

Early Care and Education for
Children in Low-Income Families
*Patterns of Use, Quality, and Potential
Policy Implications*

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Early care and education has become a reality for many young children in America as increasing proportions of families have working parents. At the same time, a growing body of research shows the importance of the early years for children's future development, with some findings indicating that high-quality early care and education can be particularly important for the development of children in low-income families. In addition, the United States is investing billions in public funds to support early care and education with a particular emphasis on children in low-income families.

The convergence of these realities suggests that this is an opportune time to assess what we know about the patterns of usage and the quality of care that children in low-income families receive. This paper focuses on these issues, with the goal of informing the policy discussion about supporting the development of children in low-income families before they enter school.

Key Findings

This paper describes what is known in four key areas—each of which is summarized below.

Early Care and Education Usage Patterns of Children from Low-Income Families

Participation in early care and education settings is common for children from low-income families. More than half of children younger than 6 in low-income families are regularly in early care and education settings. More than a third of all children in low-income families in this age group are in such settings for more than 15 hours a week. Children in low-income families are found in all types of care, including center-based arrangements, family child care, and care by relatives and non-relatives in home settings. More than a third are in more than one arrangement regularly.

Patterns of early care and education differ for families with higher and lower incomes. Children younger than 5 in low-income families with employed mothers are slightly less likely to be in early care and education settings overall. They are also less likely to be in center-based care than their higher-income counterparts, and more likely to be in relative care. Child care patterns also differ by age, parental marital and work status, and race or ethnicity.

The use of particular early care and education arrangements reflects access to different arrangements as well as family preferences and constraints. Some factors that play a role in type of care used include the family's financial situation and access to child care subsidies; the employment status and schedules of parent(s); whether another parent or relative can provide care; the supply, cost, and

quality of different care options available in the community or near parents' employment; access to information about care options; the location of the care and the availability of transportation; parents' preferences and the care they are comfortable with for the child; and special needs of the child or children.

The Quality of Early Care and Education and Children's Development

There is consistent evidence of a link between the quality of early care and education and children's development. This research is based both on findings of an association between quality and child outcomes in the range of market-based early care and education settings available in communities and upon evaluations showing impacts of participation in high quality early care and education programs on child outcomes. For example,

- Research on market-based early care and education settings concludes that measures of quality are consistently linked with children's observed behavior while in the care setting as well as with concurrent measures of the children's development.. Linkages, while quite consistent, are clearly smaller than the associations between family factors and children's development.
- There is also evidence that the quality of early care and education predicts children's later development, including their early progress in school.
- Some findings indicate that the quality of early care and education may be of greater importance to children at risk for poor developmental outcomes.
- Rigorous evaluations of high-quality early childhood interventions indicate enduring effects on key outcomes, with long-term follow-up studies showing impacts continuing into adolescence and early adulthood. While these studies have generally focused on small, tightly controlled demonstration programs, the evaluation of Head Start, involving a representative sample of programs nationwide, indicates positive (albeit small) program impacts for 3- and 4-year-olds on outcomes in different areas of development. A follow-up study of the Head Start Impact Study is currently examining whether Head Start, too, has longer-term impacts and whether patterns of outcomes vary in light of program quality.

Recent studies find that the type of care and extent of care also are important for children's development even after controlling for quality. In particular, children who participate in more center-based care in their early years have been found to score higher on measures of language and cognitive development. Children who spend more time in center care are also found to be more engaged socially but to have more conflict with peers. In addition, children with more extensive exposure to child care (i.e., more hours spent in care) over the first years of life have been reported by mothers and teachers to show less positive social behavior.

Recent analyses have examined whether these patterns occur across major demographic subgroups. Findings suggest that the pattern of less positive social behavior for children who participate in more hours of nonparental care (controlling for type of care) does not differ based on family income. That is, more hours in care are associated with less optimal social behavior for both low- and high-income children. In addition, these recent analyses provide indications that while participation in center-based care appears to boost cognitive scores at kindergarten entry for low-income children, it may not influence their academic growth through early elementary school, emphasizing the importance of both early and ongoing family and school experiences.

The Quality of Early Care and Education for Children from Low-Income Families

While we lack nationally representative data on child care quality, large-scale studies in differing geographical regions suggest that overall (setting aside the issue of family income), much of the care in the United States falls below a rating of “good” on widely used observational measures. Further, different studies suggest that about 10 to 20 percent of market-based child care settings have low overall ratings of quality, and may be potentially harmful to children’s development.

We also lack a national picture of the quality of the market-based child care that children from low-income families receive. Some studies, however, raise the possibility of lower quality for segments of this care:

- A substantial proportion of children in low-income families participate in care provided by family, friends, and neighbors in legally unregulated home-based settings. There are important questions about the adequacy of existing observational measures to capture the quality of such settings. For example, existing measures do not capture the tendency of such settings to permit greater continuity between home and child care in language and culture, the forms of support such settings provide to parents beyond the provision of child care, or the continuity of such arrangements and therefore caregiver-child relationships over time. While acknowledging these limitations with measures of quality, it is important to note that several observational studies have found unregulated home-based care of lower quality than regulated home-based settings in which low-income children participate. Studies question specific aspects of quality, such as prolonged exposure to television, missed opportunities for learning, and health and safety issues.
- Research suggests that market-based center-based care is not uniformly of high quality as noted above, and quality in centers may be lower for children from low-income families.
- A growing body of work looking at market-based care serving subsidized children provides mixed results. Some studies indicate that child care settings

serving families using subsidies are similar to those in the overall market, and other studies indicate that they are of lower quality on some indicators.

Studies indicate that the quality of program-based early care and education settings such as Head Start and state prekindergarten differs by program type. Program-based early care and education settings such as Head Start and state prekindergarten generally have stronger quality standards as a condition of funding, though studies suggest that the quality of these settings varies. In particular, studies of nationally representative samples of Head Start programs have found that, on average, they are of good quality. However, though state prekindergarten programs are generally strong on such structural characteristics as teacher qualifications and child-teacher ratios, a study of prekindergarten classrooms in multiple states found that their average observed quality scores fell below a rating of “good.” Some research indicates that the overall quality of prekindergarten programs is even lower when classrooms have mostly children from low-income families.

Children from low-income families may be more likely to experience changes in early care and education arrangements. Frequent changes in arrangements or caregivers are assumed to have negative implications for children’s outcomes, as stable and caring relationships with adults are key for healthy child development. A recent review of research suggests that children from low-income families and children in families receiving welfare may be more likely than other children to experience changes in their early care and education arrangements.

The Policy Context that Shapes the Quality of Early Care and Education Settings

Public policies that affect the quality of early care and education tend to focus primarily on one of three goals—supporting parental work, supporting children’s development through access to early care and education programs with specific quality standards, or supporting the quality or supply of market-based settings. While these goals are not mutually exclusive, many federal and state efforts tend to focus more on one than another, with relatively few focusing on multiple goals:

- *Help low-income parents work.* Policies and programs in this area focus primarily on helping low-income parents work by providing subsidies—usually in the form of vouchers—to defray some or all of the costs of market-based early care and education settings, with less of a focus on affecting the quality of care that is purchased. These are primarily funded through the Child Care and Development Fund (CCDF).
- *Provide early care and education services to children in low-income families to help prepare them for school.* These services are mostly targeted to 4-year-old children, with some going to 3-year-olds and a little funding (through the Early Head Start program) to children age 0–2. Most of these initiatives are targeted to lower-income children. These initiatives include Head Start, Early Head

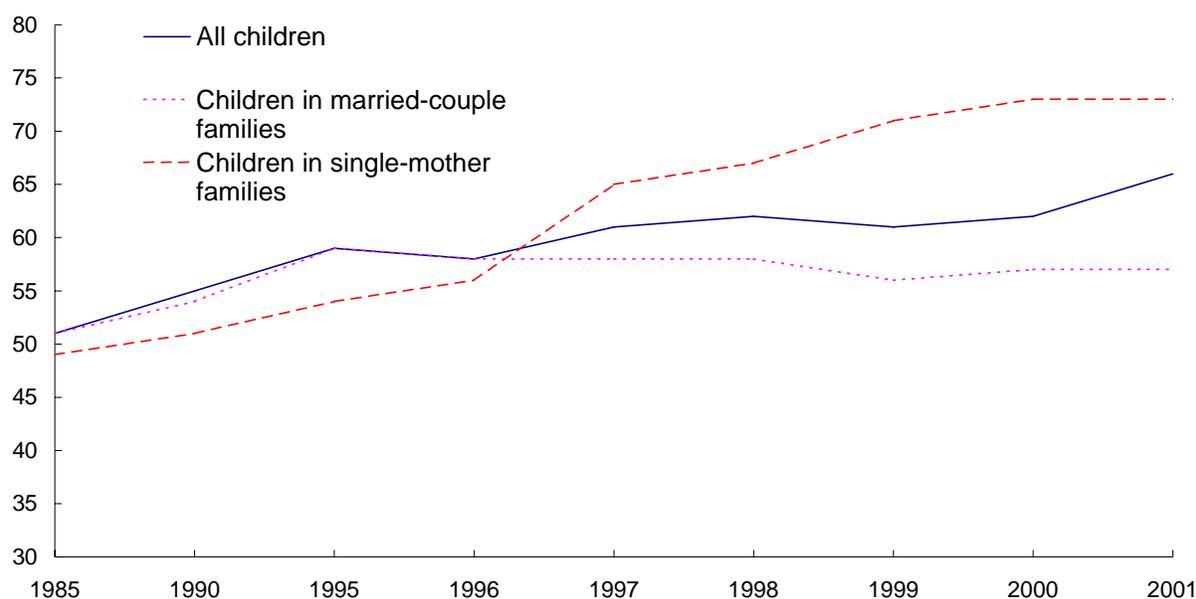
Start, and state prekindergarten programs. Generally these programs are not targeted to the children of working parents, and they vary in the extent to which they match with parent work schedules.

- *Supporting the quality of market-based early education and care settings through various initiatives and strategies.* States use a number of strategies to support the quality of market-based early care and education settings, primarily through a combination of state and federal (largely CCDF) funds. For example, states support training and education for providers, access to health and safety consultation, quality rating systems that give consumers information on the quality of child care settings, activities around infants and toddlers, and Child Care Resource and Referral (CCR&R) services. States are also primarily responsible for state licensing activities, which focus on setting a floor of quality below which programs cannot legally operate. While states have used these funds in ways that research indicates are important to overall quality, the level of funding is relatively small in comparison to the size of the overall market the funds are designed to affect.

The paper concludes by encouraging the consideration of policy approaches that simultaneously support parents' employment *and* children's development; support quality in the range of early care and education settings in which children from low-income families participate; focus on the full period from birth to entry into school; and help address barriers to participation in high-quality early care and education settings for families at greatest risk.

In recent years, policymakers have become increasingly concerned about early care and education issues. There are two motivating factors behind this development. First, early care and education has become a reality for many American families as increasing proportions of families have working parents (figure 1). Second, this trend coincided with a growing body of research showing the importance of the early years for children’s future development. This research has led to an increased interest in the quality of early care overall, as well as a particular focus on the quality of early care and education experienced by low-income preschool-age children regardless of the work status of their parents.

Figure 1. Percentage of Children under age 6 with Both Parents or Only Resident Parent in the Labor Force by Family Structure, 1985–2001



Source: U.S. Department of Health and Human Services (2004).

This body of evidence is emerging at a time when the United States is investing billions in public funds to support early care and education. Some of these funds are focused on helping low-income parents work, with few restrictions on the type or quality of care that families can use. For example, the federal/state Child Care and Development Fund (CCDF)—currently funded at about \$12 billion—provides child care subsidies to low-income working parents, primarily in the form of vouchers that can be used for any legal provider of their choice (including relatives or neighbors) to cover child care needs during their working hours.¹ While the CCDF requires that a minimum of 4 percent of CCDF expenditures be spent to improve the quality of care, the subsidy program emphasizes parental choice and does not restrict the choice of care to that with any particular quality features

(though some states have put in place tiered reimbursement policies, in which higher subsidy rates are provided for care meeting specific quality requirements).² Other funds are focused on providing education services to preschool-age children. These funds are usually targeted to specific early care and education providers for services that meet specified programmatic standards or requirements designed to ensure that care is of a particular quality; they primarily serve low-income 4-year-old children—though some also serve low-income 3-year-olds, and some also serve a broad income range. These funds generally do not have supporting parental work as their primary focus, and are not always accessible to families who need care during the hours that parents work. These efforts include \$7 billion in federal funds for Head Start and Early Head Start³ and an estimated \$2.8 billion in state funding for state prekindergarten initiatives in 2005 (Barnett, Hustedt, et al. 2005).

The convergence of these realities—the increase in the proportion of parents (including single, often low-income, parents) who are working and need early care and education for their children; the emerging evidence on the importance of quality care for the development of children, and perhaps especially children in low-income families; and the significant public investments in early care and education for low-income children—suggest that it is an opportune time to assess what we know about the patterns of usage and the quality of care that low-income children receive, and to consider the policy implications of these patterns. This paper focuses on these issues, with the goal of informing the policy discussion about supporting the development of low-income children before they enter school. (The issues around school-age children—though critical—are not examined here.)

This paper has five sections. The first section focuses on the early care and education usage patterns of children younger than age 6 who live in families with incomes below 200 percent of the poverty level. It also discusses the factors that can shape these patterns. The second section summarizes the research literature on the implications of the quality of early care and education for child outcomes. The third section provides an overview of what is known about the quality of early care and education overall, and then focuses on what is known about the quality used by low-income children in particular. The fourth section examines the range of policies that can affect the patterns identified in the preceding sections. It includes a discussion of the ways that different policies and programs can support quality in early care and education. The paper concludes with a discussion of the key policy challenges and opportunities that face policymakers and community leaders focusing on early care and education issues.

One key challenge in writing this paper was to identify the right terminology to describe the various early care and education settings. As described in more detail in box 1, we use two sets of terms in this paper—one that describes the patterns of early care and education usage with terminology common to national surveys (i.e., center-based setting, family child care, relative care, nanny or babysitter care, or nonparental care), and one that focuses on the types of care

supported by different funding sources (i.e., market-based early care and education settings; program-based early care and education settings).

Box 1. Multiple Typologies: A Note about the Terminology Used in This Paper

It can be challenging to identify the right language to describe early care and education. To begin with, there is actually a broad continuum of early care and education settings that families use to care for their children. These settings include care provided by relatives and friends (also called family, friend, and neighbor—or FFN—care), care arrangements in the home of a nonrelative caregiver caring for a small number of children (also known as family child care), and organized out-of-home group settings (including child care centers, preschools, Head Start programs, and public school-based programs).

To add to the confusion, these settings can vary on a number of other fronts. For example:

- *Quality:* It is possible to find the full range of quality (from excellent to poor) in any of these types of care.
- *Regulation:* The extent to which these various settings are required to meet basic health and safety standards, and by whom, depends upon the state and whether they receive public funding.^a Generally, larger settings are the most likely to be regulated, and the smallest, least formal settings—such as care provided by family and friends—are the least likely to be regulated.
- *Source of funding:* Funding patterns also differ widely across these settings. Some are primarily publicly funded, others rely on a mix of public funds and parent payments, others rely primarily on parent payments, and some (such as some relative care) are provided for free.
- *Type of public funding:* The financing approach of the public funds can vary, from vouchers (which individual parents determine where to spend), to contracts (which are determined by public agencies and usually have quality standards attached to the funds).
- *Blended funding:* These patterns can also vary within programs, as individual programs can have different funding approaches for different classrooms or children—for example, one classroom in a center can receive funding from different sources or use a different financing approach than the others.

To describe these settings in the various ways needed in this paper, we found it necessary to use two different typologies to describe the early care and education settings discussed. The first section, for example, relies primarily on the first typology described below, while the subsequent sections rely more upon the second typology. However, in some situations it is necessary to switch back and forth, depending on the typology used by the research being discussed.

Basic descriptors of early care and education settings: The first typology is based on the terminology used by national household surveys that ask parents about their care arrangements. These household surveys generally ask about regular care arrangements (i.e., not something that only happens periodically) and usually create a typology of early care and education arrangements that is determined largely by two parameters—where the care is provided, and whether the caregiver is related to the parent. The resulting categories of care are usually similar to those noted here from the National Survey of America's Families (NSAF) (though different surveys vary slightly):

continued

- *Center-based setting* (which includes any group care that is not in a home-based setting)—these can include traditional child care centers and preschools, as well as Head Start programs and public prekindergarten programs
- *Family child care* (any care provided by a nonrelative in that individual's home)
- *Relative care* (any care provided by a relative, either in the child's home or in the relative's home)
- *Nanny or babysitter care* (any care provided by a nonrelative in the child's home)
- *No nonparental care*—meaning the child is either being cared for by the parent or is not in any regular form of care.

While the basic terminology above is useful for descriptive purposes, and is appropriate given the information that parents are able to report, it is less useful when trying to describe how various policies and programs map onto these different settings. For example, any of the categories can receive subsidy funds; and, most (but not all) Head Start and state prekindergarten programs are operated in center-based settings, although many centers do not receive such funds.

Adding in a policy/programmatic lens: To address this concern, we also use a second typology in this paper, which brings in a policy and programmatic lens. This typology draws a distinction between two broad categories of care—though we are well aware that there is not a hard and fast line between these in reality, and that this terminology is imperfect. These two categories are

- *Market-based early care and education settings*, which include those care settings that developed in direct response to consumer demand pressures (and are thus generally more subject to the forces of the larger child care market), and that were not created by or for a particular public program or initiative. This would include most family child care and child care centers (or center classrooms) that were not designed to obtain dedicated public funds from programs such as Head Start or state prekindergarten initiatives. It also includes FFN care, though we recognize that “market-based” is not an accurate description of the forces that affect FFN caregivers. Nonetheless, they are care settings that have evolved mostly because of consumer demand, rather than in response to programmatic strategies.
- *Program-based early care and education settings*, which include those settings or classrooms that meet the criteria of, and are largely funded by, federal or state programs such as Head Start and state prekindergarten. Many of these settings were developed specifically to provide these services. Most settings are center-based, though many child care centers do not fall in this category and some family child care homes do (i.e., ones that receive funds from Head Start or state prekindergarten—see Schumacher et al. 2005).

a. Usually, family members are not required to be licensed or regulated, unless caring for unrelated children. In many states, individuals caring for only a few children may not be regulated either. Most entities that receive public funds, however, must meet at least minimal health and safety standards as a result of receiving those funds (even if they are not required to be licensed legally), and some must meet

program standards as well. (Under federal CCDF requirements, however, states are not required to have such standards for certain categories of relatives.)

In addition, some center-based options are exempt from licensing, depending on the state. These can include settings regulated by other entities (such as those monitored by Head Start or state prekindergarten), settings exempt from state oversight (such as faith-based programs in some states), and programs that operate less than full time.

EARLY CARE AND EDUCATION USAGE PATTERNS OF CHILDREN FROM LOW-INCOME FAMILIES

This section sets the context for the rest of the paper by describing what is known about the early care and education arrangements of low-income children younger than age 6. The data presented here come primarily from the 2002 wave of the National Survey of America's Families (NSAF), though we also cite reports using NSAF data from 1997 and 1999. Where possible, these data are for all children regardless of their parents' employment status. In some cases, however, data are only available for children with working mothers (in which case the age range being examined is children younger than 5).

What Proportion of Low-Income Children Is in Early Care and Education Arrangements, and for How Long?

- *Many low-income children are in early care and education settings.*

In 2002, data from the National Survey of America's Families (NSAF)⁴ showed that nearly three out of five (57 percent) children younger than 6 in families with incomes below 200 percent of the poverty level were regularly in an early care and education arrangement (Zaslow, Acs, et al. 2006). Rates were higher among children in low-income single-parent families than low-income two-parent families—79 percent compared with 52 percent. Rates were also higher among low-income children with employed parents.⁵

- *Many low-income children are in early care and education settings for a significant number of hours.*

More than a third (38 percent) of all children younger than 6 in low-income families are in care for more than 15 hours a week (Zaslow, Acs, et al. 2006), with 22 percent in care for 35 or more hours a week. Some groups of low-income children—specifically children of single parents and children with working mothers—are even more likely to be in full-time care. For example, 39 percent of low-income children younger than 6 of single parents (Zaslow, Acs, et al. 2006), and 42 percent of low-income children younger than five with employed mothers (Capizzano and Main 2004), are in care for 35 or more hours a week. Fifty-one percent of low-income children younger than 5 whose mothers work *full-time* are in care for 35 or more hours a week (Capizzano and Main 2004).

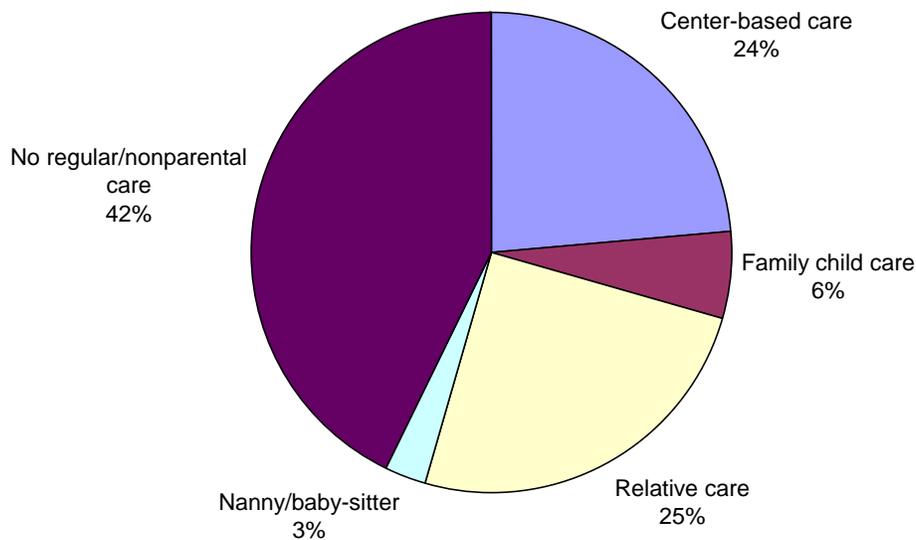
Where Are Low-Income Children Being Cared for?

- *Low-income children are in various early care and education arrangements.*

When examining children's primary child care arrangements in 2002—in other words, those arrangements where they spent the most time each week—25

percent of low-income children younger than 6 were cared for by relatives, 24 percent were cared for in center-based arrangements (including child care centers, preschools, Head Start, and state prekindergarten programs), 6 percent were in a family child care home, and 3 percent were with a nonrelative in their own home (nanny or babysitter) (Zaslow, Acs, et al. 2006). The remaining 43 percent of children were cared for by parents or were not in any regular arrangement (figure 2). The proportions of children using each of these early care and education arrangements were higher for low-income children with single parents and with employed mothers.⁶

Figure 2. Early Care and Education Arrangements of Low-Income Children Age 0–5 (Not Yet in School), 2002



Source: Zaslow, Acs, et al. (2006).

- *Many low-income children use more than one arrangement for early care and education.*

While the above data show the arrangements where the children spend the most time each week, many children use more than one arrangement. For example, in 2002, 37 percent of all low-income children younger than 6 (and 43 percent of those living in single-parent families) were in two or more arrangements regularly (Zaslow, Acs, et al. 2006). While earlier research suggests that this pattern does not vary by income, data on children with employed mothers show that younger children (age 0–2) are less likely to be in multiple arrangements than older preschoolers (age 3–4) (Capizzano and Adams 2000). Note that these data show the incidence of multiple *regular* arrangements, and therefore do not reflect situations where parents “patch together” child care arrangements daily

or weekly. Families that have repeated changes in arrangements, or who are pasting together a number of unstable caregiving arrangements—which according to some research is common among low-income families (Chaudry 2004), are likely to appear in these data as not being in any regular nonparental care arrangement.

- *Early care and education patterns for low-income children differ from those of higher-income children.*

Early care and education patterns differ by income. For example, lower-income children younger than 5 in families with employed mothers are slightly less likely to be in early care and education settings overall—69 percent compared with 75 percent of children from similar families with incomes at or above 200 percent of the poverty level (table 1).⁷ They also are less likely to be in center-based care than their higher-income counterparts, and more likely to be in relative care. For example, among 3- and 4-year-olds with working mothers, 36 percent of children in families with incomes below 200 percent of the poverty level were in centers, compared with 46 percent of those from families with incomes at or above 200 percent of the poverty level.⁸

Table 1. Primary Early Care and Education Arrangements for Children under Age 5 with Employed Mothers, by Age and Family Income (percent)

	All Children under 5		0–2-Year-Olds		3- and 4-Year-Olds	
	Low-income ^a	Higher-income	Low-income	Higher-income	Low-income	Higher-income
Nonparental	68.7*	74.6	62.3*	67.6	77.0*	84.1
Center-based	24.9*	31.2	16.2*	20.6	36.4*	45.5
Family child-care	10.7*	14.2	11.0*	14.7	10.3	13.6
Nanny/baby-sitter	3.5*	5.3	3.3*	6.5	3.8	3.7
Relative	29.5*	23.9	31.7*	25.8	26.5	21.3
Parent/other^b	31.3*	25.4	37.7*	32.4	23.0*	15.9

Sources: Capizzano and Adams (2003); 2002 NSAF.

Note: Percentages for nonparental care may differ from sum of subcategory percentages because of rounding.

^a Low-income is defined as below 200 percent of the federal poverty thresholds and higher-income as 200 percent of the federal poverty thresholds and above.

^b Parent/other category contains children whose mothers did not report the use of any regular child care arrangement while they worked.

* Estimate for low-income children is significantly different from estimate for higher-income children at the 0.10 level.

- *The arrangements that low-income working parents use for their children vary widely for children and families with different characteristics.*

For example, they vary:

- *By age:* As is true for children overall, low-income children are likely to move into more formal care arrangements as they get older. For example, table 1

shows that among young children with an employed mother, 3- and 4-year-old children were less likely to be in relative care and more likely to use center-based care than children younger than 3. Specifically, 27 percent of low-income 3- and 4-year-olds used relative care, compared with 32 percent for younger children; and 36 percent of older children used center-based care, compared with 16 percent of younger children. Data from 1997 suggest similar patterns for low-income children with nonemployed mothers.⁹

- *By parent marital and work status:* Patterns differ by whether families have one or two parents in the home, and by their level of employment. Specifically, these factors affect the amount of time that parents have available, which in turn affects both the likelihood of using any nonparental care and the type of care that parents use. For example, when looking at parents overall (not just low-income parents), data suggest that parents with the least time available (i.e., single parents working full-time and two-parent families where both parents are working full-time) are more likely to use nonparental care. These data also suggest that these parents are more likely to use center-based care than families where one or more parents work part-time (Capizzano, Tout, and Adams, 2000; Ehrle, Adams, and Tout 2001). Not surprisingly, children with parents who have less parental time available are also more likely to be in care for longer hours (Tout et al. 2001).
- *By race/ethnicity:* Patterns also differ by a child's race or ethnicity. For example, when looking at low-income children younger than 5 with working resident parents, the use of centers is highest among black non-Hispanic children and lowest among Hispanic children. Specifically, 42 percent of black non-Hispanic children are in center-based care, compared with 25 percent of white non-Hispanic low-income children and 15 percent of Hispanic low-income children. Further, the patterns are complex. For example, even though overall lower-income children tend to use centers less frequently than higher-income children (as described above), the pattern does not hold true for all racial and ethnic groups. In particular, there is no difference by income in the use of center-based care for black children (Capizzano, Adams, and Ost 2006). Interestingly, some of these patterns appear to be partially explained by other family characteristics. For example, the differences in use of center-based care among low-income black and white children disappear when controlling for single-parent status.

What Explains Why Families Use Different Settings?

These early care and education patterns reflect a complex blend of constraints and preferences that can be difficult to disentangle—both for parents and for researchers. Research suggests that a range of factors can interact to shape families' decisions regarding early care and education settings.¹⁰ Below we highlight selected factors. (See the review of research funded by the Child Care Bureau, U.S. Department of Health and Human Services prepared by Zaslow et al. 2006 for a

more detailed summary of studies focusing on the factors that contribute to parental decisions about early care and education settings for their children.)

Some key factors that can shape the early care and education settings that families use include these three items:

- *What parents are looking for and are comfortable with:* Parents bring preferences to the process of deciding which child care options (or set of options) to use. These can include personal feelings about (or experiences with) different types of care, different cultural expectations or needs around care, and concerns about being able to communicate with or relate to caregivers (i.e., for parents who are English language learners).
- *What their circumstances allow them to use:* Several personal circumstances can shape what options families can use, including these four:
 - *Financial situation*—the family’s income affects its ability to afford different child care options, as well as whether the family is receiving help paying for care (such as through subsidies, Head Start, etc).
 - *Access to another parent, relatives or friends to provide care*—whether there are other adults in the household (or nearby) affects whether the family has the option (if desired) of splitting shifts among parents to avoid using nonparental care or of using a relative or friend to care for the child.
 - *Employment status and schedules*—in addition to affecting income, parental employment status affects whether care is needed in the first place and for how much time, and whether the family is eligible for subsidies. In addition to whether and how much they are working, parents’ work schedule can play an important role, as a significant proportion of low-income parents work part-time, or have fluctuating work schedules.¹¹ All these employment realities can affect parents’ ability to use particular options. For example, more formal child care options such as center-based care tend to operate during traditional working hours with full-time slots, a number of Head Start and prekindergarten programs only operate part-day, and family child care and FFN care can be more flexible in supporting part-time, nontraditional, or fluctuating work schedules.
 - *Location of care, and access to transportation*—where care is located, and whether it is convenient for parents to access, affects their ability to get their children to different child care options and at the same time get to work. It therefore can shape the choice(s) parents make.
- *What is available and accessible in their community:* Finally, parent choices of child care are shaped by the supply, cost, and quality of different child care options in their communities, and whether they have access to information about these options. These factors, which interact, include

- *The options available*—for example, research suggests that, in some states, low-income communities tend to have fewer regulated caregivers than higher-income communities (Collins et al., 2004). In addition, zoning restrictions can affect whether licensed family child care options are available and, as noted earlier, personal factors affect whether families have access to family members, friends, or neighbors who could care for their child.
- *The quality of the options*—as will be discussed more in the next section, research suggests that good-quality early care and education may be harder to find for low-income parents. However, this problem varies across communities for many reasons, including the level of resources (public and private) available to support quality care and subsidies, licensing regulations, and so forth.
- *The cost of the options*—the cost of care to a family is affected by several factors. These include personal factors (such as the age of the child, as infant care is often the most expensive, as well as access to friends and relatives willing to care for the child at no or limited cost to the family), market forces that determine prices, and the existence of public policies that either help defray the costs or provide free care (see “The Quality of Early Care and Education for Children from Low-Income Families”). Also, the cost of market-based child care options can be related to quality, as many structural features of good quality in early care and education are more expensive to provide—for example, fewer children per teacher, well-educated and trained teachers, low turnover (which is associated with better salary and benefit levels), and good materials (Marshall et al. 2001).
- *Whether families know about the options available to them*—even if options are available, families may not know they exist, or how to choose quality care. Though there is little research on the efficacy of such efforts, resources such as Child Care Resource and Referral Agencies can provide parents with information about the options available to them, about how to identify good child care options, and about the availability of free programs or subsidies.

To add to the complexity, all these factors can interact dynamically. Further, they may particularly constrain the choices of low-income families, and they are likely to shift as family circumstances change (Chaudry 2004). Understanding more about the ways that these preferences and constraints operate in the lives of low-income parents is particularly important for shaping policies that are designed to improve both parental employment and children’s developmental outcomes.

THE QUALITY OF EARLY CARE AND EDUCATION AND CHILDREN'S DEVELOPMENT

This section examines the relationship between the quality of early care and education and children's development and addresses the question of whether quality matters for children's outcomes.

A comprehensive review of the research on early care and education and its effects on children has recently been conducted by the Committee on Family and Work Policies convened by the National Academy of Sciences' Board on Children Youth and Families (Smolensky and Gootman 2003). This review concludes that there is consistent evidence of a link between the quality of early care and education and children's development. Because the review is extremely thorough, the summary statements in this section are based heavily on its overview of the evidence and its conclusions.

Two types of evidence support the conclusion that the quality of early care and education affects child outcomes: (1) studies showing an association of quality and child outcomes in the range of market-based early care and education settings available in communities; and (2) evaluations showing impacts of participation in high-quality early care and education programs on child outcomes.

What Associations Are Found between Quality and Child Outcomes in the Range of Market-Based Early Care and Education Settings Available in Communities?

The review completed by the Committee on Family and Work Policies concludes that in the first type of study, measures of quality are consistently linked with children's observed behavior while in the care setting (for example, the quality of their play with peers and the degree of complexity of their play with objects) as well as with concurrent measures of the children's development obtained apart from the early care and education setting (for example, through direct assessment of the children's cognitive development). Perhaps more important, there is also evidence that children's experiences of early care and education quality predict measures of their later development, including their early progress in school.

Some findings from studies of market-based early care and education indicate that the quality of early care and education may be more important to children at risk for poor developmental outcomes. For example, in the Cost, Quality and Outcomes Study (Peisner-Feinberg et al. 2001), which looked at multiple sites across the country and examined children's development over time in light of the quality of center-based child care, the quality of care was especially important for children's outcomes in 2nd grade when mothers had less education. Similarly, analyses of the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development found that children

with lower initial mental development scores showed larger improvements on measures of achievement and cognitive development when they experienced improved child care quality over time (NICHD and Duncan 2003). The study notes that these findings are consistent with results from the early intervention literature suggesting larger effects for children who were initially at greater developmental risk. While some studies have not found that the effects of child care quality differ by family socioeconomic status (Burchinal et al. 2000), these studies continue to point to a role of child care quality in predicting child outcomes overall.

There are several important caveats that the review by the Committee on Family and Work Policies points out regarding the links between quality and child outcomes in this body of research. First, there may be reasons that families select to participate in child care, not documented in the studies (“unobserved variables”), that help explain the associations between quality and child outcomes. Second, the magnitude of the association is an important issue. In work by the NICHD Study of Early Child Care with Duncan (2003), when better statistical approaches were used to account for the possibility of unobserved variables helping to explain the link between quality and child outcomes, the association remains but appears fairly small. McCartney and Rosenthal (2000), however, note that it is important to consider not only the magnitude but also the practical importance of effects. They observe that even small effects may have meaningful implications for children in their home or school environments. Third, the evidence indicates that family influences (such as the sensitivity of mother-child interactions) are relatively more important for children’s development than their experiences in early care and education (NICHD 2002c, 2003).¹² This is perhaps not surprising given the much more sustained exposure children have over time to family influences and the centrality of children’s relationships with parents. Even when family influences are taken into account, however, associations are found between the quality of early care and education that children receive and their cognitive and socio-emotional development.

The research linking quality and child outcomes has used two different approaches to measuring quality: “process quality” and “structural aspects of quality.” Process quality “refers to the kinds of experiences that children have with caregivers and other children, opportunities for cognitive, linguistic, and social stimulation, and opportunities to use interesting and varied materials” (Smolensky and Gootman 2003, 105). Structural features of care are aspects of the environment that set the groundwork for process quality and that can more easily be regulated. These include group size, staff-to-child ratio, and requirements for caregiver education and training.

State regulations focus on structural features of quality rather than on process quality. In an interesting recent development, states have been establishing quality rating systems to provide information to consumers about the quality of the child care available to them. These quality rating systems often involve direct

observation of process quality.¹³ Thus, while states do not regulate process quality, several states are monitoring and reporting on it. Monitoring of process quality is also a component of the Head Start Performance Standards.

The evidence shows links between structural features of quality and children's direct experiences in care. According to the Committee on Family and Work Policies, "when child-adult ratios are lower, caregivers spend less time managing children in their classrooms, children are less apathetic and distressed...and caregivers are more stimulating, responsive, warm and supportive" (Smolensky and Gootman 2003, 109). Similarly, studies suggest that caregivers are more responsive to children, provide more stimulation to them, and are less restrictive when group sizes are smaller. A recent overview of the evidence on caregiver qualifications indicates that across both center and family child care settings, greater caregiver education and training are linked with higher observed process quality, though the links between quality and qualifications are loose and the research does not provide clear guidance on the thresholds or levels of qualifications needed to produce high quality (Tout, Zaslow, and Berry 2006).

The evidence indicates that children's direct experiences within child care appear most closely linked with their developmental outcomes, but that structural features of quality help to bring about process quality (see especially NICHD 2002b). An important caveat is that better structural features of quality appear to support and facilitate, but do not assure, higher process quality. As will be noted in greater detail below, the strong structural features of quality in many prekindergarten programs, such as adhering to group size and ratio as well as educational requirements for lead teachers that match well with recommendations for early childhood care and education programs by the National Association for the Education of Young Children, do not appear to invariably assure average ratings of "good" on direct observations of process quality (Clifford et al. 2005).

What Is the Evidence Regarding the Development of Children Who Participate in High-Quality Early Intervention Programs?

In a second body of research, evaluations have looked at children's development over time when they participate in high-quality early intervention programs (contrasted with care by parents or care in market-based early care and education settings). This body of work provides an important complement to the studies showing associations between the range of quality in market-based settings and child outcomes. Until recently, most studies on early intervention programs have focused on highly intensive programs provided to small groups of children ("demonstration projects"). In a very important recent development, however, there have been experimental evaluations of Head Start, a large-scale publicly funded program, as well as of Early Head Start, a smaller Head Start program for children and their families focusing on the first years of life. In addition, recent studies of

state-funded prekindergarten programs, while not experimental, take important steps to address the methodological concerns present in early studies of prekindergarten programs (Gormley et al. 2005).

A key example of an intensive intervention project for low-income children is the Carolina Abecedarian Project (Campbell and Ramey 1995; Campbell et al. 2002; Ramey et al. 2000). The Abecedarian project started at infancy and involved a full-time high-quality program for children through age 5 as well as family supports. The program's curriculum emphasized children's language development, with components also focusing on children's socio-emotional development and general cognitive development. Longitudinal follow-up indicated that children in the intervention group had higher achievement scores in reading and math, and higher cognitive assessment scores through young adulthood. As young adults, participants in the intervention had completed more years of education, were more likely to have participated in college, and were older when their first child was born. Another high-quality early intervention project, the Perry Preschool Project, has also shown effects into adulthood, including reductions in the probability of arrest and receipt of public assistance as well as higher average earnings (Schweinhart, Barnes, and Weikart 1993).

The Head Start Impact Study and the Early Head Start Evaluation extend this body of work in important ways. The Head Start program is a publicly funded program implemented in multiple sites across the country. A key question is whether a widely implemented public program can also have positive impacts on children's development. Recent findings from evaluations of both Early Head Start (for infants and toddlers) and Head Start (for 3- and 4-year-olds) indicate that this is the case.¹⁴ For example, the recently released Head Start Impact Study (U.S. Department of Health and Human Services [HHS] 2005) reported favorable impacts on children's pre-reading and pre-writing skills, physical health, hyperactivity, and behavior problems. Parents whose children had been assigned to the Head Start program reported more frequent reading to children and less frequent use of physical punishment. Program impacts were more widespread for 3-year-olds than for 4-year-olds.

These impacts were documented at the end of the children's first year in Head Start, and so occurred after about nine months rather than after the multiple years in many early intervention studies. Follow-up work will help determine if effects persist as children transition to elementary school. The NICHD Study of Early Child Care and Youth Development, following children into elementary school, has found that effects on children reflect the combined influence of earlier experiences and current classroom quality (e.g., NICHD 2003). It will be important to consider the longer-term impacts of Head Start in light of both Head Start experiences and the quality of later educational experiences.

Juxtaposing the findings of the Head Start and Early Head Start impact studies is informative because together the studies show a breadth of impacts across differing domains of development as well as the home environment. Yoshikawa (2005) notes that because children's readiness for school rests on development across multiple facets (for example, social and emotional, early language and literacy, broader cognitive development, physical health), finding impacts across a range of outcomes may be particularly important in laying the foundation for later educational outcomes. At 36 months, after being assigned to participate in Early Head Start, children show higher scores on measures of receptive vocabulary as well as overall mental development. Parents rate children who have participated in Early Head Start as showing less aggressive behavior. Parents report reading to their children more often and spanking them less often. The home environments of families who have participated in Early Head Start are rated as more supportive and stimulating overall, and parents are observed as more supportive in interacting with their children. The children are observed as more engaged in play with a parent and showing more sustained attention to objects during play (Love et al. 2005; HHS 2002).

Recent research focusing on state-funded prekindergarten programs also helps address the question of whether positive effects are restricted to demonstration programs or also extend to widely implemented program-based early care and education. Research to date focusing on state-funded prekindergarten programs has not yet used experimental designs, as in the Head Start and Early Head Start evaluations. However, many concerns previously noted about serious methodological limitations with studies of the effects of state-funded prekindergarten programs (Gilliam and Zigler 2001, 2004) have been addressed in recent quasi-experimental research in which the development of children is contrasted in light of cutoff dates for eligibility to the prekindergarten programs (Barnett, Lamy, and Jung 2005; Gormley et al. 2005). These research designs look at children's development for children of similar ages who have just completed a year of prekindergarten (at kindergarten entry), and those who are just entering prekindergarten now because their birthdates were beyond the cutoff the previous year.

In these studies, the possibility that children and families in program and control groups differ in motivation and background characteristics, a major concern from previous research, is effectively addressed. With similar ages, differences in development between the two groups of children can reasonably be attributed to participation in the prekindergarten program. However, as some authors of these studies note (e.g., Gormley et al. 2005), these evaluations focus only on those children in families already motivated and organized enough to enroll in the program. They do not focus on all those potentially eligible and in need of such a program who do not pursue it. The motivation of those enrolling may contribute to stronger effects than might be the case if all eligible families were included in the evaluations.

While studies using this approach have now been reported on for multiple states (Barnett, Lamy, et al. 2005), the research reporting on the prekindergarten program in Tulsa, Oklahoma, describes thoroughly the prekindergarten program involved while also reporting family characteristics in detail and examining program results in light of such key characteristics as family eligibility for reduced-price or free school lunches (Gormley et al. 2005). State-funded prekindergarten programs vary by such features as the educational requirements of teachers and how well they are paid, group size, and use of a curriculum (Clifford et al. 2005). The Oklahoma prekindergarten program is particularly strong in requiring all teachers to have a bachelor's degree as well as certification in early childhood. Teachers are paid at the same level as other elementary school teachers. There is a ratio requirement of 1 teacher for 10 students, and a group size of 20. Programs are either half- or full-day and focus strongly on instruction.

Within this context, the children who had completed the prekindergarten program scored significantly higher than children close in age but who were just entering the program on measures of pre-reading and reading, pre-writing and spelling, and math reasoning and problem solving. The pattern was found across differing racial/ethnic subgroups (Hispanics, blacks, Native Americans, and whites) as well as for children from differing socioeconomic backgrounds (those who qualify to receive free or reduced-price lunches as well as those who did not qualify for subsidies). According to the authors, the size of the effects substantially exceeds those of high-quality market-based early care and education but fell somewhat below those found in the tightly controlled small demonstration studies of intensive early childhood intervention programs.

The authors caution that effects might well be weaker in state prekindergarten programs with lower educational and pay levels of teachers or less emphasis on instruction. Also, the focus of these studies to date has been on cognitive outcomes. Work in progress will take the key step of extending the focus to social and emotional outcomes to examine the important question of whether prekindergarten programs show the pattern of breadth or affect outcomes more specifically in the cognitive domain of development.

In sum, the results of high-quality early childhood interventions as well as studies of program-based early care and education settings indicate that such programs for children from low-income families can strengthen their developmental status at school entry. The early childhood intervention studies indicate enduring effects on key outcomes. Follow-up studies for the Head Start and Early Head Start evaluations will indicate whether these program-based approaches, too, have longer-term impacts.

What Are We Learning about the Extent of Children’s Exposure to Different Types of Early Care and Education, and about How Type and Extent of Early Care and Education Combine with Quality in Shaping Child Outcomes?

Recent studies find that quality of early care and education is not the only aspect that matters for children’s development. The NICHD Study of Early Child Care and Youth Development has found that type of care and extent of care are also important, even when controlling for other aspects of care (including quality). In particular, children who participate in more *center-based care* in their early years have been found to score higher on measures of language and cognitive development at 2 and 3 years old, as well as measures of language and memory at 4½ years old (NICHD 2002c). Children who spend more time in center-based care are also found to be more socially engaged but to have more conflict with peers. Hours spent in child care over the early years of life (as these hours accumulate over the course of years) are associated with children’s social development. Children with more extensive exposure to child care over the first years of life have been reported by mothers and teachers to show less positive social behavior, including more externalizing (acting out, aggressive) behavior problems and problems in interactions with peers (NICHD 1998, 2002a).¹⁵

Recent analyses of a national data set (the Early Childhood Longitudinal Study-Kindergarten Class of 1998–99) echo and extend the pattern of findings reported above using data on nonparental care in the year before kindergarten entry, rather than cumulative data for the first three years of life. Specifically, Halle and colleagues (2006) find that, controlling for other factors, children who have attended center-based care enter kindergarten with better cognitive scores than their peers who have participated in other forms of care, and children who have experienced more hours in nonparental care (controlling for type of care) had less optimal behavioral scores at kindergarten entry than their peers who have experienced fewer hours of care.

Looking beyond kindergarten to the developmental trajectories of the children through 5th grade, Halle and colleagues find that the differences in initial status persisted over time for children exposed to different types and hours of nonparental care before formal school entry. While type and extent of care influenced status at school entry, once the characteristics of home and school environments subsequent to kindergarten are taken into account, participation in nonparental care in the year before kindergarten generally does not influence the growth over time of either cognitive or behavioral outcomes through 5th grade.

In addition, findings from Halle and colleagues (2006) suggest that the pattern of less positive social behavior for children who have participated in more hours of nonparental care (controlling for type of care) does not differ based on family income. That is, more hours in care are associated with less optimal social behavior for both low- and high-income children. Further, these recent analyses

indicate that the advantages of participation in center-based care may boost cognitive scores at kindergarten entry for low-income children but may not influence their academic growth through early elementary school, emphasizing the importance of both early and ongoing family and school experiences. As with the Head Start Impact Study, these findings point to the importance of taking into account the quality of current care and education environments and schools as well as arrangements used before school entry.

Love and colleagues (2003) question whether the pattern of less positive social behavioral outcomes is an inevitable result of participation in center-based early care and education programs or reflects on the quality of certain center-based programs, as participation in Early Head Start appears to buffer the pattern (HHS 2006). These researchers note that the findings for both Early Head Start and Head Start show strengthened cognitive outcomes while simultaneously showing positive impacts on social behavior (such as reduced aggression in Early Head Start).

In a new follow-up study of children from the Early Head Start Evaluation, when looking at those in the program and control groups together, children with more extensive center-based care experience do show the pattern of less positive social behavior noted above. However, when children participate in Early Head Start in infancy and toddlerhood, and then go on to community-based center care in their later preschool years, they do not show the pattern of unfavorable behavioral outcomes. As Zaslow (2006) has noted, these findings suggest a need for more focused examination of how center-based early care and education settings differ in their handling of social behavior, for example, how teachers respond to aggression and how strongly they guide children proactively toward more cooperative behavior. The emphasis of Early Head Start on parent-child relationships, and its potential implications for children's social behavior, is another important potential source of influence to examine more carefully.

In keeping with these emphases, researchers are developing and evaluating new approaches for strengthening the self-regulation of young children in center-based programs (as described, for example, in Bodrova and Leong 2006). Evaluations are examining whether children who spend more time in center-based programs that emphasize social behavior and self-regulation show the patterns of heightened conflict with peers or externalizing behavior problems noted above. Similarly, there is a need for studies examining the introduction of intentional instruction into family child care settings, so researchers can better understand whether it is child care type, per se, or the structuring of time and activities that underlies the patterns regarding cognitive development and type of care (Klein and Knitzer 2006).

THE QUALITY OF EARLY CARE AND EDUCATION FOR CHILDREN FROM LOW-INCOME FAMILIES

Looking across recent studies of low-income families living in various cities and states and using a wide range of arrangements, as well as studies of program-based early care and education, a complex picture of quality is emerging. The quality of care used by low-income children is highly variable and depends, in part, on the type of setting (for example, center-based care, licensed family child care, Head Start or a prekindergarten program), the characteristics of the individual provider or teacher, and the dynamics of the local community and early care and education market.

What Is the Quality of Child Care for Children in Low-Income Families Using Market-Based Settings?

The available evidence suggests that for all children in the United States, on average, the quality of child care in community-based centers and in home-based settings falls below “good” according to observers’ ratings of the health and safety provisions in the settings, the materials and activities available to children, the interactions between children and their caregivers, and other features of the children’s immediate environments (Galinsky et al. 1994; Helburn et al. 1995; NICHD 2000a; Whitebook, Howes, and Phillips 1990). The observed quality of child care, on average, meets minimum standards but not standards for care that tend to promote positive outcomes. In addition, 10 to 20 percent of all care settings are rated as inadequate and potentially harmful to children’s development (National Research Council and Institute of Medicine 2000). Center-based settings serving infants and toddlers appear to be more likely to raise such concerns (Helburn et al. 1995; NICHD 2000a).

Few studies have designs that allow for comparisons between the quality of care used by children from low-income and higher-income families (Galinsky et al. 1994; Helburn 1995; Marshall et al. 2001; NICHD 1997; Phillips et al. 1994). There are some indications, however, that the average quality of child care is lower for children from low-income families. This evidence comes from two sources: one describing the quality of unregulated care and one describing the quality of center-based care.

Relative care and other home-based settings with unregulated caregivers are the primary care arrangements for a large proportion of low-income children. Researchers are challenging the adequacy of existing measurement approaches for capturing the quality of the caregiving environment in such settings (Porter, Rice, and Rivera 2006). For example, existing measures of quality do not describe the continuity between home and child care in language or culture; they do not document the forms of support to the family (such as trips for children to the doctor,

care when a child is ill, or preparation of dinner) that care by family, friends, and neighbors may involve that go beyond what is typically provided in child care; and they do not seek to document the greater continuity of care over time that often occurs in such settings. While existing measures of the quality of home-based care provided by family, friends and neighbors may not provide a window sufficiently broad to capture all its important facets, the existing measures have suggested that unregulated care settings may provide care of lower quality, on average, than that provided by licensed or regulated caregivers (Coley, Chase-Lansdale, and LiGrining 2001; Galinsky et al. 1994; Growing Up In Poverty Project 2000).

An examination of the strengths and weaknesses in unregulated settings reveals care that is generally warm and responsive, particularly because ratios of caregivers to children tend to be low, but that, in a substantial proportion, also contains inadequate health and safety provisions, prolonged exposure to television, and missed opportunities to support children's language, cognitive, and social development (Brown-Lyons, Robertson, and Layzer 2001; Tout and Zaslow 2006). Yet, as noted above, these settings may offer parents flexibility and options for evening and weekend care that are not available in licensed facilities. Support of cultural values, family relationships, and children with special needs may also be stronger in care provided by family, friends, and neighbors. Even with these positive features, however, the higher participation in unregulated care and lower participation in center-based care among children in low-income families is of concern given the findings linking participation in center-based care to improved cognitive skills (Halle et al. 2006; Loeb et al. 2004).

Center-based care, however, is not uniformly of high quality, as noted above, and quality in centers may be lower for children from low-income families. For example, a study of center quality in Massachusetts finds that centers that serve low- and moderate-income families have poorer quality care than centers serving predominantly moderate- or higher-income families (Marshall et al. 2001).

In addition, a growing body of work looks at programs that serve subsidized children. The results of this research are mixed, with some studies suggesting that center-based programs that accept subsidies are no better in quality than those in the overall market, and others finding that they appear to be lower quality (on at least some indicators). The quality of family child care for subsidized children has been found more consistently to be lower than the quality of family child care for nonsubsidized families. For example, one study examining the quality of providers in four midwestern states finds that serving subsidized children is unrelated to observed quality among centers, but is related to lower observed quality for family child care (Raikes, Raikes, and Wilcox 2005). Similarly, in a community portrait of early care and education in Alameda County, California, the quality of center-based care does not differ markedly by neighborhood income level or subsidy status, while the quality of family child care homes is significantly lower in subsidized settings (Whitebook et al. 2004). A study of center-based care in Minnesota also finds that

the proportion of children who are subsidized in a center (that is, subsidy density) is not related to observed quality (Tout and Sherman 2005). Other studies have found that programs receiving subsidies have lower levels of caregiver education, or are more likely to have licensing violations, than programs not receiving subsidies (D. Adams et al. 2001, 2002; Queralt, Witte, and Greisinger 2000; Riley et al. 2002; Thornburg, Scott, and Mayfield 2002; Witt, Queralt, and Witte 2000). With the variations found by subsidy status, it is also important to recognize the regional and local variations in the quality of center-based care that have been documented in several studies examining child care use by low-income families, though the ability to compare quality across studies may be hampered by measurement differences or the use of different assessment tools (Coley et al. 2001; Fuller et al. 2003; Growing Up in Poverty Project 2000; Loeb et al. 2004; Raikes, Raikes, and Wilcox, 2005; Whitebook et al. 2004).

What Is the Quality of Program-Based Early Care and Education Settings Including Head Start and State Prekindergarten Programs?

Early childhood intervention projects, such as the Abecedarian program, were designed to meet high standards of quality, and were tightly monitored on an ongoing basis to assure this. Yet such programs are accessible to only a few families and children. What can be said about the quality of more widely available program-based early care and education programs? How do these extend the picture of the quality of early care and education that low-income children participate in?

Nationally representative samples of Head Start programs have been observed in repeated waves for the Family and Child Experiences Survey, or FACES (HHS 2003). This study indicates that most Head Start classrooms show “good” quality when observed using the Early Childhood Environment Rating Scale-Revised, or ECERS-R (Harms, Clifford, and Cryer 1998). A total score of 5 on the ECERS-R indicates good overall quality. Of the 258 classrooms sampled for the FACES survey in fall 2005, nearly 7 in 10 (69.7 percent) had ratings of 5 or higher, with more than 1 in 5 classrooms (21.6 percent) receiving a rating of 6 or higher, indicating excellent quality. At the other end of the continuum, almost 1 in 10 (7.6) had ratings of 3 or below, indicating minimal or inadequate quality. With this distribution and range of scores, the average rating on the ECERS-R across the 258 classrooms was 4.84, falling just below the good rating.

Extending the discussion to prekindergarten programs, researchers have recently carried out a study of the characteristics of prekindergarten classes for 4-year-olds in six states (Clifford et al. 2005; Pianta et al. 2005). The six states were selected because each has a well-implemented program that reaches a substantial proportion of 4-year-olds. Together, these state programs are serving about half of all 4-year-olds in state prekindergarten programs. They show variation on such features as auspice (for example, located within public schools or in community-

based settings), the educational requirements for teachers, whether the program is full- or half-day, and which curriculum (if any) is used. The study carried out direct observations of the quality of the settings and documented such key characteristics as group size, ratio, and teacher qualifications for a stratified random sample of 40 prekindergarten sites in each state, with a randomly selected classroom in each site.

The study finds many, though not all, structural characteristics of the programs are strong. For example, 70 percent of the lead teachers in these programs have a bachelor's degree, and 30 percent have a master's degree. Ratios are quite good, with an average of 8 children per adult in the room. Only 4 percent of the programs have no standard curriculum. However, the intensity or "dosage" of the programs was found to be somewhat limited: more than half the programs operate for less than 15 hours a week, and 39 percent serve children on four or fewer days per week.

The observations of classroom quality indicate an average total score on the ECERS-R of 3.86, well below a "good" rating of 5. While only 11 percent of the classrooms fall in a range of minimal quality (scores below 3), only 8 percent are observed to have total scores of good to excellent (5 or higher), substantially below the proportion noted for Head Start. On two more specific scores, the average ratings for Teaching and Interactions (encompassing staff-child interactions) was 4.52, while that for Provisions for Learning (focusing on educational activities, materials, and structuring of the day) was 3.74. The authors note that the observed quality was below what might be expected given the generally strong structural features of quality in the prekindergarten classrooms.

A further examination of the findings from this study indicates that overall quality is generally lower when classrooms have a majority of children from families with income below the poverty level (Pianta et al. 2005). In addition, poor children are more likely to be taught by lead teachers with lower educational qualifications (Clifford et al. 2005). According to the researchers:

Although these programs were often designed and implemented to address the educational and socio-emotional needs of children coming from low-income backgrounds, the fact that the saturation of poverty in the classroom is related to lower quality suggests that the available resources in these classrooms...for counteracting the effects of poverty may not be sufficient. (Pianta et al. 2005, 144)

How Stable Are Children's Experiences in Early Care and Education Settings?

In addition to quality of settings, the stability of experiences in early care and education for low-income children is an important topic to address. While there is no standard definition of "stability" or the threshold at which instability is detrimental for children, the existing research suggests that low-income children

and children in families receiving welfare are more likely than other children to experience changes in their early care and education arrangements.¹⁶

Frequent changes in arrangements or caregivers are assumed to have negative implications for children's outcomes, as stable and caring relationships with adults form the context in which early social as well as cognitive learning occurs (National Research Council and Institute of Medicine 2000). Changes in arrangements or caregivers for low-income families may be linked to various factors that co-occur and possibly compound the negative effects of instability on children. For example, unstable employment and varying or unpredictable hours of employment even when employment is stable can contribute to instability in early care and education arrangements, especially for women connected to welfare programs (Miller 2005). These changes may also be linked to changes in family income or other aspects of family life that have implications for children.

Yet, even taking into account employment changes and changes in family life (such as residential moves and changes in partner relationships) that could have deleterious effects on children, changes in early care and education arrangements are negatively linked to child outcomes for children in families connected to welfare programs (Tout et al. 2005). For low-income families receiving child care subsidies, instability in arrangements may also be linked to administrative or paperwork problems that make it difficult to get and keep child care subsidies, as well as to the tight link between work participation and eligibility (Adams, Snyder, and Sandfort 2002). Indeed, the average subsidy spell lasts only three to seven months (Meyers et al. 2002). A final source of instability is the high rate of caregiver turnover in both center- and home-based settings that has been linked to low wages (Whitebook et al. 2001).

Are Children Experiencing a Range of Quality across Different Arrangements?

The research literature can provide guidance about the *average* level of quality observed in different types of care, but it may be equally important to consider individual children's participation in multiple settings over their early years. They may be exposed to a combination of market-based and program-based settings used simultaneously or at different periods (for example, a licensed family child care provider might be used exclusively before age 4, then used in combination with a half-day Head Start program in the year before kindergarten). In 1997, for example, of the nearly 40 percent of children under age 5 with employed mothers who were using more than one child care arrangement, almost 60 percent combined a center-based arrangement with a home-based arrangement, including licensed family child care homes and unregulated home-based settings (Capizzano and Adams 2000). Thus, individual children may experience different levels of quality within or across the types of early care and education they use. It is reasonable to speculate that the effects of quality may be compounded for those children experiencing low quality in

two or more settings, or that the negative effects of one type of care may be offset by the positive effects of the other type.

THE POLICY CONTEXT THAT SHAPES THE QUALITY OF EARLY CARE AND EDUCATION SETTINGS

Public policies and programs that can affect the quality of the early care and education options available to low-income families tend to focus primarily on one of three goals: supporting parental work, supporting children's development through access to good-quality early care and education programs, or supporting the quality or supply of market-based settings. While these goals are not mutually exclusive, many federal and state efforts tend to focus more on one than another, with relatively few focusing on multiple goals. In this section, we describe these three goals, the policies and programs that address them, and how they can affect the quality of early care and education.

Goal 1: Help Low-Income Parents Work

Policies and programs in this area focus primarily on helping low-income parents work by providing subsidies—usually in the form of vouchers—to defray some of or all the costs of market-based early care and education settings.¹⁷ These initiatives are designed to lower the constraints created by the *cost* of market-based child care, with relatively less focus on affecting the quality of care that is purchased. The primary funding sources for these efforts are the federal Child Care and Development Fund—most of which is allocated to providing subsidies to support work—and Temporary Assistance for Needy Families (TANF), where funds are either transferred to CCDF or spent directly from TANF. The overall funding level for child care assistance, including both CCDF and funds transferred from TANF, was \$11.9 billion in 2004, serving 1.73 million children age 0–12 (Matthews and Ewen 2005).¹⁸ Families moving from welfare to work are the highest priority group for these funds; funds for other low-income families are more restricted.¹⁹

Other than the funds set aside to support quality (described more in Goal 3 below) and some funds that support contracts,²⁰ most CCDF funds are used to provide vouchers for families to purchase market-based early care and education (i.e., either care in the regulated child care market or from relatives or other providers who are not regulated). These voucher funds are not focused *primarily* on ensuring that children get good-quality care. Instead, vouchers help parents afford to choose from among the range of options in the existing child care market. The one exception, however, is that some states are now paying higher subsidy rates for higher quality care (Tout and Zaslow 2003). This strategy is promising as a way to help parents access the higher quality providers that already exist in the market. However, it appears to have some limitations as a mechanism to increase the supply of high-quality care. For example, voucher funding may not be a large enough (or stable enough) source of revenue for providers to move to higher quality levels in order to qualify for the higher rates. In addition, most states will only pay this higher rate to providers whose rates for private paying parents are at that

level. This means that this approach is less useful for providers in low-income communities, as they are unlikely to be able to charge higher rates to the low-income families they serve (Adams and Rohacek 2002), though there is some indication that states are recognizing this problem and are changing this policy.

Little is known about whether subsidies help families access better care than they would be able to access without subsidies. However, three areas of research provide insights to this question. First, though this evidence does not provide information about quality, *per se*, there is some evidence that families who use subsidies may be more likely to use center-based care than are low-income families without subsidies.²¹ In 2005, for example, 58 percent of children age 0–12 receiving subsidies were in center-based programs, though this pattern varied widely across states and fell below 20 percent in Michigan, Oregon, and Wyoming.²² This is, in part, related to the fact that having a subsidy puts the cost of regulated center-based or family child care within the reach of a greater number of low-income families (Collins et al. 2004). To the extent that research suggests that center-based care may be beneficial for cognitive outcomes (as described earlier), this may suggest that families use subsidies to purchase care that may be more beneficial to their children in this domain of their development.

It is important to recognize, however, that there is significant debate about how the relationship between subsidies and use of centers actually comes about. Some researchers suggest that the decision to use a center actually precedes the decision to seek a subsidy, which makes sense given that center-based care is the most expensive type of care and therefore families wanting to use a center have more incentive to seek a subsidy (Layzer and Burstein 2005). Other researchers suggest that some part of getting a subsidy may encourage parents to use center-based care over other forms of care. For example, center-based providers may be more likely to know about subsidies and to help parents access them, and some welfare programs explicitly direct families to licensed or formal settings and give parents more information about how to choose child care (Huston 2004). And, as described earlier, a range of other factors can shape the child care choices of parents (Zaslow, Halle, et al. 2006). More research is needed in this area to help explore the relationship between subsidies and the choice of different types of care.

Second, as noted above, we do have some information from studies of providers who do and do not provide care for children in families receiving subsidies. As described earlier, while the findings are mixed, among studies that focus on programs accepting voucher-based subsidies, none have found that such programs are of *higher* quality than the overall market.²³ Instead, most studies find that structural and/or process quality in programs caring for subsidized children is either similar to, or worse than, quality in other market-based child care programs. Note that one limitation of this research is that it does not tell us the quality of the care that parents would access without subsidies.

Third, a final issue affecting the quality of care used by families receiving subsidies is the CCDF requirement that vouchers should be able to be used for care by any legally operating child care provider (including legally unregulated FFN care). This is an important principle of the CCDF, as it maximizes parent choice and supports parents who either do not want or cannot use more formal group child care options such as centers. However, the fact that legally unregulated providers operate outside of the licensing system—which is designed to screen out settings of unacceptable quality—means that the quality of these settings is highly variable (as described earlier), very difficult to monitor and control, and complicated to try to improve. While states are required to have some basic health and safety standards for providers who are legally exempt from licensing (except grandparents, aunts, and uncles), they are usually minimal in nature and enforcement. Some states have developed more significant requirements, ranging from background checks, to on-site visits, to a requirement to participate in training that may go beyond a focus on health and safety to other topics. However these efforts are occurring in only a few states at this point (Porter and Kearns 2005).

Goal 2: Provide Good-Quality Early Care and Education Services to Children in Low-Income Families to Help Prepare Children for School

Another set of policies and programs is focused on helping preschool-age children get early care and education experiences that support readiness for school. These services are mostly targeted to 4-year-old children, with some going to 3-year-olds and some funding (through the Early Head Start program) to children age 0–2 (Barnett Husted, et al. 2004). Most initiatives are targeted to lower-income children (such as Head Start, Early Head Start, and most state prekindergarten programs), though some state prekindergarten initiatives are more universally available.

These policies focus on trying to eliminate the constraints created by both *cost and supply*, and they usually try to ensure that care of a particular *quality* is available to children. The policies seldom use a voucher-based or market-based approach. Instead they focus on creating or supporting classrooms and other services that provide a particular quality of care, usually with articulated quality standards (though what those quality standards include can vary widely), and they provide funding levels designed to support that level of quality. These initiatives also offer programs a stable funding source that allows them to make the financial commitment to hire qualified teachers, invest in materials, and so on.

These services are funded through various mechanisms. One such mechanism is Head Start and Early Head Start, funded at \$6.8 billion and serving more than 900,000 children in 2003. Another source of funding is state-funded prekindergarten initiatives. Estimates of the number of children who participate in these programs vary, but are generally in the range of 800,000 (see Barnett,

Hustedt, et al. 2005; NCES 2003). It is estimated that in 2003, excluding funding from Head Start and CCDF, \$13.8 billion was available to public school districts and other eligible programs for prekindergarten services from IDEA, Title 1, and other programs (Martinez-Beck and Zaslow 2006). In addition, in 2004–05, states contributed about \$2.8 billion toward prekindergarten programs (Barnett et al. 2005).

These programs are not uniform in their structure or approach. For example, both Head Start and Early Head Start are comprehensive—addressing a wide range of child and family needs including health, mental health, nutrition, and family support—and focus on children with family incomes below the poverty level. State prekindergarten programs vary widely in their quality, comprehensiveness, and target populations. Generally, these programs (both Head Start and state prekindergarten initiatives) are not targeted to the children of working families, and they vary in how they match with parents’ work schedules. For example, in many prekindergarten and Head Start programs, the core services are part-day and part-year. While a good number of these programs have taken steps to address the needs of working parents (i.e., by providing wraparound care or by funding services in child care settings), there are a number that do not.

As noted earlier, these programs also differ in the quality of care they provide. This is likely due at least in part to the fact that they require different program standards as a condition of funding. Head Start, for example, has comprehensive and clear performance standards that programs must meet, and these standards are enforced. State prekindergarten initiatives, however, vary widely in their quality standards. For example, the National Institute of Early Educational Research evaluated how well state prekindergarten initiatives met 10 quality benchmarks (such as curriculum standards, whether teachers were required to have a BA, ratios of no more than 1 teacher to 10 children) and found that of the 38 states with initiatives, only one state met all 10 benchmarks, five states met 9 out of 10, and fully 21 initiatives met 5 or fewer (Barnett, Hustedt, et al. 2005).

As noted earlier, a growing body of evidence shows these kinds of early care and education programs—when they have a clear focus on quality—can have positive effects on multiple aspects of children’s development.

Goal 3: Support the Quality of Market-Based Early Education and Care Settings through Various Initiatives and Strategies

States use several strategies to support the quality of market-based early care and education settings. These strategies are supported by a combination of state and federal (largely CCDF) funds. In addition to state-specific funds that states may spend on these activities, states are required to spend at least 4 percent of certain state and federal CCDF-related funds to improve the quality and accessibility of child care or to help educate parents about their child care options.

While there is no estimate of the state-specific funds available for such activities, the actual amount spent from CCDF by states has exceeded the 4 percent requirement for several years. For example, in FY 2005, states spent \$920 million, or 10 percent of total federal and state expenditures.²⁴ This suggests that states see improving quality and accessibility as a high priority (Pittard et al. 2006). However, state funding levels for child care overall have stagnated or fallen in recent years (Matthews and Ewen 2006), so this pattern may well be different now.

One key policy area that states invest in—mostly with state funds, but also with some of the CCDF quality set-aside funds—is child care licensing, which is a state responsibility. In some ways, licensing is the first building block to support quality, as its focus is to ensure that market-based early care and education settings at a minimum do not harm children. It does so by setting a baseline of health and safety standards below which programs are not allowed to legally operate. But states vary widely in where they set that baseline, which early care and education settings are exempt from licensing and therefore can operate with little or no scrutiny, and how closely those programs required to be licensed are monitored (National Association for Regulatory Administration and National Child Care Information and Technical Assistance Center 2006). States also vary in their requirements for programming that addresses specific developmental domains such as cognitive or social development (Morgan and LeMoine 2004).

In addition to licensing, states undertake a range of other activities to support quality—with federal CCDF funds as well as with state funds (Pittard et al. 2006). For example, states have invested federal and state funds in efforts to increase provider training and education overall and on such topics as early literacy, extending access to training and education for child care providers in rural settings, supporting child care licensing, providing access to health and safety consultation, and implementing quality rating systems that give consumers information on the quality of child care settings. There are also funds earmarked in the CCDF to support activities around infants and toddlers, Child Care Resource and Referral (CCR&R) services, additional quality activities, and school-age child care.

States have used these funds in numerous ways that the research indicates are important to overall child care quality. Even when states go substantially beyond the required 4 percent set-aside, however, the level of funding available to improve quality is relatively small compared with the size of the overall market the funds are intended to affect. Also, though states regularly collect data about how the child care quality set-aside and earmarks are being used, there are, as yet, few evaluations of the effects of these initiatives on child care quality or child outcomes (see Pittard et al. 2006 for more information regarding data collection in state child care quality initiatives with CCDF funding.)

POLICY CHALLENGES AND OPPORTUNITIES

The preceding sections make several important points. First, many low-income children participate regularly in early care and education settings. Second, the quality of those settings makes a difference for children's outcomes and may be of greater importance to the development of children from low-income families. Third, while the quality of market-based early care and education varies substantially, and high-quality care can be found across all types of market-based care (center-based and home-based), there are reasons to be concerned about the quality of a significant portion of market-based early care and education, and particularly that received by low-income children. Fourth, while federal and state governments are investing significant resources in child care and early education, only some of those resources are aimed at improving the quality of market-based care. Further, those resources focused on helping young children get good-quality early education and care may go primarily to programs that are not available during a full working day or year, making them more challenging for low-income working parents to access. Relatively few resources are focused on improving the quality of care for children who need full-time care or for children whose parents work nonstandard or varying hours. Also, while there is a specific earmark aimed at improving the quality of infant and toddler care, most funds focused on providing quality early care and education are concentrated on a narrow age group (4-year-olds, and sometimes 3-year-olds). Finally, though there are important initiatives to support the quality of market-based early care and education settings, it is possible to ask whether these are funded at levels sufficient to fundamentally alter the quality of the market.

As policymakers consider what might be done to address these issues, we suggest that the following four issues serve as priorities:

1. *Consider strategies that simultaneously support parents' employment and children's development.*

Historically, the United States has had one set of funding systems that focuses primarily on supporting work for low-income parents (i.e., child care subsidies) and another set that focuses primarily on supporting child development (i.e., Head Start and state prekindergarten initiatives). It is important to recognize that both systems have made significant progress in recent years in addressing the complementary set of needs (Zaslow 2004). For example, on the early education side, a number of Head Start programs and some state prekindergarten initiatives have taken steps to be more responsive to the needs of working parents. These efforts have taken several forms—for example, funding full-working-day services directly, funding “wraparound” care, or providing funding to operate community-based child care that provides full-working-day services (Schumacher et al. 2005). Similarly, there has been progress in the subsidy arena, as the federal and state governments have worked to try to strengthen the focus on quality. For example, one promising

approach being pursued in multiple states is the development of quality rating systems (Dry and Collins 2004). These are monitoring systems that provide summary information for consumers on the level of quality of particular child care facilities, and in multiple states are based on direct observation of child care quality. However, these approaches have not yet been systematically evaluated, or evaluations are currently in process. When evaluation findings are available from states, it will be important to draw conclusions about the effects of quality rating systems on parents' choices and access to arrangements of different types and levels of quality (Zaslow and Tout 2006).

Further work is needed to ensure that all systems are supportive of both child development *and* parental work. One key challenge in this effort—particularly for the subsidy system—is a fundamental question of whether and how states can ensure that children in low-income families have access to good-quality care in a market-based system in which much of the care, particularly that available to low-income children, has been rated as less than good. Another challenge for the subsidy system is the tight link between eligibility for subsidies and parent's current work status, which results in subsidies ending when the parent's work status changes (Adams et al. 2002). This can threaten child care stability and continuity of care, though some states are working to develop policies that are more flexible and recognize the dynamic nature of low-income employment (Snyder, Banghart, and Adams 2006). Conversely, one major challenge for the early education-focused initiatives is to fully recognize and address the participation constraints presented by parental work status and work schedules.

2. *Consider developing strategies that support quality and children's development in a range of settings.*

As we have noted in detail, children in low-income families are actually being cared for in various early care and education settings. As a consequence, it is essential to focus on strategies to support quality in the full range of settings, including market-based child care centers, as well as licensed family child care and care by family, friends, and neighbors.

The most challenging area for policymakers has been to identify how to best support the quality of care by this latter group—FFN providers, who are outside the reach of the regulatory system. However, there has been a significant amount of progress in this arena recently. For example, we now know much more about the characteristics of these caregivers (Brandon 2005), and researchers are working to identify better ways to measure the quality of such settings (see Porter et al. 2006). In addition, some states have initiatives to support quality in FFN care (Brandon 2005; Porter and Kearns 2005), a pilot project has been funded to provide home visits to FFN caregivers in Early Head Start (Paulsell et al. 2006). Work is currently under way to examine the effects of different support strategies for these settings—for example, research suggests

it is important to recognize that some FFN caregivers (in particular grandparents) may not respond positively to strategies designed for formal child care providers. Instead, they may respond more to strategies that build upon family support or parenting education models (Chase et al. 2006; O'Donnell and Morrissey 2005).

A number of challenges will need to be addressed in working to improve the quality of home-based settings, especially those involving license-exempt providers. For example, it is important to learn more about how to recruit family, friend, and neighbor providers to participate in quality-enhancement activities, and through evaluations, learn how to best support quality in these settings. Nonetheless, given the realities of where children are being cared for, any effort to ensure optimal outcomes for low-income children must focus on these informal home-based settings as well as regulated settings.

3. *Consider developing policies that focus on ensuring quality for children from birth to preschool.*

A significant foundation for future learning is laid in the first two to three years of life (National Research Council and Institute of Medicine 2000). However, as described earlier, despite the importance of these early years, much of the focus on ensuring that children get high-quality care is targeted on 4-year-olds (and, to a significantly lesser extent, 3-year-olds).

There has been some progress in the support of quality care for infants and toddlers—for example, research on the Early Head Start program indicates that it is promising in addressing the needs of low-income families with very young children (HHS 2002), and states are using CCDF funds earmarked for strengthening access and quality of care for infants and toddlers (Pittard et al. 2006; Porter et al. 2002). Yet how well these efforts are reaching many low-income infants and toddlers is an open question. As one example, Early Head Start served about 55,000 low-income families nationwide in 2002 (HHS 2002).

Further, all child care and early education settings are connected through a larger market. As a result, the initiatives targeted on prekindergarten-age children may inadvertently affect the market for younger children—such as by affecting the cost or supply of such care (Workshop on Market Dynamics for Infant and Toddler Care 2004). More research needs to be done to examine the repercussions of these policy changes, so policymakers can work to ensure that efforts to support quality care for one age group do not unintentionally work to limit the quality, supply, or affordability of care for another.

4. *Consider ways to reduce barriers that make it difficult for at-risk families to access (or retain) good-quality early care and education services.*

In addition to limited income, some low-income families face further challenges to their ability to access good-quality early care and education services.

Depending on the family, these can include unpredictable work schedules and frequently changing employment patterns; language and cultural barriers; individual characteristics such as depression or disability status; and frequent moves.

There are some interesting developments in addressing the needs of low-income families who face particular constraints, or specific and/or multiple risk factors. For example, subsidy agencies are becoming increasingly aware of the unique challenges facing parents who have fluctuating or odd-hour work schedules, and agencies are working to address them. Similarly, states are working to identify ways to better meet the needs of families who are English language learners (Snyder et al. 2006), and some Head Start programs have developed particular strategies for supporting families with different language or cultural histories, and children with disabilities.

These efforts are promising. However, a more systematic focus on supporting both employment and children's development for families with these particular barriers to using high quality early care and education would be helpful.

In conclusion, we see the need for consideration of policy initiatives that acknowledge and support parents' employment and children's early care and education circumstances simultaneously; that focus on the provision of high quality care and education across the years from birth to age 5 (and beyond); that address the full range of settings in which children in low-income families participate; and that recognize the full range of challenges beyond limited income that many families face in accessing good-quality settings. The research cited earlier in this paper suggests that early intervention programs that are intensive, comprehensive, and include tightly monitored quality standards can positively affect children's development over a period of years. However, incorporating these program features into the range of market-based and program-based early care and education settings available to low-income children is a challenge for states and communities both financially and practically. Yet, with the increased public interest and willingness to support investments in children's early care and education, there are indications that quality is emerging as a central focus in states. Creative funding strategies—for example, blending funds from multiple sources—are being used by some states in an attempt to improve the quality, comprehensiveness, and coordination of early care and education programs for families. These efforts are among a set of promising approaches that are emerging that can both be monitored and built on.

¹ For example, in FY 2005, states spent \$920 million, or 10 percent of total federal and state expenditures, to support quality activities (U.S. Department of Health and Human Services, Administration of Children and Families, “Child Care and Development Fund: Fiscal Year 2005 Appropriation from All Appropriation Years,” http://www.acf.hhs.gov/programs/ccb/data/expenditures/05acf696/fy05_overview_allyears.htm).

² The CCDF only requires that care be legal—in other words, that it meet any licensing requirements already established by the state that are required for that type of care. As is described in more depth later in this paper, the CCDF does require that states put basic health and safety protections in place for programs that are legally exempt from licensing, but these are often minimal.

³ U.S. Department of Health and Human Services, Administration for Children and Families, “Head Start Program Fact Sheet,” <http://www2.acf.dhhs.gov/programs/hsb/research/2006.htm>.

⁴ Information on more than 100,000 people was gathered from approximately 40,000 representative households in each round. The NSAF is part of the *Assessing the New Federalism* project (ANF). Information on ANF and the NSAF can be obtained at <http://anf.urban.org>.

⁵ Data show that 69 percent of low-income children younger than five with employed mothers were regularly in such arrangements (Capizzano and Adams 2003).

⁶ Data on care for low-income children younger than 6 with *single parents*, for example, show 33 percent with relatives, 32 percent in centers, 8 percent in family child care, 4 percent with a nonrelative in their own home (nannies), and 24 percent with no regular nonparental care arrangement (Zaslow, Acs, et al. 2006). Similarly, data on low-income children younger than 5 with *employed mothers* found 30 percent with relatives, 25 percent in center-based arrangements, 11 percent in family child care, 4 percent with a nonrelative in their own home (nanny or babysitter), and 31 percent with no regular nonparental care arrangement (Capizzano and Adams 2003).

⁷ While data on income differences for children with nonemployed mothers are unavailable for 2002, an earlier study using 1997 NSAF data found similar patterns for these families. For example, 44 percent of lower-income children younger than 5 with nonemployed mothers were in the care of someone other than their parent, compared with 57 percent of higher-income children with nonemployed mothers (Tout et al. 2001).

⁸ Again, data from 1997 show similar income patterns for children with nonemployed mothers—specifically, children from lower-income families (with incomes below 200 percent of the poverty level) whose mothers were not employed were less likely to use center-based care: 19 percent compared with 28 percent of children with nonemployed mothers from higher-income families (Tout et al. 2001).

⁹ For example, only 7 percent of lower-income children age 0–2 with nonemployed mothers were in center-based care in 1997, compared with 34 percent of lower-income children age 3–4 (Tout et al. 2001).

¹⁰ For a good summary of research on factors that affect parental choice of child care options, see Zaslow, Halle, et al. (2006).

¹¹ For example, in 2002, when looking at children age 0–5 in low-income families, an estimated 28 percent of those in single-parent families had a parent working nonstandard hours, and 66 percent of those in two-parent families had at least one parent working nonstandard hours (Zaslow, Acs et al. 2006).

¹² A meeting sponsored by NICHD (held March 5, 2007, in Bethesda Maryland) emphasized the importance of providing information not only on the magnitude of effects, but also contextual information to assist in the interpretation of effect sizes.

¹³ A recent meeting sponsored by the Child Care Research Team of the Office of Planning Research and Evaluation, U.S. Department of Health and Human Services, focused on quality rating systems as one example of initiatives to improve quality that involve the measurement of quality for policy and practice as well as research. This meeting was held in December, 2006, in Washington, D.C. A meeting summary will be posted on the Early Care and Education Research Connections web site.

¹⁴ Contrasts in these studies involved comparisons of those randomly assigned or not assigned to have access to Head Start programs. It is important to note that some of those families assigned to the control group in each study participated in a formal early care and education program (in the Head Start Impact Study, for example, children in the control group may have participated in center care or pre-kindergarten programs and sometimes even found their way into Head Start programs). In addition, some of the children assigned to Head Start, while given access to a Head Start program, did not actually go on to participate. The strict research design involving “intent to treat” thus provides a conservative estimate of the effects of actual participation in Head Start, and does not contrast Head Start participation with no formal early care and education (Zaslow 2006).

¹⁵ For a further update on this pattern of results, see Belsky et al. (2007).

¹⁶ Roberta Weber, “Measurement of Child Care Arrangement Stability: A Review and Case Study Using Oregon Child Care Subsidy Data,” unpublished dissertation, Oregon State University, 2005.

¹⁷ Most CCDF subsidies are paid in vouchers, with only a small proportion funded through contracts—in 2005. For example, 85 percent of children served by CCDF were funded through vouchers (or certificates), and only 11 percent were through contracts. (U.S. Department of Health and Human Services, Administration for Children and Families, “FFY 2005 CCDF Data Tables,” http://www.acf.hhs.gov/programs/ccb/data/ccdf_data/05acf800/table2.htm.) For more information on how states are using their contract funds, see Schumacher, Irish, and Greenberg (2003).

¹⁸ These estimates are CCDF funds overall—they include funds dedicated to quality improvements and do not include funds spent directly from TANF on child care (i.e., without being transferred to CCDF).

¹⁹ Expenditures increased during the 1990s, leveled off recently, and now appear to be declining (Matthews and Ewen 2005). Though there is significant disagreement as to precisely how to measure the level of unmet need for voucher subsidies, in 2004 about half the states had frozen intake or had waiting lists of families requesting assistance. States also adjust other policy mechanisms to reflect limits on funding levels—for example, between 2001 and 2003, 25 states lowered their income eligibility limits, limited reimbursement rates, increased parent copayment levels, or made similar changes (Eddie 2006).

²⁰ Some states spend some subsidy funds through a contract-financing mechanism, and some of these states have quality standards attached to these funds (Schumacher et al. 2003). However, only 11 percent of CCDF children are served through contracts, and only some contracts have higher quality standards attached.

²¹ See, for example, recent research on child care patterns in Minnesota (Chase et al. 2005). Also see the synthesis of research on this topic in Zaslow, Halle, et al. (2006).

²² U.S. Department of Health and Human Services, Administration for Children and Families, “Average Monthly Percentages of Children Served by Type of Care,” FFY 2005 CCDF Data Tables, table 3, http://www.acf.hhs.gov/programs/ccb/data/ccdf_data/05acf800/table3.htm.

²³ One study found that quality was higher among centers that received subsidies, but half the centers in the sample were receiving contracted subsidies rather than vouchers (Fuller et al. 2003).

²⁴ U.S. Department of Health and Human Services, Administration for Children and Families, “Child Care and Development Fund: Fiscal Year 2005 Appropriation from All Appropriation Years,” http://www.acf.hhs.gov/programs/ccb/data/expenditures/05acf696/fy05_overview_allyears.htm.

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