lists, Community Development Block Grant grantee lists, and Parks and Recreation districts. This is a time-consuming process that involves many different entities and is therefore both more expensive and more questionable than the early childhood list-building exercise. Even so, the feasibility test experience indicates that the quality of the resultant lists is quite high.

Even after the list is built, we anticipate over-sampling K-6 schools relative to their desired numbers in the supply survey sample. Our feasibility test indicates that a high proportion of K-6 schools are connected to an after-school program, whether run by the school, run by others at the school, or run off-site with a direct relationship to the school. As discussed in the addendum to the Revised Sampling Report, we plan to oversample K-6 schools, and then administer a screener to confirm the presence of an eligible school-age child care program at the school address. If confirmed, the school would be retained in the supply survey sample, or else coded as ineligible.

Based on our feasibility test experience, we believe that these procedures can yield a high-quality sample of school-age care, but the task is more costly and difficult than for early education and care.

*Parents make joint decisions based on needs of multiple children in the household.* In qualitative and quantitative work on child care decision-making, and in our own work cognitively testing our instruments, we found that parents often make child care choices based on the joint needs of all young children in the household. For example, they may select an arrangement for a younger child because of its proximity to an older child's school, or because its hours better accommodate an older child's activities. Arbitrarily restricting data collection to younger children will necessarily give an incomplete picture of parental decision-making. This is particularly important given the study's focus on parental choice and decision-making.

*Operationalizing low-income samples.* There are a variety of challenges to operationalizing low-income samples on both the demand and supply sides. These are discussed in more detail below, but we note that these challenges inherently threaten the data quality that can be achieved in implementing low-income-only designs.

### ***Comparisons that can be made, and populations to which results can be generalized***

As discussed in Chapter I above, the NSECE has multiple purposes. Some of these apply to the full spectrum of American children, for example, current practices in early education and care. Others pertain primarily to low-income children, whose access to affordable child care and whose readiness to learn in school are targets of policies at various levels of government. Statistical properties of survey samples are such that a design that is best suited for analyses of a subgroup such as low-income families, is not the design that is best suited for analyses of the full population.

A first issue is having adequate sample sizes to complete a certain analysis. That issue is discussed above. A second issue is making comparisons between groups within the survey data, for example, comparing the decision-making behavior of low-income and non-low-income families. Oversampling of groups helps meet the sample size requirements for studying the oversampled group, but increases variances in a way that makes comparisons more difficult between the oversampled group and other (undersampled) groups. This means that the more aggressive the oversampling, the less precise the comparisons between oversampled (low-income) and undersampled (higher income) groups. A third issue is the definition of the population which the survey represents, and the ability to compare the survey data with other data on the same population. Data can be nationally representative in the sense of having been selected through a rigorous probability sampling design, but if they are representative of a population that is not

meaningful in a policy sense, then the analytic findings will have only limited value. These issues are discussed more thoroughly in the Revised Sampling Report in Chapter 2.

### ***Cost implications***

Fundamentally, cost constraints are at the root of this discussion of possible design variations. Were resources unlimited, one could have adequate sample sizes for low-income and non-low-income, early childhood, and school-age providers. For comparison purposes, we have generally held constant the total number of interviews in each survey. What varies, by implication then, is the number of households requiring screening to yield that number of completed interviews on the demand side, or the number of providers per stratum that are feasible on the provider side.

### ***Detailed discussions of options***

In this section, we further discuss the specified options. The choice between the options in large part amounts to two questions:

- Should school-age care be covered by the NSECE or is it more valuable to focus the available resources on understanding the early childhood context well?
- Should the NSECE be a study of low-income households only, or is it more valuable to cover the full population of U.S. households, albeit with an oversample of low-income households?

The answers to these questions have two components: 1) what is the analytic value of the policy research area proposed for inclusion/exclusion (i.e., school-age care or comparisons with higher income households); and 2) how much more could be achieved in the narrower research area given the additional re-allocated resources?

*Understanding school-age care.* At the same time, understanding school-age care may be no less critical to supporting parental employment, promoting educational and other development of children, and ensuring that children can get the comprehensive services they need. Thus, school-age care is of tremendous policy relevance in its own right. To this end, the absence of data on the variety of school-age providers is even more severe than for early childhood providers. A supply survey that can address workforce, revenue sources, structural characteristics of care, and other dimensions of school-age care might even identify policy-relevant issues and needs that are not yet identified because of the dearth of descriptive data.

Supply surveys of school-age programs are even more limited than are supply surveys of programs for younger children. School-age program studies are almost always specific to a program (like 21<sup>st</sup> Century Community Learning Centers) or to a locality (like an urban area or a school district) and virtually never include home-based providers with centers. In that context, the contribution of a rigorously conducted national study of school-age programs might be enormous.

On balance, we see a more severe information gap on the provider side and so would prefer a broader age range of supply data if demand and supply age ranges do not match.

*Comparisons between low-income and higher income households.* A focus on low-income families excluding higher income families would address the primary populations of interest to the government. The gain would be a larger sample to address the analysis of the behavior and needs of low-income families, and a better understanding of why or why not they are using the programs they are using. The loss here would be not understanding the behavior of higher income families—in particular their use of the same resources that lower-income families use. Do higher income families have the same challenges that low-income families have? Some of what we need to know about all families could come from aggregate information provided by the supply survey, but that information may be piecemeal and not particularly satisfactory, especially if higher income families are not using the same providers as low-income families. Analysis of data from a survey restricted to low-income households cannot determine if findings are due to the family's income status.

*Re-allocation of resources—demand.* On the demand side, restricting to children not yet in school would increase the number of households with children under 6 from 12,067 to 17,512. This is because almost 70% of households with children under age 13 are also households with children under age 6. The increase in sample size for households with the youngest children is not cost neutral, because finding children not yet in kindergarten requires screening 250,363 households instead of screening the 141,477 households required to find households with children under age 13. (The narrower age range of children reduces the eligibility rate of households, thus increasing screening requirements.) The net effect is that sample sizes of households with children under 6 increase by approximately 45%, but costs also increase by about 21%.

For the cost of completing 17,512 interviews with households with children under age 13, one could complete a demand survey of 14,432 interviews with households with children under 6. We would not recommend that reduced total sample size as it would fail minimum cell size requirements for key subgroups. We agree that increasing sample sizes does expand opportunities

for analyses, especially among less-prevalent groups of high relevance for policy research (such as African-Americans, Hispanics, and single-parent households). Given the additional 21% of resources required to fund the 17,512 interviews covering children under 6, however, we would recommend simply increasing the sample size of the under 13 design by 25%. The fact that the broader age range also allows the study to address issues of school-age care simply strengthens our preference.

*Reallocation of resources—supply.* The current design proposes a minimum sample size of 12,520 “listable” providers, of whom one-fourth (3,130) would be center-based providers of school-age care. The school-age care portion of the supply survey involves two cost components in addition to the provider interviews. These are the more laborious construction of the school-age care sampling frame, and the need to screen 1.3 elementary schools to find every one elementary school that has a before/after-school program eligible for the supply survey. Re-allocating these costs as well as the costs of the school-age interviews implies increases of about 42%, from 3,130 cases per stratum to 4,469 cases each for community-based centers (other than Head Start or pre-K), Head Start and pre-K programs, and Family Child Care programs. This increase in sample sizes could permit more in-depth analyses within stratum, for example, differentiating between community-based programs that fall above or below a certain density of subsidized children.

#### ***IV.A. Demand to age 13***

*Description of option.* The demand survey sample and demand survey questionnaires were designed for this option. All households with children under the age of 13 would be eligible for the demand survey. Interviews would be conducted with 17,512 households. The age threshold for the supply survey need not match that of the demand survey.

One feature of the demand questionnaire is a “look-up” table of providers that enables us to accurately geocode every reported center-based child care arrangement as well as to know some details of the center-based provider, for example, the administrative list from which we identified the provider for the sampling frame. If the supply survey does not include school-age providers, then this feature of the demand survey would not be operational for school-age programs.

We believe that the supply survey for school-age care will be incomplete relative to the full range of activities that parents use as child care. Having demand data up to age 13 would allow us to learn what fraction of school-age care is in traditional care settings or, for example, the fraction of school-age children who are in self-care.



Similarly, other policy questions that involve linking the demand and supply sides could be addressed only if both the supply and demand surveys covered children to age 13. Otherwise, the demand survey coverage of children 6 to 13 would provide useful descriptive information about usage, parental choice and decision-making, and cost burden, but none of the linked research questions could be addressed for the older children.

This option offers the most cost-efficient screening, since it is the demand option for which the largest number of households are eligible. We support this option.

#### ***IV.B. Demand to age 6***

*Description of the option.* It is possible to implement the proposed design looking only for households with children under the age of 6. The questionnaire would then ask these households about all children under age 13, their child care arrangements, and the employment, schooling, and training of all of their parents or regular caregivers within the household. Note that the demand survey data would include children age 6 to 13, but they would be unrepresentative of all children in that age group because they would have been included in the survey only because they live in households with children under age 6. Interviews would be conducted with 17,512 households.

In this case, the questionnaire need not deal with the thorny issue of elementary school, which the current questionnaire handles as a special case. Elementary school enrollment is captured in last week's schedule of child care arrangements, but the elementary school itself is not considered a provider for who any further detailed data (like parental satisfaction, parent-provider relationship, or fees charged) is collected.

Similarly, because school-age child care is much more heterogeneous than early childhood care, we have had to make various accommodations throughout the household instrument to deal with it. As with elementary schools, the demand questionnaire omits from detailed questions any school-age child care arrangements that are not eligible for the supply survey. In the case of an early-childhood-only demand survey, there would be more uniform treatment of arrangements throughout the demand questionnaire.

In principle, one would also want to restrict to children who are not yet in kindergarten. If the demand survey screener took into account both kindergarten enrollment and age of child, then there would be some added response error in reporting the school grade accurately and the

fraction of households eligible would decrease somewhat relative to a pure age 6 cut-off. Because of different birthdate cut-offs for kindergarten entry, the sample might vary across states in its average age, with some states missing 4-year olds from the survey because they are already enrolled in kindergarten, while other states might have children as old as 5 years, 11 months not yet enrolled in kindergarten. This problem is somewhat less severe if data collection takes place in the winter (in the new year), and more severe if data collection is scheduled for the fall.

A mean age at kindergarten enrollment of 5.5 years implies that the required number of households to be screened would increase approximately 8.5%. Kindergarten enrollment is not incorporated into these cost estimates.

The cost of this option is 21% greater than that of the demand survey with the same number of interviews but including children to age 13. We believe that this is a reasonable option for OPRE's consideration, but that under most circumstances, OPRE would get a better value by investing equivalent resources in the demand survey to age 13.

#### ***IV.C. Low-income-only Demand***

*Description of the option.* OPRE is considering a low-income-only design variation for the demand survey. There are two ways to conduct a low-income-only demand survey. One is to screen every sampled household on their income status and interview those households that meet some threshold for low-income and contain age-eligible children. Another option is to sample all households with eligible children located in certain localities that qualify as "low-income localities." This document examines the feasibility of these two different ways of conducting a low-income-only demand survey. The examination is based on two assumptions: 1) households that are eligible for the demand survey must have at least one child aged less than 13, and 2) households whose income is at or below 185% of 2006 Federal Poverty Level are considered low-income households. OPRE can substitute other age or income thresholds without substantially altering the basic conclusions.

Screening low-income households. One advantage of screening sampled households by income is to spend valuable data collection dollars only on the low-income households that are of greatest policy interest. Secondly, screening at the household level makes it possible to have a national sample of low-income households, without regard to whether these households live in predominantly low-income, mixed-income, or predominantly high-income areas. It is evident that child care choice sets are affected not only by a household's own income but also by the general

characteristics of local child care supply and demand. However, there are several problems with this approach.

First of all, according to the 2006 American Community Survey data, about 26.81% of households have at least one child aged less than 13. However, only 8.79% of households have at least one child aged less than 13 *and* have an income equal to or less than 185% of 2006 Federal Poverty Level. In other words, the eligibility rate for a low-income-only demand survey is only 8.79%, almost one-third of the rate if we don't consider the income level of the sampled households. This difference in eligibility rates has a huge impact on sample sizes. In the Revised Sampling Report and Addendum, we found that about 736,659 telephone lines would be needed to generate 17,512 completed household interviews if the survey sample were not conditioned on household income. However, keeping everything else constant, 2,246,853 telephone lines would be needed to generate the same 17,512 completed interviews for a low-income-only design. Screening households by income at least triples the sample size needed and the associated cost. Table IV-2 shows the sample size comparisons between a low-income-only demand survey and the original demand option which samples households at all income levels.

Secondly, income is a sensitive topic that is infamous for incurring a large amount of item nonresponse. Potential respondents could be turned off or even offended by being asked upfront about their financial situation; as a result, they would refuse to answer the questions about income. Item nonresponse to the screening question has a negative impact on the unit nonresponse rate or cooperation rates to the main study. And because of this item nonresponse, an even larger sample would be needed, which increases cost. Furthermore, any survey employing screening encounters an important degree of undercoverage, ranging from 20-40% depending on the mode of interview. That is, the survey tends to screen in 20-40% fewer eligible households than would be indicated by Census statistics. This undercoverage would be a greater issue for surveys screening by income given the sensitivity nature of the income screening questions. Therefore, we would expect a much higher undercoverage rate if screening were to be done on the demand survey.

Table IV-1. Sample size comparisons between a low-income demand survey design and a design that does not screen for income

Stage of Survey Operation	Screening Households for Children <13 (Table 2.17 in the Sampling Report)		Screening Households for Children <13 and Income at or below 185% of Poverty Level	
	Factor (%)	Sample Sizes	Factor (%)	Sample Sizes
<b>Hybrid Survey (35% phone and 65% face-to-face)</b>				
Released sample lines	100	198,892	100	720,535
Released telephone numbers	35	69,612	50	360,267
Prefinalized outside telephone center	44	30,629	44	158,518
Released to telephone center	56	38,983	56	201,750
Advance letter sent	60	23,390	60	121,050
Resolved telephone numbers	81	56,386	81	291,817
Working residential numbers	25	14,097	25	72,954
Released address lines	65	129,280	50	360,267
Advance letter sent	100	129,280	100	360,267
Occupied housing units	88	113,766	88	317,035
Completed screening interviews	89	113,798	89	347,091
Eligible households by Census data	<b>26.81</b>	30,509	<b>8.79</b>	30,509
Eligible households after allowance for undercoverage	70	21,356	70	21,356
Complete household interviews	82	17,512	82	17,512
Eligible children with completed household interview	<b>1.72</b>	30,121	<b>1.93</b>	33,799

It is possible for undercoverage to be random—that is, for the identified households to resemble the eligible-but-unidentified households on observable characteristics. In this case, the undercoverage is not problematic for data quality, although it does still increase screening costs because excess households must be screened to achieve sample size targets. In the case of screening on income, we would expect that the undercoverage would not be random, and that some of the households that refused to report their income would be systematically different from the ones we were able to screen. This would result in a survey sample that was not, in fact, representative of the desired population: low-income households with children under the age of 13.

We note that even in our basic design for households from all income levels, we proposed a strategy for oversampling that would generate an oversample of low-income households without screening on income, given these strong disadvantages. We retain that mindset here by strongly recommending that households not be screened for their income.

One alternative to screening on income itself might be to screen on correlates of income. Income can be predicted fairly well from a set of variables including age of household head, education of household head, number of household members, number of working adults in household, and weeks worked last year by household head. All of these items are less sensitive than income itself. Asking these items instead of income would be a possible approach to pursue if it were absolutely necessary to seek low-income households without asking income. The disadvantage here is that long screeners tend to be ineffective in the same way that sensitive screeners are—fewer households complete the screener, there is greater undercoverage, possible nonresponse bias, etc. Moreover, such an approach could do quite well at finding low-income households, but would still incorrectly screen in many households that were statistically likely to be low-income but whose actual income did not fall below the desired threshold.

In any event, given much higher rates of “cell-phone only” and “cell-phone mostly” households in low-income areas, we expect that our mixed-mode data collection approach will be less effective in these areas, resulting in higher rates of in-person data collection and therefore, higher costs.

Sampling households in low-income geographic units. The second option avoids screening households by income. Rather, localities (e.g., communities, neighborhoods, or Census tracts) that meet some definition of low-income could be sampled, and households in these areas could then be interviewed for the main study. The advantage, compared to the first screening approach, is that we

would not be concerned with undercoverage associated with screening for income and the large item nonresponse associated with income questions. There are, however, disadvantages to this approach as well.

First, the choice of the geographic unit at the last stage of sampling (in the case that all households in that geographic unit are to be sampled) and the second-to-last stage of sampling (in the case that a subsample of households is to be taken) is critical and has a huge impact on the actual number of low-income households sampled. Presumably, the larger the geographic unit (e.g., county), the larger the chance that more high-income households will be brought into the sample. However, the smaller the geographic unit (e.g., Census blocks), the larger the chance that we would need to sample more blocks so that we would have enough low-income households in the resulting sample. The more blocks sampled, the larger the cost associated with visiting and interviewing these blocks.

Secondly, population data have to be available for the geographic unit where the last or the second-to-last sampling is to be taken. Census 2000 data provide income distribution up at the block level, but it is outdated. Census 2010 data on income won't be available for another five or six years. The best bet would be to use the five-year American Community Survey; however, there the smallest geographic unit will be Census tracts when those data are released in the fall of 2010.

The trade-off on the geographic unit to be sampled is not simply a statistical and technical one, but also substantive. Whatever the definition of low-income locality used (e.g., 60% or more households below 185% of poverty, median household income below 185% of poverty, etc.), there will still be some households within that locality that are not themselves below 185% of poverty. Thus, the survey sample would include households that are within low-income localities, but not necessarily low-income themselves. It is possible to reduce the proportion of non-low-income households that are selected by increasing the stringency of the low-income locality definition. (For example, one could require that 80% or more of households be below 185% of poverty, or that the median household income be 100% of poverty rather than 185%). As the stringency of the definition increases, the number of non-low-income households selected will decrease. At the same time, we are implicitly defining the population of the survey through the locality definition. In effect, this design does not yield a survey of low-income households with young children, but rather, a survey of low-income households with young children *who live in localities with high*

*densities of low-income households.* As the stringency of the locality definition increases, the proportion of all U.S. low-income households that live within the qualifying areas will fall.

In short, we do not see a design for a low-income-only sample that would meet OPRE's needs for the NSCCSD. Given the prohibitive cost of screening for low-income households and the undesirable results of sampling only low-income communities, our sense is that the most cost-effective means for OPRE to double the available sample size of low-income households in the NSCCSD would be to simply double the sample size of the demand survey as currently designed. Although costly, the quality and value of such an option would be assured, while these other options do not offer that assurance.

We provide an estimate for the option of screening for low-income households. The resources required for the low-income community option would be similar to those required for the general population demand survey with the same age-eligibility criterion. We advise against this option.

#### ***IV.D Supply to age 13***

*Description of the option.* The NSECE supply survey would cover all providers of child care for children under age 13 except: single-activity programs, drop-in programs, and programs that provide only summer or holiday care. Interviews are proposed with a minimum of 12,520 "listable" providers, with equal numbers (3,130) in each of four strata: community-based centers (not including Head Start and pre-K), Head Start and pre-K, Family Child Care, and school-age center-based care. Specifically, this design would yield 9,390 formal providers.<sup>4</sup> In addition to costs of completed interview, the costs for this option include efforts required to build the school-age sampling frame and screen K-6 schools for the presence of eligible school-age care programs. Despite these additional study costs, we believe this is an attractive option for the supply survey.

#### ***IV.E. Supply to age 6***

*Description of the option.* A supply survey addressing only providers of care to children up to age 6 (not yet in kindergarten) would begin with the construction of a frame of early education

---

<sup>4</sup> If resources permitted, we would recommend a sample size of 25,040 completed interviews with 'listable' providers, again with equal numbers in each of four strata. The expanded sample size would permit analyses within as well as across strata.

and care providers only. The demand survey age range need not be the same as that for the supply survey. Completing the same number of provider interviews (12,520) in this narrower age group would result in some cost savings relative to the option up to age 13. Alternatively, OPRE could choose to invest in the same level of funding in the supply survey, in which case interviews could be completed with 13,407 providers, 4,469 in each of three strata: community-based centers (not including Head Start or pre-K), Head Start or pre-K, and Family Child Care.

We discuss several threats to data quality that are likely to be associated with the restriction of the supply survey to early childhood providers only. Specifically, we are concerned that data from home-based providers will be less precise and accurate for the under 6 population when those providers also provide care for school-age children. These providers frequently care for children above and below 6 years of age, and the questionnaire's approach of asking providers to report various data points only for a certain age range becomes more problematic as the range narrows. There is something arbitrary even about asking providers to report only about care provided to children under the age of 13, but we believe that the large majority of providers will already fall exclusively under this threshold. As the threshold falls below 13, we will be asking more and more providers to attempt to segment their information in ways they are not accustomed to. This violates a central tenet of survey research, which is to ask for information as it is easiest for respondents to provide.

As we noted in discussions IV-A and IV-B, if there is no school-age provider survey, there will be no school-age provider sampling frame. As a result, the "look-up" table of providers will not be available in the demand survey for school-age providers. This table enables us to accurately geocode every reported center-based child care arrangement as well as to know some details of the center-based provider, for example, the administrative list from which we identified the provider for the sampling frame.

We view this as a reasonable option for the supply survey.

#### ***IV.F Low-income-only Supply***

*Description of the option.* We begin by reiterating that one of the signal contributions of the NSECE would be a high-quality, comprehensive survey of providers of early and school-age care and education across the nation. We see any reduction of the scope of that survey as an unfortunate opportunity lost. Whether from the perspective of understanding overall early education and care quality and usage, or with an eye toward comparing low-income and other segments of the



population, we see a comprehensive supply survey as essential for forward progress in early education policy. For this reason, we discourage OPRE from choosing this option for the design of the supply survey. Nonetheless, for completeness, we specify how such an option might be implemented.

The low-income-only supply option would call for a survey of providers for low-income families only. Conceptually, it is unclear how one could define “provider to low-income family,” and even if you could define it, whether or not a provider could tell you their status as such. In principle, a provider to low-income families might have a certain proportion of families who fall below a certain income threshold, but many providers have poor or no data about the household income of their families, and so could only guess at their proportions of poor or near-poor families.

One operationalizable alternative would be to consider providers that are located in or near low-income families, for example, any provider that falls into the “provider cluster” of a tract with a certain density of low-income families. For example, one could use the provider clusters for any tracts included in a low-income-only demand survey. If the demand survey were not restricted to low-income households, one could still sample providers only from the “high-density-low-income” tracts of the demand survey as a means of achieving a low-income-only supply survey. These designs would be better defined, but would still collect data from a range of providers. In fact, it is possible in mixed-income areas to have providers that are physically adjacent to one another but which have close to no overlap in the types of families that they serve. The result might be a national survey of providers that serve a broad swath of American households, but that is difficult to generalize from or compare to other data on providers.

As discussed above, the family, friend, and neighbor (FFN) component of the supply profile comes from the demand survey. If a low-income supply survey were implemented, one might choose only to spawn FFN providers from the low-income areas of the demand survey. These too, would include some non-low-income FFN providers among the low-income FFN providers.

Depending on which option was chosen for the demand survey, some fraction of demand survey households (from non-low-income areas) might not have providers in their provider clusters if the low-income-only supply option were elected.

We believe that research into providers to low-income families would likely be much better supported through implementation of a general population supply survey which can then be

subsetting to study providers who may serve low-income families, for example, Head Start programs, means-tested pre-K programs, programs with low fees relative to the local market, programs with high rates of subsidy usage, or programs reported frequently by low-income families in the demand survey.

Perhaps the biggest risk of this option is that there seems to be no clear, implementable, definition of a provider to low-income families. It is possible that this design could be implemented, but that subsequent analyses would indicate that this approach did not provide a good sample of providers serving low-income families. In addition, in IV-C above, we discuss various logistical issues with implementing the low-income demand option. If the low-income supply option were linked to that design, those same issues would apply here.

The cost of completing a low-income-only supply is roughly the same as completing the general population supply survey for children up to age 13. There would likely be some shifting of costs with variations in the total number of SSUs and the numbers of SSUs within certain PSUs, but they are likely to approximately cancel one another out. We advise against this option.

Table IV-2. Summary of implications for each proposed variation

Demand	
<b>Less than 13</b>	<p>This variation provides 1.72 children per household across 17,512 households. In this case, 17,512 household interviews would yield 30,121 children. Approximately 11,802 (67.4%) of the 17,512 households would include children under age 6, not yet in school. This variation would spread small cells (like low-income, Black and Hispanic) across young and school-age children’s households. For example, one might not be able to detect a 5 percentage point difference between Black and Hispanic households if the analyses were restricted to children under age 6. (The difference should be statistically significant for Black and Hispanic households with children under age 13.)</p> <p>The only household survey (other than the NSECE) generating data about school-age child care use will be the Re-engineered Survey of Income and Program Participation (Re-SIPP).</p> <p>The supply survey design likely covers something less than the full range of programs that parents use as child care for school-age children. Only through this demand survey option would we learn what fraction of school-age child care is actually provided outside of traditional school-age care providers.</p>
<b>Less than 6</b>	<p>Holding total completed interviews constant, approximately 65% more households need to be screened to support a sample of households with children under age 6 instead of under age 13. This amounts to approximately 21% additional cost for the demand survey over the cost of the demand survey to age 13. A survey focusing on children under age 6 with 17,512 completed household interviews would include 1.36 children per household, for a total of 23,816 children.</p> <p>To the extent that researchers analyze younger and school-age children separately, restricting to age 6 yields approximately 50% more cases in such cells as households with Black children under age 6, households with Hispanic children under age 6, and households with incomes between 125-250% of poverty having children under age 6. These cells would then be adequately large to detect a 5 percentage point difference with statistical significance.</p> <p>Another group that would increase sample size in this variation would be users of Head Start or pre-K programs, but these groups are still not likely to achieve large enough numbers to generate statistically significant differences.</p> <p>The obvious limitations of this age restriction would be the inability of the demand survey to speak at all to issues of school-age care, including the transition to school for 6-8 year olds.</p>
<b>Low-income-only</b>	<p>It’s likely that a low-income-only demand sample would still include a sizable fraction of non-low-income households. The result would be that while there were large numbers of low-income households to study, very few, if any, meaningful comparisons could be made with non-low-income households, and in fact, the non-low-income cases could probably not be meaningfully analyzed on their own. For example, one comparison that is often used for policy and funding purposes is the proportion of income that is spent on early and school-age care by lower and higher income families. A low-income-only sample would preclude this type of analysis except for the weakly defined notion of higher income families living in low-income areas.</p> <p>Many household data sources exist for supplementation on usage and cost burden of low-income vs. higher income families. But these data sources would not support comparison of low-income vs. higher income families on scheduling of employment and child care, parental search, or questions blending supply side and demand side information. Such comparisons may</p>

	<p>be critical for informing policies regarding equal access, or those trying to affect behaviors such as age at entry into center-based care.</p> <p>Because the FFN sample is spawned from screening households being screened for the demand survey, a low-income-only demand survey means that the FFN component of the supply survey would also be restricted to low-income households.</p> <p>This option is not recommended.</p>
<b>Supply</b>	
<b>Less than 13</b>	<p>We recommend a minimum sample size of 12,520 formal providers, and a preferred sample size of 25,040 formal provider interviews. Of these, three strata (3,130 each in the minimum sample) will draw from early care and education, while the fourth stratum will cover school-age programs. There is qualitative and quantitative evidence that parents choose child care arrangements jointly for all of their children. In this case, understanding the supply of school-age programs would enhance the understanding of parental decision-making for young children as well.</p> <p>There is even less data on the universe of school-age programs than for early childhood programs, so the need for a good school-age survey is dire..</p> <p>Provision of care and developmental support to school-age children’s out-of-school time is of high policy interest. Exclusion of school-age children may reduce potential funding partnerships.</p>
<b>Less than 6</b>	<p>This option includes only early care and education programs. Dropping school-age programs would permit a small expansion of sample sizes for early education programs (perhaps 25%). Because these are heavily dominated by community-based preschools and licensed family day cares, the analytical advantage of additional early education programs may be relatively small.</p> <p>The numbers of completed interviews with Head Start and pre-K programs would rise, but these numbers are mostly limited by the total numbers of such programs in the country, not by sampling decisions. In order to achieve substantially larger numbers of such programs, one would have to abandon the provider cluster model, or introduce a larger number of provider clusters into the sample. Doing the latter reduces the average number of providers per cluster, and so limits the types of analyses that could exploit the provider cluster design.</p> <p>The main advantages of this option are 1) to avoid the messiness and logistical challenges of building the school-age supply sampling frame, and 2) to achieve a small gain in analytical power from additional Head Start and pre-K providers, which will still be quite few.</p> <p>There is some concern about data quality as providers may not be able to report accurately for the artificially designated “under 6” group if they also care for older children.</p>
<b>Low-income-only</b>	<p>The notion of “provider to low-income families” is neither well-defined nor easily operationalized. If such a sample were constructed, the population it represented would be quite idiosyncratic to the NSECE design. Generalizing to populations of policy interest or comparing with other datasets would be extremely difficult.</p> <p>A comprehensive supply survey (including low-income and non-low-income providers) would be an essential source of information for policy-making. Provider-level data do not exist for a national sample of providers from all sectors, including publicly funded, home-based and community-based private care. Such data would be enormously informative for policy. For example, they would allow documentation of the degree to which the equal access requirement of various programs is being met. This option is not recommended.</p>

Table IV-3. Implications for combinations of supply and demand-side variations

Demand	Supply		
	Supply < 6	Supply < 13	Low-Income-Only Supply
<b>Demand &lt; 6</b>	<p>Transition to school (ages 6 to 8) is of direct relevance to early learning policy, but these young school-age children would not be included in the study at all.</p> <p>Can't address any school-age questions or the interactions of families' school-age needs with early childhood needs.</p> <p>Likely data quality effects on data from home-based providers.</p>	<p>Would not be able to assess the extent to which the supply survey suffers from undercoverage of types of care that families use for school-age child care (but that are not traditional child care providers).</p> <p>On balance, we see a more severe information gap on the provider side and so would prefer a broader age range of supply data if demand and supply age ranges do not match.</p>	<p>A comprehensive supply survey (including low-income and non-low-income providers) would be a unique source of information. The low-income-only supply option is not recommended.</p> <p>A comprehensive supply survey (including low-income and non-low-income providers) would be an essential source of information for policy-making. The low-income-only supply option is not recommended.</p>
<b>Demand &lt; 13</b>	<p>For school-age children, essentially have no provider cluster information to provide context. Research questions examining the interaction of demand and supply for school-age care will not be addressed.</p> <p>The provider look-up feature of the demand questionnaire would presumably not be available for school-age programs if no school-age sample frame were built for the supply survey.</p>	<p>Core (original) design.</p> <p>Somewhat smaller sample sizes for early childhood only households.</p>	
<b>Low-Income-Only Demand</b>	<p>Won't have full FFN coverage. This is a severe limitation.</p> <p>Demand survey data would provide some information on local usage, but could not be used to compare low-income families with higher-income families.</p>		

## **V. Selected Supplements to Research Design**

In the memoranda below, we lay out nine potential supplements to the main study that we feel are worthy of OPRE's consideration. These are not fully designed supplements, merely brief descriptions of additional research efforts that might complement and supplement the main study. We call particular attention to Supplement A, regarding the merging of administrative data from government program records into the demand survey data in order to have accurate participation information for households in such programs as CCDF, TANF, Food Stamps, and/or Unemployment Insurance. We strongly recommend that OPRE consider this supplement as a necessary component of the main study rather than a possible supplement. Given the importance of CCDF and other subsidy usage in the Department of Health and Human Services' support to low-income families and the relatively low cost of administrative data acquisition relative to overall main study expenditures, we feel that household-level administrative data should be incorporated into the main study design. Doing so is essential to fulfilling the objectives and potential of the main study.

## ***A. Enhancing NSECE Demand Survey Responses with Administrative Data***

(R. Goerge, Chapin Hall Center for Children at the University of Chicago)

### ***I. Description of supplement: Administrative data options (demand)***

One major addition to the demand study would be the careful compilation and preparation of child care subsidy utilization administrative data. While the universe of such data is not computerized in all states, it is in many, and may be available locally at the county or service office level. Having accurate data on who received the CCDF subsidy would be a valuable addition to the demand survey. Another option is to collect the TANF administrative data.

### ***II. Importance to the analytic agenda***

Many questions around the use of government-funded child care subsidies have been discarded from the main study because of expert advice and our own feasibility and cognitive test experience that one could not collect accurate data on the receipt of the subsidy from parents. Given low rates of subsidy use, even among poor families, the number of demand survey families receiving subsidies at the time of the survey is expected to be quite small. Even so, administrative data would powerfully extend the ability of the survey data to address questions related to the subsidy system more fully.

### ***III. Costs/benefits of linking to the main study***

This supplement would not need to be conducted at the same time as the main study, but the tremendous value of using the main study sample (whenever the administrative data could be gathered and analyzed) would be to enhance the information available in the main study data on households' participation in subsidy system programs. (The proposed demand survey questionnaire does attempt to secure informed consent for these records. If consent is received from the parents at the time of the household interview, data may be obtained at a later time from the state or county agencies. In fact, it might need to be given lags in data collection.)

Stand-alone studies of administrative data can be useful, but both the administrative data and the main study survey data would be enriched by linking the samples. In addition, it would be very difficult and perhaps cost-prohibitive to construct a sample for an administrative data study

that was nationally representative of all households (even those who do not appear in these specific administrative records).

## ***B. Supplementing State-Level Samples***

(R. Goerge, Chapin Hall Center for Children at the University of Chicago)

### ***I. Description of supplement***

The NSECE demand and supply survey designs call for some sample in each of the 50 states and the District of Columbia. The sample within each state will be randomly selected and representative of the state, but may not be sufficiently large to support state-specific analyses.

Both the demand and supply survey samples are being designed so that states could elect to increase the sample sizes in their states. A state could choose what sample it wanted to augment. It could add household cases to: 1) the general household sample, 2) the low-income sample, or 3) specific cases identified through their administrative data (TANF, child care subsidy recipients). There could also be additional cases added to the provider samples or specific type of providers (FFN, center-based care, Head Start, universal pre-K).

Another possibility would be for states to augment the sample frame with additional administrative data that is available to them. This cost would be quite minimal, since it would not involve additional data collection.

If any other supplemental studies are undertaken, states could also opt-in to these studies to add sample, or they could supplement the demand and/or supply samples and then choose to conduct one of the supplemental studies as well. For example, if an observational study of child care quality was undertaken, additional providers could be included in such a study.

OPRE could choose any one of several mechanisms for funding these state-level options. This has been done in other national studies (e.g., NSCAW, BRFSS) which offer funding models. The principle would be that states or state partners (such as foundations or other organizations) could elect to supplement specific samples. They would likely enter into a contract directly with the NSECE main study contractor for that supplementation. Ideally, supplementation decisions would be made prior to the selection of the main study sample, which is likely to be in the late fall of 2010, after the release of the ACS five-year estimates.



## ***II. Importance to the analytic agenda***

Given how much authority states have to make policy in the area of early education and school-age care, it is important to understand the study topics *within the state*. While the national study will be able to describe differences by type of geography and demographics (urban vs. rural, low-income vs. moderate-income), there may be only a handful of states in which the core NSECE sample would have enough sample to support stand-alone analyses.

## ***III. Costs/benefits of linking to the main study***

The benefit of this would be to allow sufficient sample size to conduct analyses within the state and only pay for the marginal costs of adding cases. States with sufficient sample sizes could compare their state to the entire nation or to a subset of states that are similar to their state (large states, southern states, etc.). A clear understanding of how early education and school-age care varies across the state could have implications for resource allocation. Data from a state-specific sample could provide a solid basis for understanding what the state had been doing and what the state might do in the future. States make choices within the context of the CCDF and TANF funding around which families are eligible and how much they will pay. States also are the lead authority for making decisions about pre-K initiatives.

The cost, although potentially significant depending on how much additional sample size might be required, will certainly be considerably less than if a state mounted its own study. It would save on design, screening, and software programming costs. It could also be argued that through this mechanism, quality may be better or, at least, more consistent.

## ***C. Options for an Embedded Observational Study within the National Study of Child Care Supply and Demand***

(N. Forry, L. Guzman, M. Zaslow, Child Trends)

### ***Overview***

The purpose of this set of options is to propose different approaches for embedding an observational study of the quality of early and school-age care and early education settings within the National Study of Child Care Supply and Demand.

An observational sub-study of early and school-age care and early education settings from the supply side of the study could be used to address two objectives of the Child Care Supply and Demand Study. First, it would contribute observational data on quality to a comprehensive descriptive national portrait of the supply of early and school-age care/early education. Second, it would offer quality information to assist in understanding the care offered through a spectrum of publicly supported early care and education programs.

An observational sub-study of early and school-age care and early education settings from the demand side of the study could be used to address the study objective of contributing to a better understanding of how families make child care choices. Despite this benefit, the costs of obtaining data for a representative sample of children are prohibitive enough that we do not recommend an embedded observational study of quality from the demand side.

As research designs using assessments of quality are closely tied to the purpose for which data are collected, we have outlined four options for a supply-side observational sub-study of early and school-age care and early education. Across all of the options, we note that such an embedded study would make it possible to relate observations of quality with data in the supply/demand surveys.

A review of the content regarding quality in the draft supply survey shows that data are proposed to be collected on: 1) provider flexibility, communication, and relationships with parents, 2) provider referrals/provisions of ancillary services, 3) priorities of the management in care provision, and 4) activities offered to children. An embedded study using direct observations of quality would make it possible to relate observed quality to these facets of quality as reported on briefly by providers. It would also be possible to look at differences in quality by program characteristics, such as mixed funding streams, geography, provider type, policy environment, characteristics of the local population, and regulations and administrative practices.

If a link is made between providers sampled for the embedded observational quality sub-study and the child care arrangements of families participating in the demand survey, the quality data obtained from the observational study could supplement some of the information gathered in the demand survey. For example, regarding their current child care arrangements, parents are asked for an overall summary rating of perceived quality, selected Emlen items regarding perceptions of the quality, and questions about their relationship with the caregiver and supports that the caregiver provides beyond caring for the child. If a link existed, it would also be possible to

look at differences in quality by demographic subgroups, such as income and parental employment status.

In conducting an embedded sub-study of observed quality, important choices would need to be made about the population to be sampled and the measures to be used. Also important to consider are the sample sizes needed to sustain analysis. Below we present four options for a supply-based embedded observational study of child care quality.

- Option 1: Comparing Center and Home-Based Care among 3-5 Year Olds
- Option 2: Looking Across the Age Range in Center-Based Care
- Option 3: Comparison of Different Types of Center-Based Care among 3-5 Year Olds
- Option 4: In-Depth Study of Infant and Toddler Care in the Formal Market

Though we do not offer a rank order for the options listed, these options could be prioritized from two perspectives: gaps in the knowledge base and policy priorities. If gaps in the research base are the main concern of the design team, then we suggest obtaining data on the quality of infant and toddler care (Option 4). Alternatively, if the design team is primarily concerned with collecting data that will shed light on policy priorities, we suggest a study of quality comparing data from center-based programs of different types or funding mechanisms (Option 2).

## ***Option 1: Comparing Center and Licensed Home-Based Care among 3-5 Year Olds***

### ***I. Description of supplement***

The priority here would be to focus on licensed care both in home-based and center-based settings serving preschool age children between the ages of 3 and 5 years. This approach would build on the availability of measures that can compare global quality, availability of language/literacy materials, and curriculum supports across center- and home-based care serving children in the 3-5 year old age range. Additionally, this approach would target efforts at preschool-age care, which has received substantial public investments through universal pre-K and Head Start. To assess global quality, we propose using the Early Childhood Environment Rating Scale–Revised (ECERS-R)<sup>5</sup> in center-based care and the Family Child Care Environment Rating Scale–

---

<sup>5</sup> Harms, T., Clifford, R. M. and Cryer, D. (2005). *Early Childhood Environment Rating Scale—Revised Edition*. New York: Teachers College Press.

Revised Edition (FCCRS-R)<sup>6</sup> in home-based care settings. To assess stimulation for early literacy using common measures across the two types of settings, we propose using the Early Language and Literacy Classroom Observation (ELLCO)<sup>7</sup> in center-based care and the Child/Home Early Language and Literacy Observation (CHELLO)<sup>8</sup> in home-based care settings. Finally, we propose using the Early Childhood Environment Rating Scale–Extension (ECERS-E)<sup>9</sup> to assess curriculum support. The ECERS-E has recently been used successfully in both center and family child care settings.<sup>10</sup>

## **II. Importance to analytic agenda**

The data resulting from the Option 1 embedded observational study would provide a description of the care offered by a representative sample of licensed center and home-based settings serving children aged 3-5 years. This option would add observational quality data to assist researchers in addressing the following groups of high priority questions: “What is the supply of care and how does it vary? What are the characteristics of providers? How do these vary by geography, provider type, policy environment, characteristics of the local population, and regulations and administrative practices?” and “What is the quality of early care? How does it vary by characteristics of the provider (e.g., type) and of the child’s family (e.g., poverty)?”

## **III. Costs/benefits of linking to the main study**

This approach would make use of newly developed measures for quality that go beyond global ratings to look at stimulation for language and literacy and curriculum support in both

---

<sup>6</sup> Harms, T., Cryer, D. and Clifford, R.M. (2007). *Family Child Care Environment Rating Scale (Revised Edition)*. New York: Teachers College Press.

<sup>7</sup> Smith, M.W., Brady, J.P. and Anastasopoulos, L. (2008). *Early Language and Literacy Classroom Observation: Pre-K Tool*. Baltimore, MD: Paul H. Brookes Publishing Co. Note the ELLCO was developed for children in the 3-5 age range only.

<sup>8</sup> Neuman, S., Dwyer, J. and Koh, S. (2007). *Child/Home Early Language and Literacy Observation Tool (CHELLO)*. Baltimore, MD: Brooks Publishing. Note the CHELLO was developed for children in the 3-5 age range only.

<sup>9</sup> Sylva, K., Siraj-Blatchford, I. and Taggart, B. (2003). *Assessing Quality in the Early Years. Early Childhood Environment Rating Scale Extension (ECERS-E): Four Curricular Subscales*. Stoke on Trent, UK: Trentham Books.

<sup>10</sup> Bryant, D. (2009). *Delivering and Evaluating On-Site Consultation in a 5-State Collaborative Study*. Presentation at the Public Policy Meeting of the National Association of Child Care Resource and Referral Agencies, Washington, DC.

center- and home-based types of care. A benefit of this option is that it would build on measures that have been calibrated across types of care. Additionally, by using one observer to assess both the FCCRS-R/ECERS-R and ECERS-E, only two observers per classroom or home-based setting would be necessary. To limit costs and because the measures proposed have been designed to target care settings serving children aged 3-5 years, this observational option would be limited to center- and home-based settings that are licensed and serving preschool-age children (3-5 years). One methodological issue to grapple with is how many classrooms would need to be observed in order to obtain a rating for each center. The costs of this option are the time and financial resources needed for recruiting both center-based and home-based programs, obtaining informed consent, and for training observers, conducting the observations, maintaining observer reliability, and additional data entry and analysis.

## ***Option 2: Looking Across the Age Range in Center-Based Care***

### ***I. Description of supplement***

The purpose of this embedded observational study of quality would be to observe quality in a sample of centers serving children ages 0-8 years. The aim here would be to provide a descriptive portrayal of the quality of care offered to children in early childhood and as children transition to and participate in the first years of formal schooling. Current measures are now or will soon be available to assess the quality of center-based settings through age 8. However, to date, there have been no studies of observational quality across this age range that include measures of both global quality and instructional quality. Measurement tools to be used for this option would include the Infant/Toddler Environment Rating Scale Revised Edition (ITERS-R)<sup>11</sup> for infant/toddler classrooms, ECERS-R for preschool classrooms, and the School Age Care Environment Rating Scale (SACERS)<sup>12</sup> for school-age classrooms. We propose using the Classroom Assessment Scoring System (CLASS)<sup>13</sup> for infants, preschool-age children, and school-age children<sup>14</sup> as a measure of

---

<sup>11</sup> Harms, T., Cryer, D. and Clifford, R. M. (2003). *Infant/Toddler Environment Rating Scale: Revised Edition*. New York: Teachers College Press.

<sup>12</sup> Harms, T., Jacobs, E. and White, D. (1996). *School Age Care Environment Rating Scale*. New York: Teachers College Press.

<sup>13</sup> Pianta, R.C., La Paro, K.M. and Hamre, B. (2008). *Classroom Assessment Scoring System: Manual, Pre-K Version*. Baltimore, MD: Paul H. Brookes; Pianta, R. C., La Paro, K. M. and Hamre, B. K. (2008). *Classroom*

instructional quality through evaluation of the classroom emotional support, classroom organization, and instructional support. The use of instruments that provide both global quality ratings (ITERS-R, ECERS-R, SACERS) in combination with instructional quality (CLASS) would provide a multifaceted evaluation of quality.

## ***II. Importance to analytic agenda***

Similar to the benefits of quality Option 1, this embedded study of quality would add observational quality data to assist researchers in addressing the following groups of high priority questions in a coordinated manner: “What is the supply of care and how does it vary? What are the characteristics of providers? How do these vary by geography, provider type, policy environment, characteristics of the local population, and regulations and administrative practices?” and “What is the quality of early care? How does it vary by characteristics of the provider (e.g., type) and of the child (e.g., poverty)?” Responses to such questions could be disaggregated by the age of children served in each classroom. This option differs from Option 1 in that it allows for quality assessment across a broad age range in center-based care; whereas Option 1 allows for quality assessment across different types of care for a restricted age range (3-5 year olds only).

## ***III. Costs/benefits of linking to the main study***

To limit financial costs and barriers to feasibility, this study would be limited to center-based programs. It thus would miss the substantial portion of children, especially in infancy and school-age, who are in home-based care. This limitation is noteworthy given the high proportion of low-income infants in home-based care arrangements.<sup>15</sup> As an alternative to limiting this quality option to center-based care, it would be possible to observe quality in both home- and center-based care using the environmental rating scales only. However, exercising this alternative would eliminate the new capacity to focus on instructional quality across a wide age range. The costs of this quality option would include those involved with recruiting center-based programs, training

---

*Assessment Scoring System: Manual, K-3 Version.* Baltimore, MD: Paul H. Brookes. The infant/toddler instrument is currently in development.

<sup>14</sup> A version of the CLASS for use in Infant/Toddler classrooms is currently in development.

<sup>15</sup> Halle, T., Nuenning, M., Weinstein, D., Vick, J., Forry, N. and Kinukawa, A. (2008). *Primary Childcare Arrangements of US Infants: Patterns of Utilization by Poverty Status, Family Structure, Maternal Work Status, and Maternal Work Schedule.* Prepared for the U.S. Department of Health and Human Service, Office of Planning, Research and Evaluation.

observers, obtaining informed consent, conducting observations, maintaining observer reliability, and additional data entry and analysis.

### ***Option 3: Comparison of Different Types of Center-Based Care among 3-5 Year Olds***

#### ***I. Description of supplement***

The priority here would be to look in detail across subtypes of center-based care, including Head Start, pre-K and child care centers, serving 3 to 5 year olds. Detailed data, as reported by program directors, from the supply side survey on funding and program type would make possible a precise categorization of the settings in which observations are carried out. Observations could be stratified, for example, by major subtypes of funding as well as subtypes involving blended funding. Such a precise categorization is not possible with data from parent report of type of care. This would permit for a descriptive portrayal of quality across the major types of publicly and privately funded center-based programs serving preschool age children. For this option, we propose using the CLASS, which assesses instructional quality. We recommend the CLASS as it is currently being explored as an instrument for professional development and quality improvement efforts in Head Start programs<sup>16</sup> and which has been used in a national study of pre-K.<sup>17</sup> In addition to the CLASS, we recommend the ECERS-R and the ECERS-E to measure global quality and curriculum support, respectively.

#### ***II. Importance to analytic agenda***

Data from the Option 3 embedded observational study would provide information to facilitate understanding of the services offered by publicly supported early care and education programs, one objective of the Supply and Demand study. This option would allow researchers to document quality in the major subtypes of formal programs and funding streams. As public funding streams are a major investment, documenting the quality of different publicly funded programs compared to other programs available to 3-5 year olds is relevant to policy audiences. Additionally, an understanding of the strengths and challenges in such programs could help to target future

---

<sup>16</sup> <http://www.headstartresourcecenter.org/>

<sup>17</sup> Mashburn, A.J., Pianta, R.C., Hamre, B.K., Downer, J.T., Barbarin, O.A., Bryant, D., Burchinal, M., Early, D.M. and Howes, C. (2008). "Measures of Classroom Quality in Prekindergarten and Childrens' Development of Academic, Language, and Social Skills." *Child Development*, 79(3):732-749.

investments. Another benefit of this quality option is that there has never been a study using the same measures and methodology to assess quality across types of center-based care.

### ***III. Costs/benefits of linking to the main study***

A benefit of this quality option is that it would provide an in-depth portrayal of quality in an area of substantial policy focus. This option for an embedded quality observation would allow for direct linkages between director reports of program type and financing and multidimensional assessments of quality. In essence, this quality option would allow researchers to compare the quality offered by public, private, and mixed funding programs. This quality option would also allow researchers to compare the quality of care offered by pre-K, Head Start, and privately funded programs. To minimize the financial costs and barriers to feasibility, this quality option is limited to center-based programs. The exclusion of home-based care, a type of care used by many low-income families, is a limitation of this option. This option would also not permit examination of care for infants and toddlers or school-age children. The costs of this quality option would include those involved with recruiting center-based programs, training observers, obtaining informed consent, conducting observations, maintaining observer reliability, and additional data entry and analysis.

## ***Option 4: In-Depth Study of Infant and Toddler Care in Licensed Center-Based and Home-Based Care***

### ***I. Description of supplement***

This embedded quality option would focus specifically on the quality of care offered to infants and toddlers (0- 2 years) in licensed center-based and home-based care. Currently, there are no nationally representative portrayals of care offered in the formal market to infants and toddlers, yet multiple smaller studies call attention to concerns about the quality of care offered to this age group. New measures, such as the CLASS for infants and toddlers, would make it possible to extend measurement of quality beyond global ratings among center-based programs. We recommend measurement for this option to include both a global rating (ITERS-R for centers and FCCRS for home-based care), as well as an instructional quality measure for center-based programs only (CLASS for infants and toddlers). Data obtained from this embedded quality observational study could be disaggregated by whether providers are serving subsidized infants or toddlers.



## ***II. Importance to analytic agenda***

The analytic priority of this option is to provide an in-depth examination of care provided to infants and toddlers in licensed child care settings. This would fill a knowledge gap in the field. Similar to the benefits of quality Options 1 and 2, this embedded study of quality would add observational data on quality to assist researchers in addressing the following groups of high priority questions as they apply to infant and toddler care: “What is the supply of care and how does it vary? What are the characteristics of providers? How do these vary by geography, provider type, policy environment, characteristics of the local population, and regulations and administrative practices?” and “What is the quality of early care? How does it vary by characteristics of the provider (e.g., type), by subsidy receipt, and of the child’s family (e.g., poverty)?”

## ***III. Costs/benefits of linking to the main study***

The benefit of this quality option is that it would provide lacking information to the field about the quality of licensed care available for infants and toddlers in the United States. The costs of this quality option, as with those previously mentioned, includes the time and financial resources needed for recruiting both center-based and home-based programs and for training observers, obtaining informed consent, conducting the observations, maintaining observer reliability, and additional data entry and analysis.

## ***D. Use of Collaborative Funding by Providers***

(L. Kreader, National Center for Children in Poverty, Columbia University)

### ***I. Description of supplement***

This proposed supplement would examine in depth a subset of providers—likely limited to center-based—that receive funds from two or all three of the following public sources: CCDF, Head Start, state pre-K. In addition to increasing understanding of the types of organizations using collaborative funding, it would explore the range of program management issues/options they face—for example, operating separate classrooms by eligibility category or blending categories within classrooms, meeting varying program standards, and hiring/retaining staff with qualifications set by various programs. (See Seiden and colleagues, *The Impact of Nonprofit Collaboration in Early Child Care and Education on Management and Program Outcomes*, May-June 2006, Public Administration Review, <http://www.researchconnections.org/location/10477> and

Sowa, *Reconciling policy contradictions: Strategies for blending different early childhood funding in one classroom*, 2001, <http://www.researchconnections.org/location/3182> )

## ***II. Importance to analytic—and policy—agenda***

The supplement would contribute to research that seeks to understand how effectively to combine public funding streams at the service delivery level—a long-standing policy goal that promises to receive renewed federal attention.

The supplement could also contribute to understanding ways to improve quality of care and how to maximize the impact of public resources. Including these providers among those studied in the supplement on quality/observations would allow for analysis of associations between various types of collaboration and quality. (See Schilder and colleagues, *Child care/Head Start partnership study: Final report*, 2005, <http://www.researchconnections.org/location/8849> ) Likewise, including them in the supplement on financing would allow for exploration of associations between collaborations and levels of financing.

## ***III. Costs/benefits of linking to the main study***

Carried out subsequent to—or possibly at the same time as—the main study, the supplement would deepen understanding of provider practices and programs. In selecting areas from which to draw a subsample of multiply funded providers, attention would need to be paid to state differences in CCDF and pre-K policies that may encourage or discourage collaboration. Federal Head Start policies are more consistent across the country.

## ***E. List-Based Sample of Subsidy Recipients (and Possibly TANF Recipients) to Supplement Demand Survey Sample***

(D. Schexnayder, R. Marshall, Center for the Study of Human Resources, The University of Texas at Austin)

### ***I. Description of the supplement***

The overall number of child care subsidy recipients as a share of the total population is quite small. Even when viewed as a share of low-income families, families receiving child care subsidies are often only 10-15% of total families. Thus, finding out detailed information about the experiences of these families through the normal sampling procedures—even after over-sampling for low-income families—could be prohibitively expensive. One alternative to such an approach would be to collect lists of actual subsidy recipients that could be used as the basis for supplementing the demand survey sample with targeted samples of current and former subsidy recipients. The survey (perhaps with some additional questions only relevant to current and former subsidy recipients) could then be administered to a sample of list members.

### ***II. Importance to analytic agenda***

As the administrator of the CCDF and TANF programs, the Department of Health and Human Services (DHHS) is interested in understanding as much as possible about families that actually take up subsidies. While much can be learned from detailed studies of subsidy recipients based on administrative data files, some questions that are of interest to DHHS cannot be answered from such studies. These include: learning more about the reasons that families choose to use subsidies, why families leave the subsidy program even though they still appear to be eligible, and the number and types of multiple care arrangements (both subsidized and not subsidized). Responses of current or former subsidy recipients to many of these questions could be compared to those of non-subsidy users and also compared across geographic areas, types of jobs and work schedules, ages of children, and subsidy policy environments. Even if the selected sample is not nationally representative, a survey of subsidy recipients selectively drawn to reflect the diversity of populations and subsidy policies across states and communities could answer some questions more broadly than is currently possible from more targeted studies of selected geographic areas.

### ***III. Costs/benefits of linking to the main study***

The main challenges of supplementing the demand sample with a sample of subsidy users include: compiling lists of subsidy users from multiple sources, developing the appropriate sample frame from the lists for comparison purposes, and locating the families included on the lists.

- 1) Because CCDF is separately administered at the state (and sometimes local) levels, it may be necessary to contact many different entities to obtain lists of subsidy recipients that could be used to supplement the sample. As a first step, the 801 data collected by DHHS from all states should be investigated to determine if could be used for this purpose.<sup>18</sup> If the 801 data cannot be used, individual subsidy administrators in selected geographic areas would need to be contacted to provide lists.
- 2) We must also consider which type(s) of subsidy sample(s) would be most appropriate for analytical purposes. Prior research has shown that spells of subsidy receipt are quite short (3-7 months), but also that a substantial share of subsidy recipients have repeat spells of subsidy use. Merely using the most recent list of subsidy recipients as a sampling frame would under-represent the number of short-time users and over-represent longer users who have received the subsidy over a longer time period (e.g., over a year).<sup>19</sup> Moreover, given the short time period of most subsidy spells and the length of time needed to obtain and use the lists, the persons contacted from these lists are more likely to either be former subsidy users or those in a second or third spell of use. Thus, prior to drawing the sample, the characteristics of the subsidy sample should be studied to determine which subgroups of subsidy recipients would be most appropriate for comparing to the overall sample. If possible, supplemental studies of longitudinal subsidy data should be conducted in parallel with using the list sample in order to better understand the characteristics of the list sample

---

<sup>18</sup> More information about 801 collection procedures is needed to make this assessment. Possible impediments are absence of identifying name and address information and lack of timeliness in reporting to DHHS. States that only report sample 801 data would not be an impediment for this purpose.

<sup>19</sup> Whether a point-in-time list sample or a list of all recipients drawn over a longer time period (e.g., a calendar quarter or year) is the most appropriate sample for the survey questions being asked should be given careful thought to make sure that the resulting sample matches the nature of the questions being asked. Information about how the sample was drawn should be documented appropriately so that analysts do not misinterpret survey results.

(e.g., prior length of subsidy receipt, first-time or repeat user, number of children using subsidy, etc.).

- 3) Regardless of the approach used, there will be time lags in receiving administrative data lists of subsidy recipients. Low-income families often move frequently, so these time lags make it harder to locate families included on the list. (This is often exacerbated by the use of P.O. boxes as official address information.) Tests should be conducted to determine which shares of the families on the lists can be located and the differences in the characteristics of those families that can be found versus families that cannot be located so that the resulting sample can be interpreted properly.

While conducting a survey of subsidy recipients could be informative even if conducted separately from the main study, it is necessary to field this study during the same time period as the larger study in order to compare responses of families who receive child care subsidies to those of other families, as described in Section II. There should also be cost efficiencies from fielding both demand surveys simultaneously, as well as analytic gains from being able to use the demand survey information from subsidized families in concert with the supply survey information collected at the same point in time.

NOTE: A similar set of issues and write-up could apply to other small groups (e.g., TANF recipients) that will not be very common in the overall sample but for which list samples could be developed.

## ***F. Costs and Financing of Child Care***

(A. Witte, Wellesley College)

### ***I. Description of the supplement***

This proposed supplement would provide an in-depth study of the costs of child care and the way in which these costs are financed. As far as we are aware, there has been no cross-state study of the costs of child care since the Cost and Quality study of the 1990s, and there has been no cross-state study of how individual providers finance child care. Yet understanding the costs and financing of child care is central to many of the research questions that the NSECE seeks to answer. The study could be limited to child care centers or could be extended to include other types of providers. Recent work has shown that it is possible to obtain good data on costs and financing for

family child care providers and school-age providers as well as centers. A number of states have shown interest in cost/financing studies and some have funded statewide research (e.g., MA, ME).

## ***II. Importance to analytic agenda***

The supplement would contribute to research that seeks to: 1) identify child care markets, 2) understand the supply and demand of child care, and 3) understand how child care policies impact both the supply and demand of child care. The study could also be combined with the proposed in-depth study of child care quality. This combination would provide an update of the 1990s study of the cost and quality of child care. Perhaps even more importantly it would allow examination of the way in which financing of high- and low-quality programs differ. Such a study could provide very important and unique input to child care policies seeking to increase quality.

## ***III. Costs/benefits of linking to the main study***

If carried out at the same time as or subsequent to the main study, the supplement would improve understanding of provider behavior uncovered by the main study, enrich research findings and make those findings more policy relevant.

We note that implementing both the quality supplement mentioned in Option C above and this supplement would provide extraordinary information on the connection of costs to quality.

## ***G. Recessions and Child Care Supply***

(R. Weber, Oregon State University)

### ***I. Description of supplement***

One way to examine recession impacts is to capture data prior to the recession, specifically, collecting data on key variables back to January 2007. On the supply side, this could entail collection of multiple years of supply data when collecting the lists from which samples will be drawn. In addition to collecting current lists, the research team could collect annual data from 2007 forward. If Child Care Resource and Referral datasets were included, price variables would also be included. Doing a cross-sectional analysis, the child care supply within PSUs (both number of facilities and number of slots) could be compared over time. Creating a longitudinal dataset that included key characteristics of facilities as well as number of slots would support analysis of survival/loss of facilities/slots by characteristics of child care facilities.

Collecting data on the demand side would be more complicated as few states have household population survey data that includes child care usage questions and those that do would be unlikely to be able to provide data at the PSU level. Some expected recession impacts that would affect study findings include:

- movement to less expensive arrangement (same or different type of care)
- movement from paid to unpaid care
- decrease in hours of care (paid or unpaid) used
- cessation of use of care (paid or unpaid)

One major issue is that one could observe some or all of the above for reasons unrelated to the recession. Changes could be due to other factors such as:

- child aging including different developmental needs or aging out of care
- parental employment changes for reasons other than recession
- structural family changes related to birth of another child or divorce
- decreased earnings or household income not related to recession

The most promising strategy would appear to be addition of a historical set of questions to the household survey. Issues of recall accuracy and response burden would be relevant. Although it would be tempting to add the supplemental questions to a limited number of interviews, selecting respondents to receive the extra questions would add its own set of challenges. Recession effects vary by community so selection of a limited number of PSUs would not be likely to produce findings that could be generalized to the national level.

## ***II. Importance to analytic agenda***

The National Bureau of Economic Research says the United States entered into a recession in December 2007, one described as the most serious since the 1930s. Many predict the economy will experience its impact well into 2011. Fielding the NSECE during a recession threatens the ability to generalize findings to more normal economic times, but it also offers an opportunity to empirically describe the effect of a recession on child care supply and demand.

Up to this point, the field has been able to theorize the effect of a recession on child care supply and demand. Since many of the major predictors of child care supply and demand (e.g., female earnings, housing prices, and child care worker wages) are affected by a recession, one can predict that child care supply and demand will also be affected. NACCRRRA recently polled its

members on their observations of differences in supply and demand between June and December 2008. Over 40% of reporting CCR&Rs noted decreases in the number of center slots and family child care homes, with a similar percent reporting increases in requests for part-time care as parents deal with reduced hours.

Fielding the NSECE during, or soon after, the end of a recession offers an opportunity to test the theorized recession impacts. Taking into account recession impacts may be necessary for understanding representativeness of study findings to child care supply and demand in more normal economic times.

### ***III. Costs/benefits of linking to main study***

Costs related to data collection for the supply side would not seem to be a major issue.

Although changes in the supply over time could be studied without linkage to the main study, those findings could not be accurately related to study findings. Since recession effects will vary by community, changes of the supply directly linked to the PSUs would be important. There are two issues to address: how representative is the supply found at the time of the survey, and how has the supply changed over the years of the recession. The first is probably the more important issue and could only be addressed by linking the supplement to the main study.

The importance of linking the supplement for the demand side is even more important than for the supply side because there do not appear to be any other sources of data on how parents respond to reductions in hours or wages or job loss. Linkage to the main study would be necessary to be able to evaluate the extent to which demand was changed and/or reduced by recessionary factors.

Given the infrequency of national child care supply and demand studies, it seems critical to have information on how much study findings on both supply and demand have been impacted by the recession and thus not representative of normal economic times. This would seem to require linkage of the supplement to the main study.

## ***H. Caregiving Staff in Center-Based Providers***

(A.R. Datta, NORC at the University of Chicago)



### ***I. Description of the supplement***

For center-based providers in the supply survey, the single survey respondent will be the director or another knowledgeable staff person responsible for the child care program. This makes sense because of the nature of the instrument and because allowing multiple respondents to a questionnaire typically increases costs and decreases response rates. The choice of respondent limits some of what can be covered in the provider questionnaire. Specifically, questions about qualifications and professional development received by staff members are necessarily all proxy reports, as are questions about classroom activities and program content. A straightforward supplement to the main study would be to add a survey of one or more randomly selected caregiving/instructional staff from each center-based provider. Such an instrument could be administered by telephone and/or via the Internet.

### ***II. Importance to analytic agenda***

Workforce and curricular content issues are central to ongoing discussions of improving child care quality, including integration of early learning systems. Workforce is also crucial to understand in terms of the capacity of the system to expand and to improve.

### ***III. Costs/benefits to linking to main study***

A workforce study can always be done as a stand-alone research effort. From a cost perspective, the advantages of linking to the main study include the development of an excellent quality sampling frame that spans various sectors of child care, and the availability of data collection infrastructure including technology and interviewing staff to lower the total cost of the supplement.

From the analytic perspective, an embedded supplement could increase the value of the main study by enriching our understanding of the providers in the supply survey. At the same time, the workforce study would benefit from information about the provider collected in the supply survey, as well as local child care workforce information from the relevant provider cluster.

## ***I. Administrative Data Options —Provider***

(R.Goerge, Chapin Hall Center for Children at the University of Chicago)

### ***I. Description of supplement***

In order to address one of the primary objectives of the study, identifying the child care market, we propose collecting basic information on providers listed in licensing lists, in R&R databases, in lists of Head Start grantees, and in school lists. A collection of all data available on the providers of child care from these sources would offer, in and of itself, an excellent resource for better understanding the geographic distribution of various types of formal child care. Combined with other sources of data at the local level, primarily the five-year moving average of the American Community Survey data available at the Census tract level, the database that results would provide a valuable resource for both policymakers and researchers. Research could also be combined with the proposed provider database with national datasets such as SIPP and the 2010 Census.

### ***II. Importance to analytic agenda***

The dataset that results could answer some of the major questions in the analysis plan such as: 1) how do we define a child care market, 2) how does the availability of care vary with state and local policies, and 3) how does the availability of formal care vary with the characteristics of the local population.

### ***III. Costs/benefits of linking to the main study***

The frame for this data collection would be all providers in licensing lists and R&R databases, Head Start programs, and pre-K programs at the PSU level. The frame for the main study is similar, although we do not currently propose to use R&R databases for the main study, given the potentially prohibitive costs of collecting such data from every R&R in the country. We believe that the first formal database collection is best carried out as a prior add-on to the main study because the research team will gain valuable insights and experience as they put together the sampling frame for the national study. A short screening interview would collect the slots provided (and vacant) and the rates charged to parents. The expanded data collection effort will also be able to take advantage of economies of scale in data collection and data preparation.

Since it is anticipated that much of this needs to be done to develop the sample frame for the center-based supply survey, the cost implications are primarily around doing a larger sampling within the PSU to collect a few additional items (slots, vacant slots, and rates.) We note that this supplement could be implemented periodically even after the main study as a valuable yet low-cost ongoing resource on child care supply.