

**Review and Synthesis of Selected Research Reports
Submitted to the Child Care Bureau,
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The conclusions presented in this review and synthesis are those of the authors, and do not represent the views of the Child Care Bureau, U.S. Department of Health and Human Services.

EXECUTIVE SUMMARY

The body of research funded by the Child Care Bureau (CCB) addresses topics important to child care policy at the federal and state levels using common research approaches to examine high priority topics in multiple states, fostering collaborations across disciplines and partner organizations, and extending the use of state administrative data. This review and synthesis of selected *CCB-funded research* projects provides an overview of key findings from this research, highlights methodological developments in the research, identifies policy implications, and points to steps future research can take to build on the foundation provided by these studies.

Overall, *CCB-funded research* has focused on five main topic areas:

- Utilization and effects of child care subsidies;
- Factors associated with parental choice of child care;
- Documenting and improving child care quality;
- Child care partnerships to increase early childhood care and education program collaboration and to improve quality; and
- Characteristics of the child care workforce.

This review and synthesis focuses on *CCB-funded research* projects that (1) address one or more of these topics; (2) have reports that have been reviewed and released to the public, or were far enough along in the process of review that the authors felt the report could be shared; and (3) have sufficient detail regarding research methodology so that characteristics of the sample, research design, and measures used could be considered in the review. It is important to underscore that the Child Care Bureau's research program includes further research that focuses on issues beyond the five topics chosen for examination here, as well as research still in progress.

Highlights of Findings in Five Topical Areas

Utilization and Effects of Child Care Subsidies

Context. The primary purpose of child care subsidies provided through the Child Care and Development Fund (CCDF) is to support low-income working families by subsidizing the cost of child care. A secondary purpose is to support the quality and infrastructure of the child care system for all families: at least 4 percent of CCDF funding must be set aside by states to improve the quality and availability of child care, and specific appropriation earmarks must go toward improving general quality, child care for infants and toddlers and school-age children, and child care resource and referral.

Federal guidelines allow states to assist families in paying for child care if the family's income falls below 85 percent of state median income (SMI) and if they need child care to support employment and/or education and training. Subsidies are funded through a block grant to states based on a formula set by federal guidelines. Within this context, the federal eligibility guideline of income below 85 percent of SMI operates as a ceiling rather than as a requirement. Indeed states may, and many do, set their own eligibility levels below 85 percent of state median income, depending on their eligibility priorities, demand for subsidies, and level of funding available.

In addition to federal funds through the block grant, funding levels for subsidies include state match, and maintenance of effort funds. States also can choose to transfer Temporary Assistance for Needy Families (TANF) funds to CCDF or to use TANF funds for subsidies directly, and can make additional contributions toward subsidies from state funds. Over the past decade, there have been substantial increases in federal funding for child care. Looking collectively at CCDF, TANF, and Social Service Block Grant (SSBG) funding streams, federal funding for child care has increased from \$2.6 billion in 1996 to \$8.3 billion in 2004. CCDF alone provided \$4.8 billion.

Each state has discretion in how to allocate subsidies to eligible families. This includes making decisions about who is eligible, at what level to set provider reimbursement rates and co-payments, and determining health and safety requirements for types of care used. These decisions, which may be made in part as a function of funding level, act as policy levers and can affect the number of families being served. For example, requiring a higher co-payment from families can expand the total number of families served overall in the program, but may mean a reduction in the subsidy amount for families. States also make important decisions regarding the administration of child care subsidies, such as application and recertification procedures and the extent of outreach to inform families about the availability of subsidies. Finally, subsidy receipt should be considered in the context of other early care and education supports for low-income families, including Head Start and pre-kindergarten programs.

Key Findings. A review of *CCB-funded research* indicates that receipt of child care subsidies is more likely for families with certain characteristics. In particular, receipt of child care subsidies is more common among single mothers, TANF recipients, families in which the youngest child is a toddler, black families, mothers with more formal education, and mothers born in the U.S.

Across multiple states and using rigorous research designs, studies have found that access to and use of subsidies are associated with increased maternal employment. Furthermore, child care subsidies are associated with the largest increases in employment for the most disadvantaged welfare recipients.

As noted in greater detail in the section on parental choice, the research also suggests that child care subsidies expand the range of child care options available for low-income families. Child care subsidies have helped bring regulated center and family child care within the financial reach of low-income families. Among low-income families, subsidy recipients are more likely to use center care than those who are not receiving subsidies. Yet a significant proportion of families also choose to use their subsidies to purchase license-exempt family child care or family, friend and neighbor care.

Multiple studies suggest that among families meeting income eligibility thresholds for child care subsidies, only a minority actually use subsidies. Possible reasons for low utilization rates include: lack of awareness of the subsidy system, misconception by families that they are not eligible for subsidies or that subsidies are tied to the welfare system, decision by eligible families that they do not need or want assistance paying for child care, possible stigma attached to receiving subsidies, and difficulty with procedures required for accessing subsidies (e.g., need to apply or present documentation for recertification during working hours). Estimates of the

percentage of potentially subsidy-eligible families utilizing subsidies vary substantially, with a range from 12 to 39 percent. Some of this variation depends on which families are included in the denominator of the estimate (for example, families who are eligible according to federal versus state eligibility guidelines; families leaving welfare versus all income-eligible families). Estimates also do not take into account other forms of early childhood care and education supports families receive, such as Head Start and pre-kindergarten. When these other supports are taken into account, estimates of the proportion of families actually receiving some form of assistance are substantially higher.

Evidence is mixed on whether specific state policy decisions on such matters as subsidy generosity level and co-payment level influence utilization. Some evidence suggests that administrative practices, such as efficiency in payment of subsidies and information about child care options at the time of application, may be important to subsidy utilization. Additional research is needed to examine the relationships among specific state policies, administrative practices, and subsidy utilization.

Factors Associated with Parental Choice of Child Care

Context. A cornerstone of CCDF is the support and promotion of parental choice in child care decisions. Subsidies can pay for all forms of legally operating child care including license-exempt care. Reimbursement rates must be set so families receiving subsidies can access the same range of options that unsubsidized families access. Given the high priority placed on preserving parental choice, a focus of *CCB-funded research* has been to examine what factors contribute to choice, and whether policy and administrative practices in any way expand or unintentionally constrain choice. The research to date focuses on what types of care families actually use, rather than on the decision-making process. Likewise, the research to date examines the factors that are associated with parents' choices of different types of care, but does not determine whether these factors actually contribute to and shape the choices (i.e., function as causes or are just correlates). It would be a valuable extension of this work to learn more about parents' decision-making processes and whether policies and administrative practices play a role in the types of care parents actually choose.

Key Findings. Child care choices are related to child and family characteristics. For example, with respect to child characteristics, families increasingly choose center care as children grow older across the preschool years. As an example of family characteristics related to child care choices, Hispanic families are particularly likely to choose care provided in a home and by relatives. However, local child care market characteristics, such as the availability and cost of different types of care, also affect patterns of child care use. The availability of different types of care during evening, night or weekend hours is also a factor related to choice. Mothers working nonstandard hours are more likely to turn to relative care, in part because center-based care is less available during these hours.

Income is a very important constraint on choice of child care. The National Study of Child Care for Low-Income Families found that much of the regulated local child care supply was out of reach of households living in poverty and low-income working families. Yet, the study also found that child care subsidies expanded the range of care these families could afford by bringing regulated center and family child care within financial reach. In close to half of the

counties included in the study, fewer than 10 percent of regulated centers and family care providers charged fees that would have been affordable for low-income families based on estimated child care budgets. However, the child care subsidies were sufficient to purchase 75 percent of local child care in 15 of the 23 counties for which data were available. The authors were careful to note that even though those families might now be able to afford a wider range of child care with subsidies, they still might not gain access to the full range of care because not all child care providers were willing to accept the subsidy payment. A higher proportion of regulated family child care providers than center providers were willing to accept subsidies.

Though evidence from the National Study of Child Care for Low-Income Families indicates that subsidies increased the affordability of child care for low-income families and improved access to regulated center and family care, research shows a great deal of variability in the extent to which state subsidy rates suffice to purchase local center and regulated family care. For example, the payment rates in Maryland enabled parents to purchase approximately 75 percent of the available local regulated care; in Illinois subsidies were sufficient to purchase only between 50 and 75 percent of the available regulated care; and in five counties studied in the National Study of Child for Low-Income Families, subsidies were insufficient to purchase even half of available local center care.

Child Care Quality

Context. In keeping with CCDF statute, at least 4 percent of CCDF funds must be set aside by states to improve the quality and supply of child care (the “4 percent set-aside”). Quality activities are defined broadly, including, “activities that are designed to provide comprehensive consumer education to parents and the public, activities that increase parental choice, and activities designed to improve the quality and availability of child care (such as resource and referral services).” In addition to the quality set-aside, funds are “earmarked” or specifically allocated for improving the quality and supply of infant-toddler care and school-age child care, and for child care resource and referral. A 2002 report by the General Accountability Office indicated that many states actually exceed the 4 percent requirement.

Studies carried out in multiple geographical areas suggest that much of the care in this country does not meet the threshold of a “good” rating on direct observations of child care quality. Further, there is a substantial body of evidence linking child care quality to child outcomes, with associations between child care quality and child outcomes appearing stronger for children in low-income families. Some evidence also indicates that child care of higher quality supports transitions off of welfare. The report by the General Accountability Office noted limited research on state child care quality initiatives, including research documenting how states are spending their quality funding, and evaluations of the effectiveness of strategies to improve child care quality. It also noted that a majority of expenditures to improve child care quality focus on center care.

Key Findings. *CCB-funded research* begins to address gaps in knowledge on child care quality initiatives noted in the 2002 GAO report. One CCB-funded study takes a critical first step by describing states’ quality-improvement efforts. This project profiles child care quality initiatives funded by the 4 percent quality set-aside and infant-toddler earmark in 45 states, including goals of the initiatives, target populations, budgets, and whether or not an evaluation is being carried

out. In a closely coordinated CCB-funded study, state child care administrators were asked what resources they needed in order to evaluate their states' quality initiatives. As part of the project, a "tool kit" for evaluation was developed, including resources such as research instruments appropriate for use in evaluations of different types of quality initiatives.

As explained further in the methodological innovations section, there are now a number of states collecting data to document quality state-wide, with the intent of guiding quality-improvement efforts. For example, Massachusetts has collected data on state representative samples of center child care and licensed family child care. Results for center care and licensed family child care identify different aspects of care in need of improvement. For center care, with generally strong overall quality in the state, results indicate room for improvement in language stimulation and in the variety and quality of materials used in children's daily activities. In contrast, the overall quality picture for licensed family child care was less positive. Improvements were especially needed in health and safety practices and in the provision of activities which stimulate learning. Estimates are provided for the cost of improving quality in each type of care.

The 2002 GAO report noted the limited number of studies focusing on the effectiveness of child care quality initiatives and called for more evaluations of specific initiatives. Here again, *CCB-funded research* helps to address a significant gap, with a number of these studies focusing on specific child care quality initiatives. For example, researchers have investigated the strategy of making child care quality ratings available to consumers. Findings from communities in two states indicate that parents are interested in and actually access child care quality ratings when choosing child care. Additionally, in one Florida county, evidence indicates that making such information widely available has the potential to affect overall quality. The number of inspection visits increased when ratings from child care licensing visits were made available, and inspector ratings became more discriminating, less often providing simple pass/fail judgments and more often noting areas in need of improvement. Further, there were improvements in observed quality of subsidized center child care. Yet overall enrollment did not decline in child care centers receiving unfavorable inspection reports. It is possible that more informed parents removed their young children from centers with problematic reports, while new parents (who had not accessed the reports) enrolled their children in these centers.

CCB-funded research has increasingly focused on characteristics of family child care, helping to correct the disproportionate emphasis in previous research on center-based care. This work suggests that it is important to move beyond a view of family child care as a single, uniform type of care, and to identify subtypes. For example, in the National Study of Child Care for Low-Income Families, which focused predominantly on home-based care, differences emerged between care in which all children were related to the provider, none of the children were related, and when there was a mix of related and non-related children. While observed warmth and emotional responsiveness by the provider was generally high and did not differ by relatedness, continuity of care was higher when care was provided by relatives. In contrast, concerns about health and safety were lower when the provider was caring for some non-related children than only related children. Homes with all related children had more TV watching and routine activities, and fewer learning activities. This work suggests that current measures of child care quality may not capture important strengths of care provided in home settings, such as continuity in relationships between caregivers and children over a period of years.

The reviewed studies also focus on child care quality received by subsidized children vs. unsubsidized children. Because of the geographical variation and level of detail in the measures, the study carried out in partnership by four Midwestern states (Iowa, Nebraska, Missouri and Kansas) is particularly important. This work found that overall, average child care quality ratings were lower for subsidized than unsubsidized children. However more detailed analysis by children's ages revealed that this difference was not sustained for infants, toddlers, or preschoolers in center care, only for children in family child care. A similar pattern was found in a study of low-income children who were and were not receiving subsidies in one California county.

Early Care and Education Partnerships

Context. Early care and education partnerships are created by blending funding and resources across child care centers, in-home care providers, Head Start programs, and pre-kindergarten programs. The goals of partnerships are to meet the needs of working families (especially those transitioning off of welfare) and help support early child development by increasing the amount of full-day, full-year quality child care for low-income children, increasing comprehensive services to children and families, and providing continuity of care. Many Head Start programs are still structured around a part-day, part-year schedule that can conflict with working families' schedules and the needs of those transitioning from welfare to work. Partnerships pair Head Start and child care programs so that children can participate in Head Start programs part of the day and still have their care needs met for the remainder of the day. In such partnerships, Head Start and child care programs may share professional development. In addition, the Head Start quality standards may apply to the partner child care program. Some states have chosen to invest quality set-aside and other state-specific funding for improving quality by supporting partnerships. While the research to date focuses heavily on partnerships between Head Start and child care, other partnerships such as between state pre-kindergarten and child care also occur. The President's *Good Start, Grow Smart* initiative encourages states to develop early learning guidelines that specify what young children should know and be able to do at kindergarten entry. These guidelines apply to young children irrespective of the form of early care and education in which they participate. The initiative also encourages federally-supported early childhood programs to develop professional development plans for those working with young children that are aligned with the early learning guidelines. With a common set of goals for young children, such efforts are fostering collaborations across types of early care and education settings.

Key Findings. Research to date on early care and education partnerships is descriptive in nature, comparing child care programs engaged in partnerships to those which are not. In a random sample of child care centers in Ohio, centers that partnered with Head Start were more likely to serve families using child care subsidies. Providers in Early Head Start/Head Start partnerships in Ohio were more likely than non-partnering centers to provide parent involvement opportunities, parent referral services, and comprehensive screenings and services to children. Head Start tended to provide partnering centers with teacher training, equipment, and supplies. While the Ohio study did not involve direct observations of child care quality, the study in the four Midwestern states of Iowa, Nebraska, Missouri and Kansas found observed child care quality to be higher in child care facilities in partnerships with Head Start or Early Head Start.

Research to date also describes best practices at the state and local program and policy levels for making partnerships work well. For individual programs, positive functioning in partnerships seems to be supported by taking steps toward mutual awareness of partnering organizations' policies and practices, financial management to handle funding from multiple streams, the ability to address differentials in staff pay, and involvement of staff in all phases of planning and implementation. At the state level, partnerships can be fostered by coordinating efforts among state agencies and providing opportunities for professional development and technical assistance that work towards ensuring comparable professional development standards across early education professionals. States can also offer grants for forming partnerships or increase reimbursement rates for providers who meet quality standards in partnerships. The research suggests that there are substantial challenges, but also potential rewards to establishing early care and education partnerships.

Child Care Workforce

Context. It is important to have reliable estimates of the size and characteristics of the child care workforce for several key reasons. For example, knowing the size of the workforce and how it is distributed across types of care and geographical areas may be essential to planning for expanding the supply of care. Strengthening early childhood professional development is central to the *Good Start, Grow Smart* initiative, and here too, having an accurate picture of how many providers could potentially benefit from specific types of education and training is vital. Yet the evidence reviewed indicates that data at both the national and state level have limitations for providing the kind of workforce description useful for such efforts. Problems with definition and measurement undermine the development of a comprehensive picture of the workforce. Further, widely varying measurement approaches prevent comparisons of workforce estimates across geographical regions.

Key Findings. A review of available data for assessing the size and characteristics of the child care workforce concludes that there are limitations with both national and state data, especially in terms of providing breakdowns by ages of children cared for, type of care, relatedness of providers to children, and educational qualifications of providers. For example, at the national level, one major survey used to obtain early childhood workforce data does not include self-employed providers, so estimates of the workforce relying on this survey do not include those working in family child care. Questions in national surveys also tend to exclude those who do not describe themselves as child care workers, such as relatives paid to provide care. State workforce data collection also has limitations. The review found that fewer than half of the states (16), had data appropriate for estimating the size of the paid child care workforce for children from birth to five. Thirteen states had current data but with specific limitations, while 22 states lacked current workforce data. There is a pressing need to clarify definitions and to strengthen measurement approaches in state and national data collection on the workforce.

Those state and local studies that do provide detailed data on workforce characteristics are extremely informative. These studies suggest that there are differences in provider characteristics between center teachers of preschoolers, center teachers of infants and toddlers, licensed family child care providers and license-exempt family child care providers, with center teachers of preschoolers showing the most education and highest annual earnings from their jobs and license-exempt providers the least. Child care turnover and stability data do not follow the same

pattern as education and earnings. Indeed home-based care providers appear to have lower turnover rates than those in centers.

Child care staff turnover is a particular concern as high turnover rates imply disruptions in caregiver-child relationships. They also suggest that child care facilities spend time and resources finding, training and integrating new staff members that might otherwise be spent on such goals as introducing new curricula or providing additional professional development. *CCB-funded research* begins to identify factors, which differ by position, that decrease the likelihood of staff turnover. A study in Alameda County, California found that those who stay longer in center director positions tend to have familiarity with professional development opportunities, to come from centers with higher overall quality, and to report fewer symptoms of depression¹. For center teaching staff, stability is associated with having chosen the job as a profession rather than a stepping-stone to another job, having sought updated training, having fewer depressive symptoms, being part of a more stable group of teachers, and working in a higher quality program. Few measures predicted stability for licensed family child care providers, and the list did not include program characteristics such as overall quality. Stable licensed family child care providers tend to be older and not to have young children of their own.

Methodological Developments in Child Care Research

This review and synthesis identifies three important methodological developments in *CCB-funded research*: (1) progress from small selective samples to more comprehensive sampling, especially sampling that provides a perspective on state representativeness of child care use or quality; (2) innovative use of data sources, especially market rate surveys and administrative data; and (3) application of new measurement approaches to address research questions more effectively.

More Comprehensive Sampling

A 2003 volume of the National Academy of Sciences by the Committee on Family and Work Policies identified the need for a nationally representative study of child care quality as the single highest priority for future research on working families and their children. Much of the existing research on child care quality relies on small, selective samples. Though there have been a number of important large-scale studies in recent years, these studies do not include samples that allow for an overall description of the quality of care in communities or states. Such representative pictures of child care quality may provide guidance as to where and how best to target quality initiatives.

In *CCB-funded research*, six states have carried out studies with state representative samples using surveys and direct observations of child care quality. This research, for the first time, permits states to describe overall child care quality in their states and for subgroups of interest, including low-income families and families receiving subsidies. States are using this information

¹ Depression is a prolonged negative psychological state that interferes with daily functioning. Depressive symptoms include frequent feelings of sadness and loneliness, and the inability to concentrate or enjoy pleasurable activities even with the help of family and friends. Reporting high levels of symptoms of depression does not suffice for a clinical diagnosis of depression, but high levels of depressive symptoms are more common among those with clinical diagnoses.

to assess the cost of improving quality and to learn where quality improvements are most needed. Four Midwestern states are collaborating to track changes in quality over time in order to determine if state investments yield changes in quality. These studies could provide useful guidance to others interested in obtaining an overall picture of quality at the state level. The possibility exists of building towards a national picture of child care quality through such state-representative samples.

Innovative Uses of Existing Data

The CCB has encouraged use of existing state administrative and survey data for research purposes. Important research questions can be addressed through existing data from market rate surveys and through administrative records on child care subsidies, TANF, unemployment, child care licensing, child care resource and referral, and professional development registries. Yet, making effective use of existing data is not simply a matter of gaining access. It requires mastery of the details of state data collection approaches to assure appropriate interpretation, data cleaning, and often the difficult but critical step of linking multiple administrative datasets. For example, in California, researchers used a decade's worth of data on child care spaces and prices from market rate surveys, together with information on the availability of child care subsidies in the state, TANF receipt, and employment rates, to look at factors contributing to child care prices over time. In another example, multiple states worked together to use administrative data to examine the length of child care subsidy spells and whether this length varied substantially across states.

Tackling Limitations of Existing Measures

CCB-funded research has tackled limitations in the measurement of child care workforce characteristics and child care utilization. This work is beginning to identify a wider range of measures that are important in describing the workforce. For example, researchers have assessed providers' literacy and psychological well-being, finding both of these to be important for understanding such issues as turnover in the child care workforce. This work is also introducing entirely new measures. For example, noting wide variation in the number of children receiving child care subsidies in particular child care settings, researchers developed a measure of "subsidy density," or the proportion of children in a setting receiving subsidies. This new measure has been incorporated into research seeking to identify whether child care facilities with higher subsidy density meet the quality criterion that would make them eligible for subsidy reimbursement at higher rates through tiered reimbursement.

These studies have also used a range of rigorous new statistical techniques available through statistical software packages, extending the set of questions that can be addressed. The studies include greater use of longitudinal datasets and statistical examination of models specifying linkages across sets of variables. While important next steps remain, this set of studies has made noteworthy methodological progress in child care research.

Policy Implications and Next Steps for Research

The research reviewed here raises a number of policy issues and also suggests high priority next steps for research that could help inform policy decisions.

Child care subsidies appear to have benefits for both parents and children. For parents, they support employment and help prevent a return to welfare. For children in low-income families, they expand the range of child care options families can afford.

An important policy challenge is to gain a better understanding of the relatively low percentage of eligible families that access child care subsidies. It may be that this simply reflects family preferences or limitations on resources within states. Families may choose not to use child care subsidies because they are relying on unpaid family, friend and neighbor care. As noted, resources provided by the federal government can be extended by state general funds and/or the decision to spend TANF funds. States exercise some discretion in terms of the number of families served through decisions about income eligibility limits, reimbursement rates, and co-payment requirements. While there are ways to expand the number of families served, there are also limits due to overall constraints on available funding.

The research reviewed here raises the possibility that even within this framework, there may be barriers to utilization. Available resources are not always used. A first important step for research would be to clarify whether there are indeed barriers to utilization of child care subsidies. If findings point to the presence of barriers, then a number of steps could be explored. *CCB-funded research* suggests that many families lack an understanding of their eligibility status and of where and how to apply for subsidies. It would be helpful to assess the efficacy of outreach efforts aimed at increasing eligible families' understanding of their eligibility status and of the procedures involved in application and redetermination. Contrasting both take-up rates and knowledge of the subsidy program in delineated geographical areas in which outreach did and did not occur would be a potential strategy for evaluation. Qualitative research that explores why parents either do not use subsidies, or exit the subsidy program although still eligible, would also be extremely informative to both research and policy.

Researchers in these studies have identified relatively short average periods of subsidy receipt, although duration of subsidy use varies across states. A central issue is the relationship between employment instability among low-income workers and receipt of child care subsidies. Is it possible that families who are assured continuity of child care subsidies for a period after loss of a job would reenter the labor force sooner? Would children experience greater continuity of child care and more favorable child outcomes if duration of subsidy use were longer? It would be important to consider implications in both areas, that is, implications for employment and welfare receipt as well as for continuity of child care and child well-being.

One of the important findings regarding subsidy utilization from the set of studies reviewed here is that subsidies should not be considered alone, but rather in conjunction with other forms of public support for early childhood care and education. Is it the case that families who do not apply for or use subsidies are instead using other forms of public support? Is there a regularly occurring sequence in which subsidy use progresses to participation in Head Start or pre-kindergarten as children grow older? Do families with differing background characteristics avail themselves of the different public supports for early care and education? Rather than focusing on those families who do and do not utilize child care subsidies, perhaps the issue should be

broadened to those eligible families who do not use any form of public support for early care and education.

CCB-funded research clearly suggests that it is important to look beyond issues of policy to consider actual practices and implementation of the child care subsidy program at the state and local levels. Indeed, it has been suggested that administrative hassles in applying for child care subsidies and in the recertification process, as well as in having reimbursements reach child care providers, may all be possible reasons some families do not use subsidies. An important next step would be to study systematic variation in implementation practices. For example, does utilization of subsidies increase or become more stable when the application process is simplified? When parents can apply outside of nine to five office hours? When steps are taken to make provider reimbursement more efficient?

Ensuring **parental choice** is a principle of the child care subsidy system. Evidence from the studies reviewed suggests that the availability of subsidies makes a wider range of child care affordable to low-income families, especially increasing the option of using regulated care. Yet state and local child care markets also contribute to the range of available options.

Little is known about parents' decision-making process concerning what type of child care to use. Research focuses more on utilization and predictors of type and timing of care used than on factors parents consciously take into account when deciding on care. Little is known about the effects on type of care used when maximum payment rates are set below market prices. It is particularly important from a policy perspective to understand the extent to which parents receiving subsidies actively weigh such factors as whether higher reimbursement rates can be paid for child care with certain quality indicators. It would be useful for research to focus on whether the process of decision-making changes when parents receive more information on available child care options and on how to assess child care quality. It would also be important to examine whether and how child care decision-making changes are made when families are given more time to finalize a child care arrangement.

This research suggests that subsidies may be particularly important in extending options available to families of children with special needs, perhaps especially so in rural areas where options are more limited. It would be important to examine the implications of child care subsidies on choice for these families. Is there greater access to providers trained to care for children with special needs when parents have child care subsidies? Does children's development differ according to use of subsidies and related choice of care for children with special needs?

The evidence reviewed indicates that parental choice among families receiving subsidies is constrained by whether or not a child care provider is willing to accept subsidies. At least in the geographical areas studied, family child care providers appeared to be more willing to accept subsidies than those in centers. An important next step would be to attempt to shed light on why some providers are not willing to accept child care subsidies. If, for example, efficiency in payment is the key issue, policymakers could focus on approaches to improving efficiency, and this in turn would extend parental choice.

This review and synthesis provides evidence that parents actively seek out information on **child care quality** available through rating systems or inspection reports. Yet, very little is known about how this information influences child care choice. Research is needed among families receiving subsidies, and families of varying socioeconomic backgrounds, to better understand the types of information about child care quality that families find most useful, and how the information is actually taken into account in choosing care. For instance, do families find summary ratings (like rating systems that use the number of stars to indicate overall level of quality) useful? Or, do they prefer discrete ratings that allow them to weigh different quality factors? Carrying out direct observations of child care quality as part of a quality rating system is costly though quite informative. Do parents particularly value the information from such direct observations?

CCB-funded research has taken important steps to document how funding from the child care quality set-aside is being used, and to begin to evaluate the effectiveness of initiatives to improve quality. Yet systematic evaluations of child care quality initiatives are few in number. Further, it is only recently that the most rigorous approach to evaluating such program impacts, experimental evaluation, has been used. The Quality Interventions for Early Care and Education (QUINCE) evaluation uses an experimental design to ask whether on-site consultation approaches improve the quality of family child care and entry-level center care, and whether such consultation improves child outcomes. The implementation of a curriculum focusing on early literacy in subsidized child care centers in particular Florida communities is also being evaluated using an experimental design.

This is a period of experimentation with child care quality-improvement strategies, and much could be learned from state efforts to inform future initiatives. One approach, for example, might involve identifying a set of states carrying out quality initiatives that are similar in terms of objectives, such as efforts to improve the professional development of providers through scholarships for further education. Technical assistance could be provided so that similar data could be collected across these states to document the implementation and effectiveness of such approaches. In general, there is great potential to inform the use of quality funding through more systematic collection of information about the wide range of current state efforts. Evaluations should include an examination of costs, so that policymakers can make decisions in light of both costs and potential benefits.

A substantial percentage of children overall, and low-income children in particular, participate in care provided by family, friends and neighbors. *CCB-funded research* has helped identify both strengths of such child care settings and areas in need of improvement. Yet very little is known about the openness of family, friend and neighbor providers to efforts for improving quality. Further, virtually no evidence is available regarding effective approaches to improving quality in these settings. Given the numbers of children whose primary care comes from family members, friends and neighbors, it is important to understand what resources and supports would be welcome, and which would be effective in improving quality in these care settings.

Collaborations and formal early care and education partnerships are encouraged through the administration's early childhood initiatives. The President's *Good Start, Grow Smart* initiative calls for the development of early learning guidelines as well as taking steps to prepare the early

childhood workforce to support children in reaching the goals identified in such guidelines. Because the purpose is to ensure that children gain the skills and abilities to succeed in school, there is an emerging need for approaches to professional development that are appropriate across types of early care and education. It will be important to ask whether training and education approaches are working well across different types of early care and education. It will also be of interest to determine whether this policy approach is fostering more collaborative efforts at the state level across programs with different funding sources, such as child care, Head Start, and pre-kindergarten.

In addition to collaborations that may be fostered through common early learning guidelines and professional development approaches, early care and education partnerships take a further step, formalizing relationships. Head Start-child care partnerships meet an important set of policy goals by providing care that matches the needs of working low-income parents while also providing comprehensive services to families and early learning opportunities to children. There has been limited research focusing on the effects of such partnerships. The evidence to date suggests that such partnerships bring resources to child care such as training, equipment and materials, and that quality is higher in child care programs partnering with Head Start or Early Head Start. However to fully address the policy goals of such partnerships, effects on parents' employment and on children's outcomes should be examined. A valuable next step would be to go beyond describing partnerships to examining such outcomes.

Work is also needed examining a broader range of collaborations across specific early care and education programs. For example, it is clear from recent research that a substantial number of state pre-kindergarten programs are being implemented in child care settings. Important questions remain about this approach to expanding access to pre-kindergarten programs. It is important to understand what criteria states are using to determine the child care programs that are eligible as pre-kindergarten sites, and to describe what resources states are making available in terms of professional development, equipment, and resources so that child care programs can meet eligibility criteria. As for Head Start-child care partnerships, there is a need to examine whether the quality of care and children's development are affected by such collaborations. In addition, it is important to ask whether pre-kindergarten programs implemented in child care settings are particularly effective at enrolling children of working parents, and whether they play a role in helping parents retain employment.

At present there are serious limitations to the information that is available regarding the **early childhood workforce**. Such information is important to guiding efforts both to expand the workforce and to improve professional development. National and state surveys do not regularly include all categories of paid child care workers, and lack effective approaches to capturing the content and extent of training that providers participate in outside of formal education. Problems with appropriate documentation of provider education and certification also exist though they are less severe than for training. There is limited comparability in the data collected in different states by workforce surveys and child care registries.

A high priority should be placed on working towards better child care workforce data collection. Key steps could include working towards agreement on common definitions and measurement approaches for use in national surveys and across state surveys, introducing data collection that

captures the content and extent of training using a common approach across state child care registries, and extending and coordinating data collected by child care resource and referral agencies. The development of a common core of data elements for documenting the characteristics of educators in kindergarten through grade 12 in state surveys funded by the Department of Education could serve as a model for the development of consistently collected data on education, training and certification for the early childhood workforce.

Finally, the issue of workforce turnover remains a problem. Turnover affects program costs, as resources must be diverted to hiring and training new staff. It also affects outcomes for children when relationships between children and their caregivers are disrupted. Outcomes for parents may also be affected, particularly if discontinuity in care interrupts employment. The work reviewed here suggests that initiatives at the state and county level to address retention in the child care workforce can affect overall rates of turnover in center care. There is a need for further evaluations of initiatives to address turnover. Such work should include cost-benefit analysis, considering the costs of retention initiatives in relation to the benefits of diminished turnover for programs, for parental employment, and for child outcomes. Varying approaches are currently being undertaken by states in attempts to reduce turnover. Planned variation studies, systematically varying the approach taken and replicating the varied approaches in different locations, would help greatly in assessing the effectiveness of approaches to improving retention in the child care workforce.

INTRODUCTION

The Child Care Bureau (CCB) of the U.S. Department of Health and Human Services has funded a set of research projects that provide in-depth information on issues central to child care policy and child care practice in the United States. While each separate project report provided to the CCB makes an important contribution, it is also helpful to look across the reports to identify emerging patterns of findings, policy implications, and directions for future research. The purpose of this document is to provide researchers and policymakers with such an integrative review.

This review focuses on findings from *selected* reports of research projects funded by the CCB. In order to be included in the review, the research had to focus on one or more of the following five topics: (1) Utilization and effects of child care subsidies; (2) factors associated with parental choice of child care; (3) documenting and improving child care quality; (4) child care partnerships and collaboration across programs in early childhood care and education to improve quality; and (5) characteristics of the child care workforce. The report also had to have been reviewed and released to the public, or reviewed and near enough to release that the authors felt that it was appropriate to include. In addition, the report had to have sufficient detail regarding research methodology so that characteristics of the sample, research design, and measures used could be considered. Where an earlier report has been substantially built upon in more recent research, the review may mention the earlier work but focus more heavily on the recent research. It is important to underscore that the CCB's research program includes additional research that focuses on issues beyond the five topics chosen for examination here, research in progress, research that has not yet been reviewed and/or released, and research that may well be rigorous but for which the research report does not provide methodological detail.

The *CCB-funded research* is part of a larger body of research on child care in the United States. However, the way in which the CCB has structured its research program has resulted in a set of projects that make unique contributions. For example:

- The CCB has created a set of partnerships within states that include the state child care administrator, researchers within the state, and representatives of practitioner organizations such as child care resource and referral agencies. This has influenced the set of questions being addressed through research, emphasizing questions that are of high priority to policymakers. At the same time, the research projects are well grounded in practitioner perspectives. For example, multiple states are now collecting state representative samples of child care quality with the aim of guiding efforts to improve care quality.
- The CCB has funded State Capacity Grants intended to strengthen the collection and use of child care administrative data, that is, data collected regularly as part of the ongoing administration or reporting requirements for a program like the Child Care and Development Fund. Administrative data can serve as an important resource to address particular research questions. This new emphasis on strengthening and utilizing administrative data is resulting in projects focusing on issues such as the average duration of subsidy receipt in differing states.

- The *CCB-funded research* is interdisciplinary and inclusive, including researchers with backgrounds in child and human development, education, sociology, psychology, public policy and economics along with policy makers, including state child care administrators and practitioners. While there has been longstanding recognition of a link between child care quality and child outcomes, there is growing recognition of the importance of economic and public policy perspectives in this body of research. The encouragement of interdisciplinary projects is resulting in the examination of such issues as the link between subsidy use and parental employment.
- The CCB invites its grantees to an annual Child Care Policy Research Consortium (CCPRC) Meeting. This meeting exposes researchers to new policy developments concerning child care, and helps researchers generate proposals for projects that will be useful to national and state policymakers. It also provides for interchange among researchers working in different local and state policy environments, and encourages collaboration so that researchers in different states can develop common research approaches. This has resulted in such efforts as the Midwest Research Consortium, a project examining child care quality in four Midwestern states and relating quality to policy variables.
- The CCB has drawn upon the discussions at the CCPRC meeting and the conclusions of its funded projects to identify recommendations for strengthening the research on child care. A recurrent theme has been the need for additional research on home-based child care including that delivered by family child care providers as well as that provided by family members, friends, and neighbors. A further theme has been the need to go beyond documentation of child care quality and child outcomes, to more rigorous evaluations of differing approaches to improving child care quality. Both the Quality Interventions for Early Care and Education (QUINCE) Evaluation and the Subsidy Evaluation Project follow experimental designs, contrasting differing approaches to strengthening child care quality and subsidy policies.

In sum, this body of research has particular strength in addressing topics of policy relevance, in utilizing state administrative data, in involving collaborations that can use a common research approach in examining state variation on topics of high priority, and in fostering collaborations across disciplines. The partnership of policy makers seeking to inform decisions and researchers seeking to apply research approaches to policy-relevant questions has strengthened the policy relevance of much of this work.

Many of the projects make both substantive and methodological contributions. These two facets of the research are often closely intertwined. That is, new findings have emerged in part because new methodological ground has been broken. Given that the methodological steps taken in this set of projects are foundational to the results, this review begins with an overview of innovative research approaches used. It then provides a summary of findings from the selected reports regarding the five topical areas of child care subsidies, parental choice, child care quality, partnerships, and the child care workforce. In concluding, this review and synthesis turns to an overview of the policy implications of this body of work, and to the future research directions that will be of particular importance to pursue. A glossary follows the review to clarify certain terms used throughout the document.

A set of tables accompanies this review and synthesis, identifying the project reports that are included, along with authors and sponsoring institutions, the topical areas each report is pertinent to, and the approach taken in the work.

METHODOLOGICAL DEVELOPMENTS

As noted above, in this set of projects, methodological progress often provides the foundation for substantive progress. This review identifies three important methodological developments in *CCB-funded research*: (1) progress towards comprehensive sampling, especially sampling that provides a perspective on child care use or quality that is representative for a state; (2) innovative use of data sources, especially market rate surveys and administrative data; and (3) the use of new measurement approaches to address substantive issues more effectively.

More Comprehensive Sampling

A 2003 volume of the National Academy of Sciences by the Committee on Family and Work Policies (Smolensky & Gootman, 2003) identified as the single highest priority for future research on working families and their children, the need for a nationally representative study of child care quality. Much of the existing research on child care quality relies on small and selective samples that do not permit generalization to issues of quality at the community, state or national level. While the potential for bias is present in all sample-based studies, this threat to validity is particularly high with small non-representative samples and when response rates fall below a certain threshold.²

In recent years, progress has been made in addressing the lack of comprehensive samples in studies of child care quality through several large, multi-site studies. Research such as the NICHD Study of Early Child Care, the Cost Quality and Outcomes Study, and the National Child Care Staffing Study make important progress in examining child care quality, its predictors and outcomes for children, in large and more geographically diverse samples. However, none of these studies relies on samples that are representative at either a state level or the national level. Nationally representative datasets without samples large enough to support state-level analysis may mask local variability and provide incomplete information to policymakers and researchers. The need for local data is particularly important for topics covered in this review as several of the studies indicate that the effects of public policies vary by locality. The need for large minority samples is also clear given the lack of representative data on Latinos and African Americans. The study of child care would benefit from the availability of national and state-wide datasets large enough to support analyses of racial and ethnic subgroups.

An important development in *CCB-funded research* is that a number of states have carried out studies involving state representative samples of child care quality. These studies involve not only surveys but also direct observations of child care quality. Further, the measures of child care quality are the same or highly similar across states. Studies of both center child care and family child care have been completed in Massachusetts (Marshall et al., 2003; Marshall et al., 2001)

² Although recent research indicates that studies with low response rates that are well-designed and administered can yield similar point estimates to studies with high response rates, on most topics and characteristics (Keeter, Miller, Kohut, Groves, & Presser, 2000).

and in the four states (Iowa, Kansas, Missouri and Nebraska) participating in a consortium of Midwestern states (Raikes et al., 2006). More recently, a state representative study of center care has been completed in Minnesota (Tout & Sherman, 2005). Efforts to provide a state portrayal of child care quality for children in subsidized child care in Wisconsin, while not representative of all child care quality in the state, signal the interest of further states to obtain a picture of care quality at the state level (Adams, Roach, Riley, & Edie, 2001a, 2001c).

This is the first time that states have been able to describe the overall quality of child care for a state as a whole. In the Midwest consortium, there is a plan to carry out repeated examinations of child care quality at the state level. This will make it possible to ask whether the quality of care is improving over time in light of state investments in quality. These studies give a view of how the quality of care differs by type of care, and by key characteristics of families (such as families receiving subsidies and low-income families more broadly). They also provide insights into the strengths and areas in need of improvement for child care within individual states.

The use of common measures of child care quality across these states is beginning to make it possible to look for consistent patterns that go beyond individual states. Clearly, these studies do not fully address the call of the National Academy of Science report for a nationally representative study of child care quality. But they represent an important step in this direction. These studies raise the possibility of a strategy that builds towards a national picture of child care quality through multiple state studies. The *CCB-funded research* could serve as a source of information on sampling strategies and measurement for an extension of this approach to other states. As will be seen throughout this review, much important progress is being made in studies at the community and facility level as well as in the state-level studies. For example, such studies are yielding a greater depth of understanding of the quality of family child care, and extending the understanding of caregiver characteristics that contribute to quality. The intent here is to note the emergence of a new and promising approach to sampling that is complementing and extending these efforts.

Data Sources

The CCB has systematically encouraged wider use of child care data that are collected on an ongoing basis within states. There are important research questions that can be addressed through existing data from market rate surveys and through administrative records on child care subsidies, TANF and unemployment. Other child care data sources include datasets created by child care resource and referral agencies, professional development registries, and Child and Adult Care Food Programs. Yet making effective use of the existing data is not simply a matter of gaining access. It requires mastery of the details of state data collection approaches to assure appropriate interpretation, data cleaning steps, and often the difficult but critical step of linking multiple administrative datasets. Carrying out the same research approach in multiple states can substantially extend the value of the research, and yet requires implementing a common research protocol where state data systems may differ in important ways. The projects funded by the CCB have taken pioneering steps in extending the use of existing data resources for child care research and seeking to improve these resources.

States are required to carry out periodic surveys of their centers and family child care homes to set market rates. Studies funded by the CCB are beginning to exploit the potential of market rate surveys collected recurrently over time as a resource for examining dynamics of the child care market. As an important example, a study in California (Marrufo, O'Brien-Strain, & Oliver, 2003) uses market rate survey data collected over a decade in California to understand the different factors contributing to child care prices in that state. Researchers note that the utility of market rate surveys could be even greater if data collection went beyond facility-level data to include information on the characteristics (such as education and training) of individual staff members at each facility (Breunig, Brandon, & Maher, 2004). In its ongoing effort to extend the use of child care data sources, the CCB has recently funded a project to be implemented in multiple states with the aim of extending the usefulness of information collected from market rate surveys.

Researchers in CCB-funded studies have also substantially extended the utilization of existing administrative data. There are three primary ways in which this body of work is introducing new uses of such data: (1) using administrative data to create samples for in-depth studies on particular issues; (2) merging administrative data from multiple data sources into a single comprehensive data file; and (3) constructing comparable, longitudinal data sets in multiple states. As an example, McGregor and colleagues (2002) used state licensing and registration records to form a comprehensive database of state child care providers and facilities. The work of Gennetian, Fianco, and Morris (2003) illustrates the strategy of merging administrative data from multiple sources to address new issues: their work examines the dynamic interactions of spells of employment and welfare, subsidy use, and characteristics of employers and child care providers. Work by Meyers and colleagues illustrates the third strategy. This work involves the construction of comparable, longitudinal data sets in multiple states to examine patterns of subsidy use, focusing especially on duration of spells of subsidy receipt (Meyers et al., 2002). Future researchers can learn from the experiences of previous research by Lee et al. (2003) and Meyers et al. (2002) on how to create comparable multi-state datasets.

Measurement Approaches

A third important methodological contribution of the *CCB-funded research* is in tackling limitations of existing measurement approaches. In a number of instances, researchers felt that existing measures were not describing characteristics of the child care workforce or patterns of child care use adequately, and they have extended the range of measures and the ways in which measures are employed.

As one example, recent *CCB-funded research* has substantially extended the data collected on characteristics of the child care workforce. While provider professional development is an important construct, at times measures of professional development such as education are used as proxies for further important provider characteristics. Whitebook and her colleagues have introduced direct measures of provider literacy and depressive symptoms in tracking change over time in the child care workforce in Alameda County, California (Whitebook et al., 2004). This work suggests, for example, that there is a sizeable minority of child care workers for whom interventions addressing limited literacy might be appropriate. While previous research identified motivation to provide child care, and especially whether child care is seen as a profession, as

important caregiver characteristics (Galinsky, Howes, Kontos, & Shinn, 1994), this set of studies has incorporated measures of “intentionality” into data collection efforts involving caregivers in different types of care. This work is beginning to suggest differences in work motivation in different segments of the early childhood workforce. For example, in research completed by the Midwest Consortium (Raikes et al., 2003) over half of the providers in all types of care with the exception of license-exempt providers indicated that they viewed their work as a profession or career; license-exempt providers often indicated that their work reflected a desire to help someone out (Anderson, Ramsburg, & Rothbaum, 2003).

There have also been instances in which researchers felt that there were no existing measures that could describe an important feature of child care, and worked to develop new measures. As one example, researchers have encountered wide variation in the number of children receiving subsidies across child care centers and family child care homes, from facilities in which no families were using a subsidy to help pay for care, to those in which all of the children were using subsidies. They felt that it would be important to study “subsidy density,” or the proportion of children in a child care facility or geographical region receiving subsidies, in relation to family and provider characteristics and child care quality (Adams, Roach, Riley, & Edie, 2001b; Anderson et al., 2003; Raikes, Raikes, & Wilcox, 2005; Tout & Zaslow, 2004). In research conducted by the Wisconsin Child Care Research Partnership, greater subsidy density was found to be related to higher staff turnover rates in child care centers (Adams et al., 2001b).

Another way in which researchers have been challenging previous measurement approaches is in questioning whether in center-based child care, some measures of quality should be measured at the center level rather than at the level of individual providers. Whitebook and colleagues challenge researchers to look at such center-level measures such as the proportion of center teachers with a bachelor’s degree, and the overall turnover rate in a center. This research group uses both of these center-level measures to predict which center staff leave and which ones stay in their positions over time (Whitebook et al., 2004).

It is important to note that substantive progress has also been made through the use of rigorous analytic techniques. This set of studies uses a wide range of analytic approaches to address specific questions, including discriminant function analysis, path analysis, growth curve modeling, hierarchical linear modeling, event history analysis, and economic first-difference models. This review and synthesis will conclude with a discussion of important next steps for the research on child care, both methodologically and substantively.

FINDINGS IN FIVE TOPICAL AREAS

This section of the review and synthesis provides an overview of the key substantive areas considered in the *CCB-funded research*, summarizing emerging findings from this work in five topical areas: (A) child care subsidies; (B) parental choice; (C) child care quality; (D) partnerships between child care and other types of early care and education; and (E) the child care workforce.

Child Care Policies and Practices Regarding Child Care Subsidies

Child care subsidy policies and practices were a central focus of investigation in the *CCB-funded research*. This section identifies the key questions that are addressed regarding subsidies in *CCB-funded research*, emerging patterns of findings for each of these questions, policy implications of the work, and the next steps that the existing research indicates will be particularly important to pursue. Findings that addressed child care subsidies in combination with other areas of interest, such as parental choice and child care quality, are discussed in the sections that follow this one. We begin by providing some context and definitions regarding child care subsidies.

Context

The federal government works in partnership with states to improve the affordability, supply, and quality of child care in the United States. One way these goals are achieved is through the provision of child care subsidies to help low-income families pay for child care. Child care subsidies have several interrelated purposes. A first purpose is to serve as a work support for low-income families – both to help low-income families leave welfare *and* to prevent low-income families from needing welfare in the first place (Adams, Holcomb, Snyder, Koralek, & Capizzano, 2004). A second purpose is to support the quality and infrastructure of the child care system for all families. At least four percent of a state's Child Care and Development Fund (CCDF) expenditures, plus additional appropriation earmarks, must go towards improving child care quality and supply. In addition, a number of states have created tiered reimbursement systems as an incentive to increase quality by paying higher child care subsidy reimbursement rates for child care that meets certain quality requirements.

Although it is a partnership, states have the primary responsibility of assuring the affordability, supply, and quality of child care in their state. Federal support for child care subsidies is made available to low-income parents primarily through block grants to states through the CCDF, but states also contribute their own funds towards this effort. States can choose to use funds from the Temporary Assistance for Needy Families (TANF) block grant towards child care assistance. They can also allocate state funds towards subsidies.

Federal guidelines allow states to assist families in paying for child care if the family's income falls below 85 percent of state median income (SMI) and if they need child care to support employment, and/or education and training (Amatangelo, 2003; "Child Care and Development Block Grant Act, 42 U.S. Code 9801, section 658 (E)"). It is important to note that child care subsidies are not structured as an entitlement, with all those eligible guaranteed the benefit. Rather, subsidy funding is a formula-based amount for each state that then must be allocated within federal guidelines. Within this context, the federal eligibility guideline of income below 85 percent of state median income operates as a ceiling rather than as a requirement. Indeed states may, and many do, set their own eligibility levels below 85 percent of state median income, in part constrained by the extent of available funding.

States have some capacity to expand the availability of subsidy funds, and so do have some discretion in terms of how many families can potentially be served. In addition to federal funds through the block grant, State Matching and Maintenance of Effort funds, states can decide whether to transfer TANF funding to CCDF, to use TANF funds for subsidies directly, and can

make additional contributions toward subsidies from state funds. Individual states have discretion over how they organize and administer subsidies. With this combination of factors, there is wide variation across and even within states in funding levels, administrative approaches, policies, and practices (Adams, Edie, Riley, & Roach, 2002).

The federal regulations are intentionally flexible in order to allow states to decide on policies that best fit the needs of their local populations. For example, most states exercise the flexibility allowed under the law and have set eligibility levels below the federal maximum of 85 percent SMI. In fiscal year 2004-2005, 45 states established caps below the maximum level permitted in federal regulations (Karolak et al., 2004, p. 3). Payment rates and parent fee levels (co-payments) also vary across localities.

States are required to operate programs that allow parents to purchase their choice of child care using certificates or vouchers. Parents may use these subsidies to purchase any legally operating child care, including care provided in centers, family child care homes, family friend and neighbor (FFN) care, after-school programs, or faith-based programs (*Child Care and Development Fund Report to Congress*, 2003). Subsidies are available for parents currently receiving federal assistance (TANF) during participation in employment-related activities or work; former TANF recipients; parents needing child care due to special circumstances, such as being in the child protective services system or being a foster parent; and to low-income working families who are not receiving cash assistance. In many states and localities, current and recent TANF recipients are given highest priority for child care subsidies (Adams, Edie et al., 2002; Burstein & Layzer, 2004; Urban Institute, 2004). While there is a formal threshold and a set of guidelines for determining when families of different sizes are at the federal poverty level, there is no formal definition of “low-income.” A number of studies, including the National Study of Child Care for Low-Income Families and the Assessing New Federalism Project, use 200 percent of the federal poverty level as the threshold for low-income families (Burstein & Layzer, 2004; Urban Institute, 2005).

There have been very substantial increases in the availability of funding for child care subsidies in the past decade. Looking collectively at CCDF, TANF, and Social Service Block Grant (SSBG) funding streams, federal funding for child care has increased from \$2.6 billion in 1996 to \$8.3 billion in 2004. In fiscal year 2004, the CCDF alone provided \$4.8 billion in block grants to states, territories, and tribes to subsidize the cost of child care for low-income families (Child Care Bureau, 2006). For fiscal year 2004, this funding supported 1.73 million children each month (based on ACF 801 data updated for FFY 2004, Child Care Bureau, 2006). Some states, such as Illinois, make a commitment to serve all eligible families within the state (Meyers et al., 2002). However the research indicates that subsidy funding often does not reach all eligible families within states. This appears to reflect a combination of behaviors and choices on the part of families as well as policies and administrative practices within states. There are several family factors that contribute to the numbers served by subsidies. First, not all eligible families choose to use child care subsidies (Burstein & Layzer, 2004). For example, families may choose to juggle work schedules rather than use non-parental care, or may rely on care provided by a grandparent without payment. Parents may avoid applying for a subsidy because they feel they would be stigmatized, or that the benefit of a subsidy is not worth the trouble. Working parents may not be able to find a child care provider who accepts subsidies to provide care during the hours that are needed due to parents’ participation in shift work (Presser, 2003). Many parents

who are shift workers instead rely on family members, since available center hours do not fit their needs (Presser, 2003). However, family, friend and neighbor care is a legitimate form of care that could be reimbursed by child care subsidies, so the use of relative care by shift workers does not entirely explain why all eligible families are not applying for and/or receiving subsidies. Another possible explanation is that some parents are using other forms of publicly supported early care and education, such as Head Start (this possibility is discussed in further detail below). Other factors affecting the number of families being served by subsidies include actions taken by states. States, as primary partners with the federal government in providing child care subsidies to needy families, have several policy levers at their disposal that they can use to increase the number of child care subsidies. States can serve more families if they choose to have lower provider reimbursement rates, higher co-payments for families, or lower eligibility thresholds. However, there are tradeoffs with such decisions. For example, higher co-payments would allow states to reach more families, but there might be concerns with level of burden on families to pay the higher co-payment. States could also do more to advertise the availability of subsidies and inform the public of who qualifies for subsidies (Adams et al., 2004). States may curtail such efforts if they are concerned that funds are not sufficient to reach all who might then apply.

The difference between *applying* for a child care subsidy and *receiving* one is an important distinction (Burstein & Layzer, 2004). The process of applying for child care subsidies is mostly dependent upon the family's intentions and actions,³ but the receipt of subsidies reflects actions by both families (who can decline to apply or reapply for subsidies) and agencies (that decide which families will receive benefits and can create waitlists). In the findings that follow, it will be important to pay attention to findings that focus on subsidy *applicants* versus subsidy *recipients*.

Some of the research from welfare waiver programs seems to indicate that within a context where child care subsidies were plentiful, eligible families were not availing themselves of this support (Gennetian et al., 2003; Gennetian, Morris, & Vargas, 2001). These findings may imply that parents are not interested in using subsidies, lack knowledge about subsidy eligibility and use, or encounter program characteristics that act as barriers. Parents who are not using subsidies may be using other forms of public support, such as Head Start or public pre-kindergarten, to meet their child care needs (Collins, Kreader, & Layzer, 2004).

Indeed, child care subsidies are only one of several ways that public funding is used to support early childhood care and education for low-income families. Along with child care subsidies, public funding for early care and education reaches eligible parents through Head Start, state-funded pre-kindergarten programs, and Title 1 education funds (Collins et al., 2004). Together, these four public sources of funding pay a portion of the cost of more than one-third of the supply of center-based care within the 17 states and 25 communities studied as part of the National Study of Child Care for Low-Income Families (Collins et al., 2004). Furthermore, it has been estimated that, taking subsidies, Head Start and public pre-kindergarten into account, up to 50 percent of low-income families with children birth to five are receiving some form of public funding for early childhood care and education (Collins, 2004).

³ As noted earlier, states may limit their outreach about subsidies as one strategy to deal with the limited supply of subsidies (Adams et al., 2004). If this is the case, parents may lack information on subsidy availability and/or the process by which to apply.

Furthermore, it is important to point out that the current context for child care subsidies may differ from the time period that is reflected in some of the studies that are reported on below. In particular, several of the studies look at the use of child care subsidies among families who were transitioning off of welfare prior to the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996 and who were guaranteed child care subsidy vouchers through welfare waiver programs in their states (Gennetian et al., 2003; Gennetian et al., 2001; Lee et al., 2003). Where applicable in this literature review, we distinguish between findings that represent this earlier era (i.e., pre-welfare reform, also known as welfare waivers research) and findings from more recent years.

It is also important to point out that, across studies, there is variability in the estimates for child care subsidy utilization among eligible families, ranging from 12 percent to almost 40 percent. Estimates appear to differ, in part, due to different numbers used in the denominator of the equations. For example, some studies report estimates based on the total number of eligible *welfare leavers*, while others are reporting on *all* eligible families. In addition, there may be differences in the total number eligible according to whether eligibility is based on state-specific requirements or Federal guidelines (state eligibility guidelines tend to be more stringent than Federal ones) (Amatangelo, 2003). Thus, it is important to consider carefully the denominator, as well as the numerator, used in analyses in the studies reported on here. In addition, variations in response rates and when and how respondents were surveyed about subsidy use could affect the comparability of estimates (Urban Institute, 2004).

Questions Addressed

Most of the questions addressed by the *CCB-funded research* have been descriptive in nature, for example, looking at the characteristics of families that apply for and receive subsidies. However, some of the studies have looked at the effects of subsidy use on low-income families. The following are the set of questions that have been focused upon in the *CCB-funded research*:

- Who applies for subsidies?
- Who receives subsidies?
- What are the benefits of subsidy use to low-income families?
- What are the patterns of subsidy use?
- What are the barriers to subsidy use?
- Do state-specific policies (e.g., reimbursement rates, co-payments, earnings disregards, etc.) affect subsidy application and/or use?

Findings

Who applies for subsidies?

The National Study of Child Care for Low-Income Families includes information on 25 communities within 17 states collected in 1999, 2001, and 2002 (Burstein & Layzer, 2004). Analyses of child care subsidy application and receipt were carried out separately for all low-income families eligible to receive subsidies in the 17 states. Analyses revealed that certain subpopulations of eligible, low-income families were more likely to have applied for subsidies than others. Specifically, regression analyses indicated that families whose youngest child was an infant or school-aged were significantly less likely to have applied for a child care subsidy than families whose youngest child was a preschooler. African American families were substantially more likely than white families to have applied. Single-parent households were significantly more likely than two-parent households to have applied. Mothers with some college education were significantly more likely than mothers who were high school graduates to have applied for a child care subsidy. And immigrant mothers were significantly less likely to have applied for a subsidy than mothers born in the U.S.

Interestingly, household income relative to the federal poverty line did not significantly affect the likelihood of applying for subsidies. TANF receipt is a stronger predictor than household income for subsidy application. In this sample, 58 percent of recent TANF recipients had applied for subsidies. Furthermore, mother's education had no significant effect on subsidy application. In addition, the amount required for a co-payment did not significantly affect application behavior, suggesting that higher co-payments is not a significant barrier to subsidy application (Burstein & Layzer, 2004).

Who receives subsidies?

Studies of subsidy receipt within Illinois, Maryland, and Massachusetts have found that eligible families in urban areas are less likely than families in other areas to receive subsidies, and mothers of children under age 6 are more likely than mothers of older children to do so (Anderson et al., 2003; Lee et al., 2003). There are also racial/ethnic differences in the receipt of subsidies in these three states: African Americans are more likely than whites, who are themselves more likely than Hispanics to receive subsidies (Anderson et al., 2003). Parents who receive subsidies are more likely to be single parents and to have prior experience with the welfare system (Shlay, Weinraub, Harmon, & Tran, 2004, see also Blau & Tekin, 2001).

Data from the National Study of Child Care for Low-Income Families finds similar patterns of subsidy receipt on the national level (Burstein & Layzer, 2004; Kinukawa, Guzman, & Lippman, 2004). Specifically, within the sample of eligible, low-income families, receipt of subsidy is most common among single mothers, TANF recipients, families in which the youngest child is a toddler (rather than an infant or older child), African American families (as opposed to whites and Hispanics), mothers with more formal education, and mothers born in the U.S. Receipt of child care subsidies was also much more common among those with a child in center care (30 percent) than in non-relative care (17 percent) or relative care (9 percent). The study did not find significant differences between urban and rural families in subsidy receipt (or application).

However, for both subsidy application and receipt, families residing in the Midwest were more likely than families in the West, South, and Northeast to have applied for and received subsidies. With only a few exceptions, the characteristics of families who receive subsidies parallel the characteristics of families who apply for subsidies (Burstein & Layzer, 2004).

What are the benefits of subsidy use to low-income families?

A major purpose of child care subsidies is to help ease parents' transition from welfare to work.⁴ The findings from *CCB-funded research* suggest that this goal is being met.

One of the significant findings from multiple studies is that use of child care subsidies is associated with low-income parents finding and retaining employment. Although the causal direction is not always clear, the implication in the findings is that subsidies support employment in low-income families. Subsidy use has a strong, positive association with moving from welfare to sustained employment (Gennetian et al., 2003; Gennetian et al., 2001; Lee et al., 2003). These results were found to be robust across data from the welfare waivers research as well as the post-welfare reform era and across multiple states, though not every pattern is found for every state. For example, child care subsidy receipt shortened the time of the transition to employment for individuals in both Connecticut and Florida, but not Minnesota (Gennetian et al., 2003). In addition, child care subsidies were associated with sustained employment in Florida, Illinois, Maryland, and Massachusetts (Gennetian et al., 2001; Lee et al., 2003). Analyses examining all of the possible transitions from welfare to work, work to welfare, sustained welfare, and sustained work over a period of four years (by quarterly income and unemployment records) indicated that work-related child care assistance is positively associated with moving off welfare into work, staying employed, and not related to moving back onto welfare (Gennetian et al., 2001).

Child care subsidies appear to have the largest benefit for the most disadvantaged welfare recipients. Specifically, subsidy use reduced the time from welfare to employment the most for those welfare recipients in Connecticut, Florida, and Minnesota with the lowest earnings prior to the transition to work (Gennetian et al., 2003). In related work, Lee et al. (2003) concluded that families most in need of assistance in Illinois, Maryland, and Massachusetts are the ones most likely to utilize subsidies when eligible to do so.

The mechanisms by which subsidies may affect maternal employment in low-income families have not been fully elucidated. While the *CCB-funded research* is contradictory as to whether state-specific policies have effects on the receipt of subsidies (see discussion below), some research does point to particular subsidy provisions that could encourage maternal employment. Witte and Queralt (2003) found that raising formal child care provider's reimbursement rates in Rhode Island, combined with expanding income and age eligibility rates, increased the likelihood that current and former welfare families would use child care subsidies and nearly tripled the probability that a head of household currently or formerly receiving welfare would work 20 or more hours a week (increasing from 7 percent in the second quarter of 1996 to 22

⁴ The five goals from the legislation are (1) state flexibility, (2) parental choice, (3) consumer education, (4) help parents leave public assistance, (5) help states implement the health, safety, licensing and registration standards established in state regulations.

percent in the second quarter of 2000). Maurier and Russell (undated) suggest that the reforms in Rhode Island's subsidy program had an indirect effect on low-income maternal employment by providing incentives for center-based providers to care for subsidized children. Witte and Queralt (2003) found that centers began to actively recruit low-income children, whose parents then began leaving welfare for work. However, we do not have good information on the direction of influence between subsidy use and parental employment. It is possible that an increase in parental employment leads to an increase in subsidy take-up, not the other way around. In addition, the magnitude of the effect of subsidies on employment may be small, compared to other factors. For instance, a study by Lemke et al. (2000, as cited in Lee et al., 2003) found that, among a welfare population in Massachusetts, stability and quality of child care had much larger effects than child care costs on the probability of parental employment. This last finding indicates that the effects of subsidies on maternal employment should be considered within the full context of the realities of the local child care market (see section on Parental Choice for further discussion of this point).

In addition to getting parents into the workforce, other benefits of child care subsidies reported for a sample of 191 low-income mothers in Philadelphia include: (1) reduced work-hour-related problems, (2) increased ability to juggle work/family commitments, and (3) the potential to learn new skills or return to school (Press, Fagan, & Laughlin, undated). For example, Philadelphia mothers who received subsidies were 21 percent less likely to experience work-hour-related problems, suggesting that subsidies give mothers in low-wage jobs greater flexibility to meet the demands of their employers.

Focus groups conducted in 2003 with 130 TANF recipients and 40 parents who had recently transitioned off of welfare in four locations (Denver, CO; Miami, FL; Jackson, MS; and Houston, TX) indicated further benefits of child care subsidies. In addition to allowing parents to work, subsidies were credited with providing parents with peace of mind that their children were being cared for in a safe setting, and with providing children with enhanced educational experiences that they wouldn't otherwise receive (Snyder, Bernstein, & Koralek, 2004).

The section on Parental Choice below extends this discussion by summarizing the evidence that child care subsidies expand the range of child care choices that parents can afford, placing more center care and regulated family child care within the range of options for these families.

What are the patterns of subsidy use?

Because subsidy receipt is tied to work status, and given that low-income parents (and TANF recipients in particular) move in and out of work activities, transitions in and out of child care subsidy receipt are likely for low-income families. The terminology used in the literature to describe the movement into subsidy receipt is called "subsidy take-up" and refers to all aspects of the subsidy process: subsidy application, receipt, re-application, and recertification. As noted earlier, the process of applying for subsidies represents a family decision, whereas the receipt of subsidies involves decisions made by both families and subsidy agencies (Burstein & Layzer, 2004).

Studies of welfare leavers and other eligible families during the 1990s (mostly studies of welfare waiver programs, but also studies of the post-welfare reform era) indicated that despite the benefits of having the financial support of subsidies, the proportion of eligible families availing themselves was limited (Gennetian et al., 2003; Gennetian et al., 2001; Lee et al., 2003; Shlay et al., 2004). For example, across Illinois, Maryland, and Massachusetts, between 25 and 33 percent of eligible families were receiving subsidies in 1997 (Lee et al., 2003). In Florida in 1994, 30 percent of the families within a randomly assigned study of Florida's welfare waivers program (Family Transition Program, or FTP) were receiving both cash assistance and child care subsidies (while 20 percent of the sample were receiving cash assistance but not using subsidies), and only 5 percent of eligible families in the sample were not using cash assistance but were using subsidies (Gennetian et al., 2001). In Pennsylvania in 1998 and 1999, fewer than 20 percent of eligible children were receiving subsidies, despite sufficient funds in the subsidy system (Shlay et al., 2004). Other studies not funded by the CCB have noted that child care subsidy use among AFDC/TANF recipients and/or "welfare leavers" ranges from 30 to 39 percent across studies (Meyers & Heintze, 1999, Schumacher & Greenberg, 1999, and University Consortium on Welfare Reform, 2003, as cited in Lee et al., 2003).⁵

Turning to national estimates, the Office of the Assistant Secretary for Planning and Evaluation of the U.S. Department of Health and Human Services has estimated that in fiscal year 2003, 28 percent of the potentially eligible children received subsidized care provided through CCDF, TANF or SSBG (ASPE Office of Human Services Policy, 2005). In addition, in two national studies, the National Study of Child Care for Low-Income Families (data collected in 1999, 2001, and 2002) and the National Survey of America's Families (data collected in 1997, 1999, and 2002), the percentage of low-income families who had *never applied* for subsidies ranged from 56 to 62 percent (Burstein & Layzer, 2004, p. 4-14). A recent survey of all 50 states and the District of Columbia concluded that half of all states do not provide child care assistance to all the families who apply and are eligible for such assistance under the states' eligibility policies (U.S. General Accounting Office, 2003). Since January 2001, two-thirds of all states have made changes in their child care policies, with 23 of 35 states making changes that tend to decrease the availability of child care assistance in their state, 9 states making changes that tend to increase the availability of child care assistance, and three states making a mix of changes (U.S. General Accounting Office, 2003).

In addition to limited initial take-up, Lee et al. (2003) and Shlay et al. (2004) both find that the likelihood of using child care subsidies diminishes the longer a family is eligible. This finding is robust across multiple states (Illinois, Maryland, Massachusetts and Florida). In their examination of patterns of subsidy use across Illinois, Maryland, and Massachusetts, Lee et al. (2003) noted that if families were to apply for a subsidy at all, they generally did so within the first six months of being eligible. Furthermore, the studies funded by the CCB indicate that there is a drop-off in use of subsidies with time, despite continued eligibility *and* continued use of child care. For example, in Escambia County, Florida, subsidy use (either welfare-related or employment-related) among families participating in Florida's Family Transition Program (FTP)

⁵ As noted earlier, the wide variability in the estimates for child care subsidy utilization among eligible families may be due to differences in how samples are defined (e.g., total number of eligible *welfare leavers*, compared to total number of *all* eligible families, defined by either federal or state guidelines). In addition, these studies are characterized by small sample sizes, and variations in response rates and when and how participants were surveyed (Urban Institute, 2004).

and who were receiving welfare in 1994 dropped from 53 percent (199 out of 377) in 1994 to less than 5 percent (17 out of 377) four years later, despite children of eligible age remaining in the household and families still reporting use of child care (Gennetian et al., 2001). As such, the explanation for exiting the subsidy system in this study is not that children are aging out of subsidy eligibility, or that low-income families no longer need affordable child care. The researchers do not offer an alternative explanation for these findings, but one possible explanation might be that older, eligible children may be participating in other after-school activities such as sports or lessons, for a proportion of the hours in which care is needed, and families are not applying for subsidies for the smaller proportion of hours that remain during which they have child care arrangements.

What are the barriers to subsidy use?

As mentioned earlier, there are several reasons why eligible families may not use subsidies, such as not having subsidized care available when they need it (e.g., due to shift work) or choosing to use other resources (e.g., Head Start or pre-kindergarten). However, researchers have investigated whether there are barriers to subsidy use for low-income families, and if barriers exist, what they might be. The barriers to subsidy use are still not well understood, and many of the existing studies looking at barriers use small, local samples that may not generalize to the country at large. Still, based on the existing data, several reasons suggested for the low utilization of child care subsidies include: a lack of awareness of the subsidy system, a misconception on the part of eligible families that they are not eligible for subsidies or that subsidies are intrinsically tied to the welfare system, a belief among eligible families that they do not need financial assistance with child care, possible stigma attached to receiving subsidies, and bureaucracy associated with receiving subsidies (Adams et al., 2004; Gennetian et al., 2001; Shlay, 2002; Shlay et al., 2004). Most of these studies are based on qualitative rather than quantitative data.

According to the *CCB-funded research* focused on barriers to child care subsidies, lack of awareness of the subsidy system appears to be common among low-income families. A study in California found that one-third of low-income families did not know that child care subsidies existed (Meyers & Hintze, 1999, as cited in Shlay, 2002). Shlay (2002) estimates that over half of eligible families nationwide do not know that subsidies exist. As mentioned earlier, a factor affecting this situation is that, given limited resources, many states do not make available enough child care subsidies to cover all eligible families and adopt various strategies to allocate the subsidy funding they do have. Strategies include reserving subsidies for TANF recipients and parents who are transitioning off of TANF, lowering income eligibility cutoffs, and minimizing outreach to eligible families (Adams and Rohacek, 2002, as cited in Urban Institute, 2004). These strategies result in eligible families either being uninformed about the existence of child care subsidies and their eligibility for them, and/or on waitlists for subsidies consisting mainly of eligible families not associated with the welfare system (Adams et al., 2004).

Even families that are aware of the subsidy system may still not apply for subsidies because they think they are not eligible. For example, 50 percent of subsidy-eligible African American families in a study in Philadelphia who were not receiving subsidies believed that they were not eligible when they were. Forty-four percent of subsidy-eligible parents who said they needed

help with child care payments did not believe they were eligible to receive subsidies (Shlay et al., 2004).

There are additional misconceptions about the subsidy system. Shlay, Weinraub, Harmon, and Tran (2004) surveyed a sample of low-income African American families in Philadelphia, PA. Regardless of their perceptions of being eligible for subsidies, and regardless of whether they are receiving subsidies, low-income African American parents in Philadelphia had many misconceptions about the subsidy system. For instance, the majority of families did not know that family, friend, and neighbor care was permitted to be reimbursed with subsidies; many thought that subsidies only covered center-based care. Because of this misconception, many families thought that if they began using subsidies, they would need to switch from their current care provider.

At least 20 percent of Philadelphia respondents who believed they were eligible but were not receiving subsidies reported stigma or negative perceptions associated with taking a subsidy (Shlay et al., 2004). Shlay et al. (2001, as cited in Shlay, 2002) found that 15 percent of African American parents in Philadelphia feared that providers would treat their children differently if they used subsidies.

Shlay's work also suggests that parents may find the bureaucracy of applying for subsidies a substantial consideration (Shlay et al., 2004). Among those who believed they were eligible for receiving subsidies but currently were not receiving subsidies, some of the most prominent reasons given for not applying were that they did not want to deal with the hassles of the application process (37 percent) and the belief that there were long waiting lists (31 percent). Twenty percent said that they had negative experiences with other public assistance programs. In another study, Adams, Holcomb, Snyder, Koralek, and Capizzano (2004) note that the time required to take off of work to recertify for subsidies every three or six months (depending on the state policy), as well as additional administrative hassles, may deter parents from reapplying for subsidies over time.

Finally, some eligible families indicate a lack of need for child care subsidies. Shlay (2002) cites work by Schumacher and Greenberg (1999) and Shlay, Jaeger, Weinraub, Murphy, Shaw, and Gottesman (2001) indicating that in Washington State, almost half of a low-income sample reported no need for subsidies, and in Philadelphia, PA one-quarter of a low-income sample reported no need for subsidies. These findings could be indicating that parents are choosing to use resources for their child care needs other than child care subsidies, perhaps relying on other federally supported early care and education or juggling work schedules among two working parents (Presser, 2003).

Other barriers to obtaining or retaining child care subsidies include the frequent need for recertification, problems in communication or coordination of welfare and child care subsidy staff, and/or failing to make a smooth transition to subsidy use after exiting the welfare system (Adams et al., 2004; Snyder et al., 2004). Time required before recertification is another aspect of subsidy administration in which states face difficult tradeoffs. Longer periods before recertification is required might facilitate families' utilization of subsidies, but at the same time longer time periods might increase the probability of improper payments being made. Across 11

sites (Birmingham, AL; Boston, MA; Denver, CO; Detroit, MI; Houston, TX; Jackson, MS; Miami, FL; Milwaukee, WI; Minneapolis, MN; San Diego, CA; and Seattle, WA) surveyed in Winter 2001-2002 as part of the Assessing the New Federalism Study, the length of time subsidies could be provided to subsidized TANF parents before a review and recertification was necessary ranged from one to 12 months, with the usual period being less than 6 months (Adams et al., 2004). The frequent need for recertification could discourage some parents from continuing with the process. Only two of the 11 sites had a full 12-month authorization for subsidies for all subsidy recipients. Short recertification periods could be related to short subsidy spells. A study of subsidy use among welfare applicants in Connecticut, Florida, and Minnesota found that the average length of continuous use of subsidies was 3-4 months, which is consistent with previous reports in other states (Gennetian et al., 2003). For example, Meyers et al. (2002) found that the median length of subsidy spells across five states (Illinois, Maryland, Massachusetts, Oregon, and Texas) ranged from three to seven months.⁶ We do not know in these studies whether families no longer utilizing child care subsidies over time were using other forms of publicly funded early care and education, such as Head Start or pre-kindergarten, for three- and four-year-old children. The Child Care Bureau has launched a study using similar methodology to the study of subsidy duration referenced above that will also survey parents regarding the reasons for the duration of their utilization of subsidies (Child Care Bureau, 2006).

The study by Adams and colleagues (2004) found that several factors affected communication and coordination between welfare-to-work caseworkers and child care administrators, including (1) the number of staff and agencies involved in the subsidy process, (2) access to shared management information systems, (3) location of staff (i.e., whether they were co-located or not), (4) quality of staff relationships, (5) level of staff training (and cross-training), and (6) extent to which processes were streamlined (Adams et al., 2004, pp. 73-74). A corresponding focus group study of subsidy recipients in four of these 11 sites conducted in 2003 indicated further difficulties in retaining subsidies, including (1) the need to meet with more than one case worker, (2) high turnover rate among case workers, (3) difficulty changing providers, (4) lack of coverage for evening and weekend care, (5) short recertification periods (every 30 days in one location), and (6) lack of understanding of what would happen to their subsidy once they left welfare (Snyder et al., 2004).

Parents' misunderstanding of the procedures for retaining child care subsidies after exiting the welfare system may lead to parents exiting the subsidy system prematurely and/or unnecessarily. Many parents in the Snyder, Bernstein, and Koralek (2004) focus group study mistakenly thought that they would lose their subsidies or have to go on a waiting list once they transitioned off of welfare. There is also some evidence to suggest that TANF parents who did not receive subsidies also have misunderstandings about whether they could apply for subsidies after leaving welfare (Urban Institute, 2004). Parents' misconceptions about obtaining or retaining subsidies outside of the welfare system may signal either that parents are not receiving the information from their welfare-to-work case workers prior to leaving TANF, or that they are not retaining the information that is received (perhaps due to "information overload" or the timing of when the

⁶ Specifically, the median subsidy spell (based on the first observed spell between 1997 and 1999) in Oregon was 3 months, in Maryland 4 months, in Massachusetts 5 months, in Illinois 6 months, and in Texas 7 months (see Meyers et al., 2002, p.34).

information is given – such as during intake interviews to the TANF system) (Urban Institute, 2004).

In addition to possible communication and information retrieval issues, administrative factors may be contributing to the confusion about obtaining or retaining subsidies outside of the welfare system. Because many of the parents in the Snyder, Bernstein and Koralek (2004) study were in localities that provided “seamless” coordination and/or consolidation of activities across the welfare and subsidy systems while families were receiving TANF, parents did not distinguish between the welfare-to-work and child care subsidy systems. Since eligible families not associated with TANF were on wait lists in these localities, many participants viewed TANF as a gateway to, or prerequisite for, receiving and retaining subsidies (Snyder et al., 2004).⁷ Another consequence of having a “seamless” system while on TANF is that parents would experience a “seam” in the form of needing to start working directly with the child care agency for the first time as a non-TANF recipient of subsidies. Other administrative approaches are possible (for example, having families deal directly with the child care agency for their subsidies regardless of whether they were receiving cash assistance), but each approach involves a tradeoff in terms of client burden and administrative coordination (Adams et al., 2004). No one approach appears to be better or worse than another in this regard, and all families will experience a “seam” at some point during the process (see Adams et al., 2004, p. 91).

Do state-specific policies affect subsidy application and/or use?

Findings regarding state-specific policies and subsidy take-up rates are contradictory to date. This may, in part, reflect differences across studies as to whether the take-up rate is considered among those leaving welfare for work or among all eligible families.⁸ Several studies compare the effects of different welfare waivers regulations on parents’ use of child care subsidies (Gennetian et al., 2003; Lee et al., 2003). These studies found that take-up rates for subsidies across states did not increase substantially with specific state-level policies governing welfare and subsidy use (e.g., age of youngest child that exempts parent from TANF work requirements, reimbursement rates, earned income disregards, etc.). For example, Illinois, Maryland, and Massachusetts vary in the generosity of their eligibility income thresholds for subsidies, yet the rate of subsidy use did not surpass 35 percent in any of the three states (Lee et al., 2003).⁹ Similarly, policies that sought to encourage subsidy use in Florida did not substantially affect the rate of applications for child care subsidies. For example, in Florida there was a streamlining of the subsidy process such that the same documentation was needed to receive either welfare-

⁷ It should be kept in mind, however, that the focus group participants in this study were not representative of all TANF or recent TANF recipients, nor were they representative of all subsidy recipients in the localities from which they came.

⁸ Most of the studies cited here involve families receiving or leaving welfare (including Gennetian et al., 2001; Gennetian et al., 2003; Huston, 2004; Lee et al. 2003; Witte and Queralt, 2003). However there are some studies that report on all eligible for subsidy receipt (including Shlay et al., 2004 and Meyers et al., 2002).

⁹ The take-up rate in Maryland (24.4 percent) was lower than that of Illinois (34.5 percent) and Massachusetts (34.7 percent). The authors speculate that a higher co-payment rate for non-TANF families in Maryland may have contributed to this finding. However, in a study of 17 states in 1999, 2001, and 2002, researchers found that co-payment amount did not significantly affect subsidy application behavior, suggesting that co-payment rates are not a barrier to subsidy take-up. Analyses of receipt in this study did not include consideration of co-payment rates (Burstein & Layzer, 2004).

related or income-eligible child care subsidies as well as “transitional child care.” This was an attempt to make movement from one form of subsidy to another “seamless” (Gennetian et al., 2001, p.15). There was also an attempt to create a “one stop shop” by “outposting” resource and referral counselors in welfare offices. Nevertheless, subsidy use was not high across families in the sample. These CCB-funded studies bolster findings reported previously based on data from 13 states that indicated that variations in state policies do not explain why people choose to use or not use subsidies (Blau & Tekin, 2001, as cited in Shlay et al., 2004).

In contrast with these findings, one study appears to point to more generous subsidy policies having an effect on subsidy utilization. Witte and Queralt (2003) found that the very generous policies in Rhode Island (e.g., guaranteed subsidies for every eligible family, high reimbursement rates, etc.) increased the likelihood of a working welfare family using subsidized child care by 11 percent to 13 percent, and increased the likelihood of a single parent moving from welfare to work by 5 percent. In addition, a study by the Child Care Subsidy Dynamics Team indicates that state-level subsidy policies do affect how people use subsidies, although the mechanisms by which they affect subsidy use are still not clear, and their effects on subsidy use likely interact with other state policies governing welfare receipt, among other things (Meyers et al., 2002).

Research completed by the Next Generation research group (summarized in Huston, 2004) examined the findings of eight welfare reform experiments, distinguishing between those in which the program did or did not enhance the delivery of child care subsidies in some way. Enhancements included improving the efficiency of subsidy payments, provision of further information to families about child care, a requirement to use regulated care, or encouragement to use formal child care. Families in those programs that involved enhanced subsidy delivery showed greater increases in their use of center-based care relative to home-based care. Mothers in these programs indicated that child care was less of a barrier to employment, they increased their use of subsidies and reduced their out of pocket expenses for child care more, and child care subsidies contributed to more substantial gains in overall economic resources for the families. These findings raise the possibility that it may be important to consider a broader set of subsidy policies than generosity in eligibility levels or co-payment levels: These enhancements involved efficiency, information and encouragement to use formal or regulated settings. The subsidy policy experiments now being launched by the CCB will provide rigorous tests of the impacts of specific subsidy policies on utilization.

Furthermore, evidence suggests that it may be important to go beyond the issue of state policies to consider implementation practices. While this work does not consider subsidy utilization, it does indicate that implementation practices can affect the nature of interactions with families and quality of service. In particular, an analysis of the coordination of administrative practices across welfare and child care subsidy systems in 11 sites across the country (a study conducted as part of the larger Assessing New Federalism Study) found sometimes positive and sometimes negative consequences of consolidating functions across welfare and child care subsidy agencies and workers with regard to staff burden, level of parent interaction, and service delivery and quality (Adams et al., 2004). Clearly, more research is needed on how specific state policies *and implementation practices* with regard to welfare and child care subsidies may facilitate or hinder subsidy use.

Although the evidence is mixed as to whether state-specific policies and practices affect the utilization of child care subsidies, there is some recent evidence that the overall availability of subsidy funding has some effects on the local child care market. A study by the Public Policy Institute of California (2003, based on full report by Marrufo, O'Brien-Strain & Oliver, 2003) found that state subsidies for child care in California were associated with a significant increase in the supply of child care (although this varied widely by county), and an increase in child care prices (8.1 percent increase in center-based care between 1998 and 2000, and a 4.5 percent increase for family day care during the same period). However, other factors were also found to contribute to child care market fluctuations, including the decline in welfare caseload and higher incomes between 1998 and 2000 (Public Policy Institute of California, 2003). Studies funded by the CCB are currently using the econometric model developed by Marrufo and colleagues on data from Minnesota and Oregon.

A study by Maurier and Russell (undated) that compared welfare policies in Rhode Island and Massachusetts found that having more generous subsidy policies is associated with greater acceptance of child care payments by child care providers. Specifically, Rhode Island set reimbursement rates at the 75th percentile of market prices as determined by market rate surveys, and 90 percent of providers accept vouchers. In contrast, Massachusetts set reimbursement rates at or below the median for child care costs (50th percentile as determined by market rate surveys) and only 60 percent of providers accept vouchers. It should be kept in mind that associations between reimbursement rates and voucher acceptance are relational rather than causal. Other subsidy policies in Rhode Island, such as an increased income threshold for eligibility, and subsidized health insurance for family care providers and employees of centers that serve subsidized children, have been associated with increased availability of child care in certain Rhode Island cities (Maurier & Russell, undated; Witte & Queralt, 2003).

Emerging Questions and Issues

The current set of CCB-funded studies on child care subsidies suggest that subsidies may facilitate low-income parents' entry into the work force and increase the range of options for child care available to low-income families. However, we currently do not have a good understanding about the direction of influence in the relationship between subsidy use and parental employment. Does parental employment increase the likelihood of the use of child care subsidies, or does the availability of child care subsidies make it possible for parents to sustain employment or achieve higher wages? Understanding the causal relationships between subsidy use and parental employment (net of other factors, such as changes in TANF policies) is an area in need of further future research.

In addition, these studies suggest that subsidy take-up rates range from 12 to 39 percent across the past decade and across states.¹⁰ Although these percentages seem low in absolute terms, it is less clear whether these take-up rates should be considered appropriate or inappropriate. As noted earlier, because subsidies are not entitlements and states have finite resources, they may

¹⁰ As noted in an earlier footnote, most studies that report on subsidy utilization focus on those receiving or who have recently left welfare, and not on the full population of subsidy-eligible families. However, since welfare recipients and leavers are given the highest priority for subsidy receipt, these estimates are robust.

focus their efforts and funding on particular subsets of the eligible population. Further, the wide variability in the estimates for child care subsidy utilization among eligible families may be due to differences in how samples are defined (e.g., total number of eligible *welfare leavers*, compared to total number of *all* eligible families, defined by either federal or state guidelines). In addition, these studies are characterized by small sample sizes, and variations in response rates and when and how participants were surveyed (Urban Institute, 2004). Nevertheless, in two national studies, the National Study of Child Care for Low-Income Families and the National Survey of America's Families, the percentage of low-income families who had never applied for subsidies ranged from 56 to 62 percent (Burstain & Layzer, 2004, p. 4-14). Clearly, more research is needed to understand what should be "expected" rates of subsidy take-up within subpopulations and within particular states.

Another area ripe for further research is the multiple contexts that may affect subsidy take-up. For instance, in the wake of welfare reform, there was a precipitous drop in the use of Food Stamps, even though this benefit was no longer linked with welfare receipt or under the same time limits and restrictions. Overall, it may be that families have generalized a message encouraging self-sufficiency and discouraging receipt of welfare. Studying linkages between child care subsidy receipt and Food Stamp receipt would be informative as to whether families seem to be receiving a broader message about the appropriateness of economic and work supports.

Some of the studies looking at subsidy receipt come from the period of welfare waivers. These studies antedate a very substantial expansion in the availability of subsidies. There is a general need to examine the patterns noted here regarding utilization and effects in light of the current policy and economic context. For example, some reasons offered for low subsidy use among welfare leavers in the post-welfare reform era include (1) lack of awareness of subsidies, (2) a personal decision not to use subsidies, (3) burdensome requirements to obtain subsidies, and (4) complex administrative procedures and staffing arrangements (Urban Institute, 2004, p. 23). More research is needed to understand the underlying mechanisms for patterns of subsidy use in the current policy context. In particular, it is important to look at how states are using various policy levers to increase access to subsidies or curtail their use. It would be particularly useful to follow families in different states and localities through the application process and over time to understand more clearly the mechanisms of subsidy use for families.

Finally, studies should move toward looking at the effects of subsidy use on child outcomes, in addition to effects on parental employment.

In sum, this review and synthesis points to several promising avenues for future research on child care subsidies. Next steps might include:

- Understanding more clearly the causal relationships between subsidy use and parental employment (net of other factors, such as changes in TANF policies).
- Understanding the effects of subsidy use on child outcomes.
- Understanding what should be "expected" rates of subsidy take-up within particular states, given funding constraints.

- Expanding research and evaluation to look at the effectiveness of specific policies aimed at improving subsidy take-up. For example, conducting research to examine how specific subsidy policies or implementation practices may operate as barriers or facilitators to subsidy utilization (Adams et al., 2004; Shlay, 2002; Snyder et al., 2004).
- Expanding research to examine why families discontinue use of subsidies while continuing to earn low wages that keep them eligible, especially expanding this approach to sites differing in their policy and implementation approaches.
- Following families in different localities through the application process and over time to understand the mechanisms of subsidy use and the implications of these mechanisms for parental employment, child development outcomes, and family well-being.
- Identifying factors that are associated with more stable subsidy use. Future research should augment the merging of administrative data with background information on the individual families, such as parent education and previous employment history (Meyers et al., 2002).
- Replicate studies of subsidy duration and of subsidized child care arrangement duration in multiple states as reflections of subsidy program impacts on parents and children.
- Continuing to explore the types of child care that subsidized families are using in different state and local contexts (Lee et al., 2003).
- Studying what states choose to do with regard to funding subsidies when faced with state budget cuts and fiscal shortfalls.

Policy Implications

The authors of the *CCB-funded research*, as well as the authors of this synthesis, identify several possible policy implications for work on child care subsidies.

Utilize multiple policy levers at the state level to increase subsidy availability.

States have multiple policy options at their disposal to increase the availability of subsidies. Given support for a priority to reach more of the eligible population, states could choose to use more of their TANF dollars towards subsidies, could allocate state funds towards subsidies, or could structure co-payments in such a way as to serve more families. As noted in some of the examples of state efforts above, they could also create financial incentives for providers to accept subsidies.

Yet there are important competing priorities for limited funds within states, and pressure on state budgets has increased in recent years. Apart from (or in addition to) increasing the overall funding for subsidies, the research suggests other steps that could be taken to improve the accuracy of information families have about subsidies and the way in which the subsidy system functions.

Increase public information about subsidy eligibility and application requirements.

Although the research reviewed in this section indicates that there are some subsidy-eligible families that choose not to use subsidies or feel that they do not need them, there is also some evidence that subsidy-eligible families in some areas hold misconceptions about subsidy eligibility and use that might curtail the take-up of subsidies. One solution to the latter problem of misconceptions about subsidies is to increase public information about subsidy eligibility and application requirements through public awareness campaigns (Shlay, 2002). For example, public awareness campaigns could make families aware that subsidies can be used to pay for family, friend and neighbor care (Urban Institute, 2004), and ads targeting families with older children could focus on the use of subsidies to pay for after-school programs (Lee et al., 2003, p.41). In addition, states can ensure that TANF recipients are told about post-TANF subsidies, and improve the provision of information to those who are leaving welfare (Urban Institute, 2004).

Improve implementation procedures.

Several of the CCB-funded studies noted that implementation procedures could pose a possible barrier to child care subsidy use. In particular, several researchers suggested streamlining the application and recertification processes (Meyers et al., 2002; Shlay, 2002; Snyder et al., 2004; Urban Institute, 2004). At least one study suggested keeping staff case loads at a level that allows staff to respond to clients in a timely fashion (Urban Institute, 2004). Improved staff training (and cross-training) could also improve the functioning of the system. In addition, co-location of welfare-to-work and child care agency staff has the potential to build rapport and improve communication across agencies, improve the processing of child care subsidies, and may prevent families from experiencing a break in subsidy receipt as they transition off TANF (Urban Institute, 2004).

Improve the “seamlessness” of different subsidy streams to improve continuity of care.

Research indicates that families not attached to the welfare system or who have left the welfare system were even less inclined to avail themselves of subsidies than those within the welfare system (Gennetian et al., 2001). This suggests that more efforts could be made in outreach to low-income working families who are eligible for child care assistance but not connected to the welfare system. Furthermore, there is a strong correlation between subsidy use and employment duration (for those TANF recipients and leavers who take-up subsidies within the first six months of eligibility), suggesting that program administrators should continue to integrate the child care subsidy system into transition programs and minimize what parents have to do to keep subsidies during the transition to work (Lee et al., 2003; Urban Institute, 2004).

A related policy implication is the coordination of systems of subsidy streams so that families receiving subsidies while receiving TANF can continue with the same providers once they transition to work. In addition, helping parents retain subsidies through periods of job loss enables parents to conduct a job search without the extra burden of child care (Urban Institute, 2004), and would support the stability of children’s relationships with particular child care providers (Adams et al., 2004).

Parental Choice

Context

A cornerstone of the federal Child Care and Development Block Grant Act is the support and promotion of parental choice (Adams et al., 2004; Adams & Rohacek, 2002; *Child Care and Development Fund Report to Congress*, 2003) in family child care decisions. Accordingly, since the passage of the Family Support Act in 1988, federal child care programs have allowed parents to use subsidies to purchase child care from any legally operating provider including relatives, friends, neighbors, family child care homes, and child care centers (Adams & Rohacek, 2002; *Child Care and Development Fund Report to Congress*, 2003).

While the evidence is still limited and there are some inconsistencies in the findings, the research to date suggests that child care subsidies have not only assisted families in the purchase of care but have also expanded the range of options available to low-income families and in particular, have made center care a more affordable option for many (Adams & Rohacek, 2002; Collins et al., 2004; Snyder et al., 2004, see also discussion below). Moreover, there is some limited evidence to suggest that subsidies allow parents to purchase better quality care. For example, in one research project, parents participating in focus groups noted that subsidies allowed them to purchase care that in their opinion was safer and more conducive to learning (see Snyder et al., 2004). However, Weinraub and colleagues found no difference in the quality of child care between subsidy users and other low-income families.

While the use of child care subsidies may extend the range of options available to parents, there are other factors that appear to curtail options for low-income families and specifically those receiving subsidies. For example, local market conditions, including the availability of center care and providers' willingness to accept subsidies, can limit the options available to subsidized and low-income families (Collins et al., 2004; Urban Institute, 2004). Also constraining parental choice is the mismatch between providers' hours of operation and parents' work schedules (Collins et al., 2004; Snyder et al., 2004). Variations across states in subsidy levels have also resulted in families in some states having more options and greater purchasing power than families in other states (Collins et al., 2004; Piecyk, Collins, & Kreader, 1999). Recent research suggests that the availability of information about local providers may influence the range of options of which parents are aware as well as the search and decision-making process in which they engage (see Snyder et al., 2004; Witte & Queralt, 2004). Finally, the ways in which programs are implemented also appear to shape parental choice. For instance, among TANF recipients, short periods between work activity assignments and start dates may have unintended effects on child care decisions.

In this section, CCB-funded research that explores the issue of parental choice in child care is reviewed and synthesized. Together the studies reported on make use of a wide range of methodological and statistical techniques (including many of the analytic approaches noted in the section above on methodological developments). They also approach the issue of parental choice from varied perspectives, including that of parents, families, local markets, and public policy.

While many of the findings here are not new, they warrant discussion because the use—in combination or isolation—of new statistical techniques, representative samples, longitudinal studies, and multi-state administrative data result in these studies not simply replicating but bolstering and extending the findings of prior research. While this set of studies sheds further light on patterns and variations in child care use and the factors that are associated with different patterns of use, little research considers the decision-making process of families directly—a pattern echoed in the general literature. That is, most of the research focuses on the endpoint of the decision-making process, or actual child care usage, rather than on what factors were taken into account and how they were weighed. There is, however, a small set of studies that directly addresses parental preferences for child care, and disentangles these preferences from the care that parents ultimately choose after financial and temporal constraints are considered.

To briefly anticipate one of the main conclusions of this section, the language used in the parental choice research poses problems. A distinction is not clearly made between parental preferences, the process used in deciding upon a child care arrangement, and actual utilization. A critical step for the research in this area is to move towards more differentiated and consistently used terminology. However, in keeping with the current status of much of the research in this area, in this review the term parental choice is used as an “umbrella,” encompassing preference, the decision-making process and utilization. Those few studies that do distinguish among these, and especially studies that focus explicitly on preference or the decision-making process, are clearly noted.

Questions Addressed

The research on parental choice in this body of *CCB-funded research* addresses three questions:

- How does parental choice vary by family, parent, and child characteristics?
- Does public policy influence parental choice?
- What affects child care selections made by parents?

Findings

The studies reviewed here consider how three sets of factors contribute to parental choices and decisions about child care: background characteristics of the family, parent and child; public policy; and parental preferences. It should be noted that even those studies focusing on a single set of factors, such as family, parent and child characteristics, may differ in terms of the outcomes they consider (e.g., timing of initial entry into non-parental care vs. type of child care) and nature of the sample (e.g., small non-representative sample of Hispanic families vs. subsidized single mothers). We note emerging patterns of findings below, always taking into account the fairly small set of studies and limits on the extent to which patterns have been replicated across population subgroups or outcomes.

How does parental choice vary by family, parent, and child characteristics?

Several of the studies reviewed indicate that family, parent, and child characteristics are associated with families' decisions about whether and when to place children into non-parental care, as well as the type of arrangement that families select. These characteristics include: family income and structure; parental education; child's age; number of siblings in the family; and race/ethnicity.

Wolf (2003a; 2003b) analyzes longitudinal data from the NICHD Study of Early Child Care and finds links between parent background characteristics, in particular maternal characteristics, and child care choices such as the timing of children's initial entry into non-parental care, amount of child care and, to a lesser extent, type of arrangement. Specifically, she finds that maternal employment and younger maternal age at first birth are associated with more rapid entries into non-parental care. In addition, she finds that children from single-parent households and those with fewer siblings are placed in child care at earlier ages, and that children of African American mothers spend more time in child care than children of white mothers. Moreover, Wolf (2003a) finds that the effect of maternal education on entry into child care varies by race. While maternal education has no effect on the rate at which white mothers place their children in care, maternal education is negatively associated with timing of entry among African American mothers, such that those with more education place their children in child care earlier. Lastly, Wolf (2003a) finds that the type of initial child care arrangement varies with family structure. Children from single-parent families are more likely to be placed in center and family child care than children from two-parent families, but are as likely to be placed in relative care or sitter care as children from two-parent families.

Lee and colleagues (2003) consider subsidy take-up rates in three states (Illinois, Maryland, and Massachusetts), as well as the child care arrangements used by subsidy recipients, and find that parent and family characteristics are associated with the type of child care arrangements used by subsidized families. In particular, they find evidence that race and ethnicity play an important role in parental decisions, though this relationship appears to vary across states. In general, African American families in Illinois were two times more likely, and Hispanic families were two to ten times more likely¹¹ than their white counterparts to use relative and in-home care. Differences in racial and ethnic patterns in the type of care arrangements were not evident in Maryland and did not consistently reach a level of significance in Massachusetts. It is unclear why racial and ethnic patterns in type of care varied across the three states. The authors suggest that this pattern may reflect local variability in the supply and range of child care options, as well as parental preferences. While families of color may have a stronger preference for family and relative care (see also Caldera et al., 2003) the availability and affordability of local child care options also appear to influence their child care decisions. For instance, if low maximum provider reimbursement rates have been set, it may be particularly difficult to purchase certain types of care with a voucher. Lee et al. (2003) find that the use of center care increases with age of child, while the use of family care decreases with child age—a finding echoed by Wolf's research (2003a). Moreover, they find no significant and consistent effect of maternal age on type of care. Thus, while Wolf (2003a) finds that a younger maternal age at first birth is

¹¹ The odds of a Hispanic family using relative and in-home care ranged from a low of 2.65 among those with children aged three to a high of 10.74 among those with infants.

associated with more rapid entry into non-parental care, maternal age does not appear to be associated with the type of arrangement families select, at least among subsidized families.

Several of the studies included in this review find evidence that family income influences parental choices (Collins et al., 2004; Marshall et al., 2001; Wolf, 2003a). Clearly, family income affects the amount of money families can spend on child care and, in turn, shapes the range of options available to them (see Collins et al., 2004). In fact, Collins et al. (2004) find that a good deal of the regulated local child care supply is out of the reach of many families, in particular households living in poverty and low-income working families. In addition, Marshall and colleagues (2001) find that in Massachusetts, family income is associated with the quality of care in child care centers. Overall, centers that serve low- and moderate-income families had poorer quality of care than centers serving predominately moderate- and high-income families.¹² Direct observations of child care quality indicated that child care centers serving low- and moderate-income families had poorer child-staff interactions, space and furnishings, parent-staff communications, and language reasoning activities. Moreover, a higher percentage of centers serving low- and moderate-income families failed to meet the “Good” benchmark¹³ on the Early Childhood Environment Rating Scale – Revised Edition (ECERS-R, Harms, Clifford, & Cryer, 1998). For example, only one in five (22 percent) centers serving low-income families met the Good benchmark on the language and reasoning scale compared to half (49 percent) of centers serving moderate- and high-income families. Wolf (2003a) finds that higher pre-birth maternal income is associated with faster entry into non-parental care—perhaps evidence of stronger labor market attachment among higher earners—and with the use of more expensive child care options, such as nannies and center care.

Does public policy influence parental choice?

The findings of several of the papers suggest that public policy influences the range of child care options available to families, and, more generally, families’ access to child care. One area of public policy with the potential to affect parental choice is the availability and use of government child care subsidies. The study by Collins and co-authors (2004) for example, finds that public child care subsidies have helped to bring regulated center and family child care within the financial reach of low-income families. Child care subsidies were sufficient to purchase 75 percent of local child care in 15 of the 23 counties for which data were available. This finding is particularly noteworthy when one considers that in close to half of the counties included in this study, fewer than 10 percent of regulated centers and family care providers charged fees that

¹² In this Marshall (2001) study, low-income centers were defined as “those in which directors reported that at least 75% of the children [came] from families with incomes below \$30,000 per year. Low/moderate income centers [were] those in which at least 75% of the children [came] from families with incomes below \$80,000 per year (but not 75% below \$30,000). Moderate/high income centers [were] those in which at least 50% of children [came] from families with incomes over \$30,000 (and they [did] not meet the criteria for low/moderate classification) or 40% or more of the children [came] from families with incomes over \$80,000” (p. 4).

¹³ The Good benchmark standard on the ECERS-R consisted of a score of 5 or higher out of a possible 7 in each of the 7 main ECERS-R subscales of Space and Furnishings, Personal Care Routines, Language-Reasoning, Activities, Interaction, Program Structure, and Parents and Staff.

were less than or equal to the estimated child care budgets¹⁴ of low-income families. Simply put, without child care subsidies many low-income families would be unable to purchase most regulated center or family child care in their communities.

While subsidies may give low-income families the ability to purchase regulated and center care, they do not necessarily ensure access to it. The study by Collins et al. (2004) reveals that in several communities only one-third of child care centers reported a willingness to accept subsidies.¹⁵ Moreover, Piecyk et al. (1999), found that while the payment rates in Maryland enabled parents to purchase approximately 75 percent of the available local regulated care as determined by market rate surveys, in Illinois subsidies were sufficient to purchase only between 50 to 75 percent of the available regulated care. The degree to which subsidies provide access to regulated family child care, however, appears to be greater. In eleven of the twenty-one counties for which data were available in the study by Collins and co-authors, three-quarters of regulated family child care providers reported a willingness to accept child care vouchers. Thus, while government subsidies may provide low-income parents the ability to purchase regulated center and family child care, access to such care is dependent upon the willingness of community centers and providers to accept child care subsidies and the ability of parents to negotiate the acceptance of subsidy payment with providers. According to Burstein and Layzer (2004), some parents may make agreements with their child care provider to accept the subsidy payment as payment in full for care or reduce the amount of required co-payments, although such agreements violate most state rules which require family co-payment as condition of subsidy receipt. In rural and poorer areas, where government subsidies help to finance, and in some cases make center care possible (McGregor et al., 2002), an insufficient number of spaces available for children may prove to be a greater barrier than providers' willingness to accept subsidies. In more affluent areas that are less dependent on government subsidies, unwillingness on the part of centers to accept child care subsidies may limit the range of options available to subsidized families.

Subsidies may also influence the type of child care that families use. As noted above, parents may apply child care vouchers for the use of any legally operating child care provider—including centers, family day care, relative, neighbor, friend, after-school or faith-based programs (*Child Care and Development Fund Report to Congress*, 2003). Studies with samples in specific geographical areas have found that although a significant proportion of families use their subsidies to purchase license-exempt family child care or family, friend and neighbor care (Anderson et al., 2003; Coley, Chase-Lansdale & Li-Grining, 2001, as cited in Raikes et al., 2005), many subsidized families use center care (Shlay, 2002). In a national sample, subsidized low-income families were more likely to use center-based care than unsubsidized low-income families (Kinukawa et al., 2004). These findings are supported by state data from Illinois, Massachusetts, and Maryland (Lee et al., 2003). In addition, a study of low-income African

¹⁴ To illustrate the supply of care that is accessible to low-income families, the authors estimate the child care expenditures for a single parent, one child family earning 85 percent of state median income and spending 12 percent of annual income on child care.

¹⁵ The percentage of community child care centers that reported a willingness to accept subsidies ranged from a low of 22 percent in Arlington, Virginia to a high of 100 percent in Madison, Indiana. The communities that had less than one-third of centers willing to accept subsidies were: Arlington, VA; Itasca/Koochiching/Pennington, MN; Union, NJ; and Orange, NY.

American families in Philadelphia found that subsidy recipients use licensed and registered care more often than unregulated arrangements (Weinraub, Shlay, Harmon, & Tran, 2005).

The research provides varying explanations for why subsidy recipients use center care as opposed to regulated or unregulated family child care. The direction of effects is not entirely clear. For example, it is possible that families who have already decided to use center care are especially likely to seek out subsidies (Layzer & Burstein, 2005). Other potential explanations include local supply of care, parental preferences, the extent to which different providers are set up administratively to accept subsidies and willing to accept them, and constraints on parents because of limits on the flexibility available to them in terms of work schedules or family resources. The results of Collins et al. (2004) and Lee et al. (2003) indicate that the local supply of child care shapes families' child care choices, while the work of Caldera et al. (2003), Lee et al. (2003) and Wolf (2003a) indicates that preferences play a role in families' child care decisions. The results of Burstein and Layzer (2004) indicate that the safety of the child, the convenience of the arrangement, and the relationship to the provider are the factors that most influence parents' choice of child care arrangements. Their findings, however, also suggest that families that use center care are more likely to receive subsidies than families that use any other type of care. This pattern may reflect the extent to which centers encourage subsidy application and are set up administratively to accept subsidies. Earlier research by Emlen (1998) shows that flexibility in three areas of parents' lives—work, family, and caregivers—affect their child care choices. The intersection of work, family, and caregiver flexibility makes parents adapt and contributes to the choice of type of care. A parent experiencing lack of flexibility in one area, such as family resources may seek to compensate for this by finding flexibility at work regarding duties and schedules or from a caregiver regarding hours of operation. Thus, if a spouse or partner is not available to help adapt to a varying work schedule, a mother may seek a type of child care in which the provider is flexible as to hours (Emlen, 1998). Lastly, the findings of several studies indicate that parents who work evening, weekends, and other nonstandard work hours are faced with more limited child care options than parents who work during traditional daytime hours. For example, Layzer and Goodson (2003) find that mothers who work nonstandard hours are more likely to use relative care than any other type of care for their children (see also Snyder et al., 2004; Urban Institute, 2004).¹⁶

Government subsidy programs are only one example of how public policies can influence and shape family child care decisions. Other public policies that can influence parental choices include parental leave policies and recent efforts, at the state and local levels, to disseminate information to parents about local child care facilities and providers. Wolf (2003a), for example, found evidence to suggest that parental leave policies influence the timing of entry of children into child care arrangements. The results of her study indicate that the likelihood of entering child care was highest when children were two months old—a period that coincided with the end of maternity leave at the time the data were collected (i.e., prior to the enactment of the Family and Medical Leave Act).¹⁷

¹⁶ This study does not explicitly state whether this finding pertains to both paid and unpaid relative care arrangements.

¹⁷ While paid parental leave is not offered by most employers, new parents are typically allowed to use accrued leave or sick leave after the birth or adoption of a child. With the enactment of the Family and Medical Leave Act (FMLA) new parents are allowed to take up to twelve weeks of time off without pay.

State and local efforts are beginning to introduce systems for informing consumers of the quality of care. Two of the studies included in this review focus on the effects of such information on parent choice. One program in New York centered on providing parents information about the quality of care in local centers (Cornell University, 2002). The other, located in Broward County, Florida, focused on providing parents access to child care inspection reports and complaints (Witte & Queralt, 2004). Interestingly, both programs used the Internet to disseminate this information. Though the program in New York is in its beginning stages, early results from Florida indicate that the Internet is an effective way to share this information with parents. Specifically, the Florida website received an average of 71,000 hits a month in the first year of the program, which was launched with an extensive media campaign, and an average of 84,000 hits in its second year. The extent to which these dissemination efforts influence parental decisions is unclear. The results of Witte and Queralt (2004) suggest that the effect of increased information on parents may, in fact, be minimal. Their research indicates that while many parents visited the website, there was no significant change in the enrollment and vacancy rates among centers that passed or failed inspections. It is not clear, however, if parents who had accessed the online information had left centers that had failed inspections, and been replaced by less informed consumers. While the effect of these dissemination efforts on parents is unclear, there is evidence (reviewed in the section on Quality below) to suggest that these efforts may affect the behavior of regulators and providers. Moreover, a recent study with current and former TANF and subsidy recipients found that access to information about local child care providers and the quality of care facilitated the search process (Snyder et al., 2004). Participants of this study also indicated that parents would benefit from information about *how* to choose child care, for example, what to look for in a child care provider or what type of care their child would most benefit from. This type of information seems to be particularly important for first time child care users or those with transportation or time constraints which limit their ability to visit multiple providers (Snyder et al., 2004).

What affects child care selections made by parents?

Only a few of the papers reviewed here directly examine parental preferences and how they shape child care decisions. The first of these is a study conducted by Shlay and colleagues (Shlay, Tran, Weinraub, & Harmon, 2005) that used an innovative approach to disentangle the relative importance of various factors in parents' selection of child care. A group of low-income African American parents participated in a survey that provided thirty different child care scenarios embedded with different (randomly assigned) situational factors (such as long or short distance to parents work or experience of the caregiver). Parents were asked to rate the desirability of the care, to identify a fair weekly price for care, and to say how much they would be willing to pay for the child care. Analyses indicated that parents assessed quality based primarily on such factors as the health and safety of the environment; education, training, and experience of the caregiver; the quality of the caregiver-child relationship; and the extent of planned educational activities. The study indicated that parents would be willing to pay higher prices for child care with these desirable characteristics. The commute time between the parent's job and the child care site, as well as the racial and economic diversity of the child care setting were also important factors. The authors see the results as suggesting that "parents may choose lower quality care, not because they do not know what quality is or because they define care

differently, but because such care may be neither available nor affordable in their communities” (Shlay et al., 2005, p.393).

A second paper, by Wolf (2003a), considered the linkages between maternal work attitudes and beliefs about child care, as well as effect of work attitudes on the timing of child care entries and type of child care used. Overall, Wolf (2003a) found that mothers who were more committed to their work roles were more likely to perceive child care as being beneficial to children than mothers who were less committed. In addition, mothers with greater work role commitment placed their children in child care earlier than mothers with more traditional work role attitudes. Maternal work attitudes, however, did not appear to be related to the type of arrangements parents selected. That is, maternal work attitudes appear to influence decisions about whether and when to place children in child care, but appear to be unrelated to the type of care used by families. Wolf (2003a) suggests that beliefs about childrearing practices may be better predictors of the type of care parents select. For example, parents who place a premium on providing stimulating learning environments may be more likely to place their children in center care and specialized programs, while those concerned with issues of safety and trust may opt for relative and family care (see below).

The summary of the initial findings of qualitative research by Caldera et al. (2003) provides evidence of a preference for family and relative care among Mexican American families. The participants in that study expressed a strong desire for their children to be cared for by relatives, in particular, grandparents and aunts. For some, the preference for relative care was so strong that when asked to consider alternative types of care, many refused to do so and others suggested that they would not work if relative care was unavailable. For those parents willing to consider alternative forms of care, there appeared to be a strong preference for center care. When exploring the reasons why these families preferred relative care, two issues appeared prominently. The first was a concern that children be provided with a sufficient amount of love and care. For many of these families, maternal love and care appeared to be the first choice; if this was unavailable because mothers worked, the only appropriate substitutes were fathers, grandparents and aunts. The families also voiced concerns about safety, in particular their inability to ensure the safety of the children when placed in the hands of “strangers.” In fact, this appeared to be the reason why some families were willing to consider a child care center in the event that relatives became unavailable. Centers appeared safer to these families because of the number of adults present—the greater the presence of adults, the less likely any one person would engage in inappropriate behavior. While the findings of Caldera et al (2003) are supported by prior research, it is important to note that the study is based on a small, non-representative sample of thirty Mexican American families. Thus, it is unclear the extent to which these findings can be generalized to a larger population or to other Hispanic subgroups.

Though these three studies provide the only direct evidence of the role parental preferences play in child care decisions, additional evidence can be gleaned from the results of other studies. The results of both Lee et al. (2003) and Wolf (2003a) suggest a preference for relative and family care among parents of young children (i.e., under the age of 2). Overall, parents of young children in both studies were more likely to use relative and family care than parents of older children. Wolf (2003b) finds this pattern to be consistent across family income groups suggesting that issues other than costs are driving parents’ decisions about the care young children receive. On the other hand, this may simply reflect the lack or shortage of spaces available for infants in

child care centers. Last, as noted previously, Lee et al. (2003) find some evidence in Illinois of a preference among African American and Hispanic families for relative and in-home care, as indicated by their greater use of these care arrangements. In contrast, for the African American sample in the study by Shlay and colleagues (2005), type of facility was irrelevant to parent preferences.

Emerging Questions and Issues

Much of the discussion on parental choice in this review focused on the associations between family characteristics and child care utilization patterns, as well as the extent to which public policy affects parental access to child care and the range of care options available to parents. Few studies have directly examined the role of parental preferences in child care decisions, or directly examined the parental decision-making process.

Further, as noted in the introduction to this section, the research in this area tends to use terminology that does not distinguish clearly between preferences, the decision-making process, and actual utilization. According to Weber (2005), this reflects both the complexity of the phenomenon being studied and the absence of consensus on how to describe it. The phenomenon of parental choice is complicated because of wide variance in how parents make child care arrangements. Some parents simply place the child in an arrangement without considering any other option, and there is evidence that many parents know little about the availability of other options. Although parents have values and goals for their children, child care preferences appear difficult for them to name. At the Child Care Policy Research Consortium (CCPRC) Meeting in April, 2003, participants in a session on "Effects of Child Care Policies on Parental Choice" created a framework that captured what researchers who have studied parental choice have learned. One can graphically picture a process that starts with parental preferences (values and goals for the child) and then moves through opportunities, constraints, and compromises to arrive at what arrangement is actually used for the child. In this model, access to a subsidy would be one of the opportunities that would affect the arrangement used for the child. Currently the concepts of preferences, choice, and usage are not always differentiated and the lack of consensus on both concepts and language limits research in this area.

The field would benefit from a better understanding of the decision-making process, collecting prospective data on the issues that matter most to parents as they work towards their choices. Available data on why parents selected their *current* child care arrangement suggest that many factors play a role including safety, coordination with parental work (e.g., location, hours of operation, etc), cost, and flexibility (Layzer & Goodson, 2003). However, retrospective reports about current child care arrangements only tell us why parents selected their current arrangements, and these reasons may differ from the set of issues that were important to parents at the outset of their child care search. For example, it may be that parents begin their search with a strong preference for home-based care because there are fewer children and the environment is more like their own home, but eventually settle on center-based care because of others they know who are using a particular center. In addition, retrospective reports may be vulnerable to issues related to recall and social desirability. Studies that examine the needs of parents before and during their decision-making process will improve our understanding of what families look for when they seek non-parental care.

Overall, the research reviewed here leads us to identify several gaps and limitations as well as potential next steps.

The need to improve the conceptualization of parental choice

In general, parental choice is under-conceptualized and under-operationalized. No consensus, either in the studies reviewed here or in the general literature, has emerged on how to define parental choice. In some of the papers, parental choice was not discussed explicitly but examined indirectly via the relationships between parent and child characteristics and family child care patterns. In other papers, the terms parental choice and preference appeared to be used interchangeably. In this review, we have used the term parental choice to refer loosely to the decision-making process and the choices parents make with respect to child care. Under this umbrella, we have discussed the factors, such as family characteristics and public policies that influence and shape this process. This definition appears to match with the intent of the papers included in this review. It would be helpful if future work distinguished more clearly between the process that parents follow in reaching their decisions and the outcomes that result from the decision-making process.

Exploration of different ways to present ratings of child care to parents

Two studies, one in New York State and one in Broward County, FL, focused on the use of the Internet to disseminate information about local child care providers. The work of Witte and Queralt (2004) provides evidence that information about child care that was posted on the Internet was widely accessed following media coverage about the availability of the information. Given the early success of these Internet projects, it is likely that more states and localities will begin to develop similar projects. In doing so, it would benefit program administrators to take inventory of parents' needs in order to maximize the delivery of information. For example, the research by Witte and Queralt (2004) suggest that many parents do not begin to look for child care until they need it, and thus have only limited time to make child care decisions. While research indicates that parents look at information about child care quality, we do not know whether they access this information in time to utilize it, or whether they simply look for information to affirm a decision they have already made or are close to making. Focus groups may provide an effective and inexpensive way for researchers developing their own Internet programs to learn more about how and when parents most need and use this information.

Policy Implications

Below we summarize the policy implications that emerge from this body of work.

- Parental child care options appear to be extended by the use of subsidies. It is important to consider ways to extend this benefit of subsidies, including to those with special needs.

Multiple studies reviewed here indicate that government child care subsidy programs are helping to increase the affordability of child care for many low-income families (Collins et al., 2004; Lee et al., 2003; Marshall et al., 2001; Snyder et al., 2004). In addition, findings in three of the articles reviewed here (Collins et al., 2004; Marshall et al., 2001; McGregor et

al., 2002) suggest that government subsidies may also support a substantial (though varying) portion of local child care markets. As alluded to earlier, public funding may play a particularly vital role in poorer and rural areas (see McGregor et al., 2002) where resources may be more limited. McGregor et al. (2002) also suggest that government funded programs and services may be more important for families with special needs children, especially families in rural areas that traditionally have fewer formal child care facilities. Ultimately, the extent to which public funding shapes the distribution and supply of local child care influences the range of options available to parents.

- Identify the most effective ways to provide parents with information on child care quality, as well how to use the information in the child care search process.

Parents appear to value and seek information on child care quality, as shown by recent efforts to disseminate information about child care providers' inspection reports. Two studies suggest that parents would welcome more information on child care options, but one of the studies cautions that parents need more time to access information and make appropriate choices. (Snyder et al., 2004; Urban Institute, 2004). Specifically, parents in Snyder et al.'s study of TANF recipients voiced the need for information on the availability of local providers, quality of care, and more generally, information about how to select care. While many parents in the study already had selected providers before program enrollment, others had not. Those whose caseworkers and programs provided information or assisted in the search process had an easier time finding appropriate child care providers. This may be particularly important given the short amount of time many TANF recipients had between their job assignments and their start dates. Several parents voiced frustration about not having enough time to find child care before they had to start school or work. In fact, many parents had to place their children in temporary or patchwork arrangements until they were able to find permanent providers. While most participants in the study were able to find providers in the given time period, the researchers note that there were parents who could have benefited from more time to conduct the search process or access to information, in particular those with less experience with child care, transportation barriers, and those working nonstandard hours.

A number of states have implemented or are developing quality rating systems, which provide easily interpreted summary information on child care quality that parents can use in choosing care. For example, some states use stars to identify care that meets more or fewer quality criteria while others use designations such as gold, silver and bronze to identify quality levels. It will be important to learn from state experiences with such rating systems. For example, is there evidence that parents actually utilize the ratings in making child care choices? Do parents prefer to receive information on the components underlying the overall rating (e.g., whether a child care setting is accredited, the education level of caregivers) or only the summary rating? Do some state approaches appear to be more effective than others in providing useful information to parents? A key question is whether providing summary ratings of quality to parents is an approach that state policymakers should continue to explore and invest in.

- Consider approaches that would address the needs of many low-income families for child care during nonstandard hours.

The research reviewed here indicates a mismatch between the child care needs of many low-income working parents and the hours of operation offered by many child care settings (see Collins et al., 2004). A number of states are exploring approaches to providing support and training to the family, friends, and neighbors who provide a great deal of the care during nonstandard hours. Kreader and colleagues (2000) also suggest that policies that provide child care centers with incentives to expand their hours of operation may assist in meeting the demand for care outside of traditional work hours. Policies that address the mismatch between hours of operation and non-traditional work hours across different types of care may help to increase child care options of working parents.

Child Care Quality

Context

The PRWORA legislation requires that at least four percent of CCDF funding be set aside by states to improve the quality and supply of child care (“the four percent quality set-aside”). The legislation defines quality activities broadly, including “activities that are designed to provide comprehensive consumer education to parents and the public, activities that increase parental choice, and activities designed to improve the quality and availability of child care (such as resource and referral services).” In addition to the quality set-aside, there are specific funding earmarks for improving general quality, the quality and supply of infant/toddler care and school-age child care, and child care resource and referral. While direct subsidies are targeted to low-income families, the four percent quality set-aside and earmarks are intended to improve the quality and accessibility of care for all children. A report by the U.S. General Accounting Office indicated that many states actually exceed the requirement to invest four percent of CCDF funding and earmarks in improving child care quality.

While there are no representative samples that can provide a picture of child care quality nationally, major regional studies suggest that much of the care in this country falls in a middle range of quality, not meeting specifications for “good” quality care according to direct observations of quality in the caregiving setting. For example, in the Cost, Quality and Outcomes Study of center child care in four major metropolitan areas, 65 percent of center classrooms had overall quality ratings on the ECERS that met the requirements for minimal quality but not good quality (overall ratings of 3 - <5) (Harms & Clifford, 1980; Peisner-Feinberg et al., 1999). Using a different observational measure, the NICHD Study of Early Child Care (2000) carried out direct observations of child care quality in a range of non-parental care settings in nine metropolitan areas in the United States. The observations were carried out using the Observational Record of the Caregiving Environment (ORCE, NICHD Early Child Care Research Network, 1996, 2000). A “positive caregiving composite score” was created based on the frequency of specific caregiver behaviors and qualitative ratings of aspects of interaction such as caregiver sensitivity to the child’s needs and cognitive stimulation. Ratings distinguish among four levels of quality: “poor,” “fair,” “good,” and “excellent.” The largest proportion of non-parental child care settings observed in the first three years of life fell into the fair category. Center care for infants and toddlers in the NICHD Study was more likely to be rated of poor

quality than was center care for older preschoolers. This group of researchers estimated that a nationally representative picture of child care would find about 61 percent of child care in the early years to be either fair or poor in quality.

There is a substantial body of evidence linking child care quality to child outcomes. A report of the National Research Council and Institute of Medicine on integrating the science on early childhood development concluded that “the positive relation between child care quality and virtually every facet of children’s development that has been studied is one of the most consistent findings in developmental science... High quality care is associated with outcomes that all parents want to see in their children, ranging from cooperation with adults to the ability to initiate and sustain positive exchanges with peers, to early competence in math and reading” (National Research Council and the Institute of Medicine, 2000, p. 313). Careful reviews of the evidence by Lamb (1998) and Vandell and Wolfe (2000) conclude that child care quality is associated not only with concurrent development, but also with development over time, with longitudinal studies showing implications into the elementary school years. Associations of child care quality and child outcomes appear to be stronger for children in families with socioeconomic disadvantage (Peisner-Feinberg & Yazejian, 2002, 2003).

There is also some evidence indicating that child care of higher quality supports the transition off welfare. Meyers (1993), in research from a period of welfare reform prior to PRWORA, found that when mothers making the transition from welfare to work had concerns about their children’s safety in child care, they were more likely to drop out of a work preparation program. The ratio of staff members to children in child care also predicted maternal participation in the work preparation program.

While there is a substantial body of research linking quality and child outcomes, there is limited research to date involving evaluations to identify which approaches for improving child care quality are effective. The GAO report (2002) called attention to state efforts to improve child care quality, but also noted limited research regarding the quality initiatives, including research evaluating the effectiveness of the strategies states are using to improve child care quality. It also noted that a majority of expenditures to improve quality are allocated to center care. Yet a substantial proportion of children are cared for in home-based settings.

The *CCB-funded research* begins to address the need for research evaluating specific strategies to improve child care quality. This set of studies includes research aimed at directing state efforts to improve quality through documentation of quality at the state level and identification of specific areas of quality in need of improvement. It provides a particularly strong focus on quality in family child care, thereby helping to identify where quality efforts in this type of care should be focused. It also addresses a lack of previous research specifically seeking to document the quality of care received by families using child care subsidies.

The *CCB-funded research* responds to the concern expressed in the GAO report that there is a lack of research focusing on state efforts to improve child care quality using the quality set-aside. In the first comprehensive descriptive portrayal focusing on such initiatives, Porter and colleagues (2002) profile quality initiatives in 45 states funded by the four percent quality set-aside as well as the infant/toddler earmark. The profiles give key features of state initiatives, identifying the type of initiative (for example, provider professional development, recruitment and training of child care providers, providing materials and equipment for child care facilities,

increasing retention, supporting progress towards accreditation or within quality rating systems), target population of children, and type of child care setting for which each initiative is intended. The review of selected initiatives identifies whether the initiative is intended to be implemented state-wide or locally, whether projects with different goals tended to have large, moderate or smaller budgets, and whether any attempts were made to evaluate the initiatives. While this work does not aim to document *all* state child care quality initiatives, it is the first comprehensive look at what states are attempting to accomplish in their efforts to improve quality.

Questions Addressed

The *CCB-funded research* focuses especially on the following questions regarding child care quality:

- What evidence is there for the effectiveness of specific strategies to enhance child care quality?
- How can state and county samples of the quality of regulated care be used to target quality-improvement efforts in states?
- What is the variation in quality among those states that have carried out state studies of the quality of regulated care?
- What do studies to date suggest about the quality of care received by families using child care subsidies?
- What does recent research focusing specifically on family child care indicate about quality in this type of care?

Findings

We turn now to a summary of findings emerging for each of these questions.

What evidence is there for the effectiveness of specific strategies to enhance child care quality?

The *CCB-funded research* is beginning to shed light on the effectiveness of strategies to improve child care quality. There are emerging patterns of findings pertaining to two specific child care enhancement strategies in this set of reports: providing information to parents (consumers) about child care quality, and providing supports and incentives for child care facilities to meet specific quality requirements.

Making information on child care quality available to parents/consumers. As noted by Peters and Bristow in their report to the CCB (Cornell University, 2002), The Council on Economic Advisors' report on the Economics of Child Care concluded that parents often lack good information regarding quality to use in choosing care. Two of the projects ask whether consumers would use information about child care quality if it were made widely available, and further, whether the availability of such information would affect consumer choice and thereby the child care market. Findings to date indicate: (1) that consumers do access information about

quality particularly when notice of the availability of the information is disseminated through the media; and (2) that making quality information widely available appears to have effects on the quality of care.

The study by Bristow and Peters (Cornell University, 2002) aimed to evaluate the effects of making summary ratings of child care quality available to consumers in selected counties in New York State. Child care facilities that participate in the voluntary quality rating system have their ratings posted on a website. Facilities are given ratings in terms of two to five stars when they are found to exceed basic licensing requirements, with ratings taking into account: (1) direct observations of child care quality by highly trained observers; (2) teacher or provider education and experience, and (3) program history of compliance with health and safety standards. Findings thus far from a parent survey in the counties participating in the study (with data collected before the launching of the website reporting the ratings) indicate that a majority of parents with young children report that they would use the posted information on child care quality. When final findings from this study are released, they will contribute to an understanding of how quality rating systems used only for consumer education compare to quality rating systems that are linked to reimbursement systems (such as those in Oklahoma and North Carolina).

Findings in the report to the CCB by Witte and Queralt (2004) focus on consumer use of information from inspector reports of licensed child care facilities in Broward County, Florida. Here too there is evidence that consumers would make use of readily available web-based information on child care quality. In Broward County, licensed child care centers and family child care homes are inspected at least three times a year. In March of 1999, inspectors from the licensing and enforcement agency started recording the results of their inspection visits to child care facilities using laptops, and the shift to computerized records was completed by December 1999. In January 2001 the agency started making available on the Internet reports of the inspectors' site visits. The availability of this information online was widely announced in the local media. The report by Witte and Queralt (2004) documents a large increase in hits to the website from before to after the press release and media coverage, from 39,731 hits in the month prior to the media coverage, to 56,260 in the month after the coverage. Thus, when informed about the availability of quality information, there are indications that consumers will indeed access it. Further tracking over time could reveal whether sustained media coverage is necessary for continued high rates of consumer use of the information.

Findings on the effects of the consumer information are thus far available for the Florida study though not yet the New York study. Witte and Queralt (2004) report a number of significant changes from before to after the posting of inspection reports, examining data from several sources for the year prior to and after the widespread availability of inspection reports. In particular, there was a net increase in the number of inspectors available to carry out the inspections from before to after the posting and dissemination of inspection reports, and perhaps more important, a significant increase in the mean number of routine inspections per center per year. In addition, before reports were posted, a high proportion of the time (75 percent) centers either passed or failed all of their inspections. However, after the reports were posted, there was an increase in the proportion of centers that passed some but failed some of their inspections (an increase from 25 percent to 39 percent of the centers). Thus, there is some indication that ratings

may have become more differentiated and less “black and white,” suggesting a greater attention to detail by inspectors.

There was no indication from child care resource and referral data that enrollment diminished for those centers that failed inspections or increased for those that passed, nor was there evidence that parents filed more complaints for centers that failed inspections after the inspector reports became widely available. Thus, at the broad level of overall enrollment, the inspection reports do not appear to have changed consumer behavior. Yet the researchers have not yet examined differences in choice of care for those who did and did not access the consumer reports. It is possible that “informed” consumers did leave facilities with unfavorable inspection reports, but the openings were filled by “uninformed” consumers.

There are indications that overall quality of care in the county increased after inspection reports were made available online. In particular, for centers, the proportion with one form of accreditation increased (accreditation offered through the Broward County Gold Seal program) though two other forms of accreditation (NAEYC and Florida Gold Seal) did not. In addition, quality assessment scores, routinely collected for centers contracted to care for subsidized children in Broward County, increased significantly from before to after the inspector reports were made available (net of secular trends, or changes over this time period not associated with the posting of inspection information). In summary, the authors conclude that posting inspection reports exerted pressure on child care quality, but it is not clear that this pressure came via consumer choice.

Providing supports and incentives to meet child care quality requirements. Some states are also providing supports and incentives to child care facilities for meeting specific child care quality requirements. Two reports to the CCB document the effects of such strategies.

As described in the report to the CCB by Amantangelo (2003), in Texas, CCDF is administered through 28 local Workforce Development Boards that receive block grants. While there are state-wide policies set by the state-level Texas Workforce Commission (for example regarding who has priority for eligibility to receive a subsidy), the local boards have flexibility with respect to such issues as income eligibility cutoffs, parent fees and reimbursement rates, and waiting lists. The annual allocation for each local board is tied to specific performance targets. In addition to the average number of children served per day with subsidies, the performance targets have, in the past, included quality goals such as the number of network providers who have met the Texas Workforce Commission’s criteria for quality vendors (the designation of a Texas Rising Star Provider). Texas Rising Star Vendors are paid at least 5 percent more through the subsidy system than providers without this designation within the same care type. The local workforce boards have been able to provide incentives and supports for providers to meet the quality requirements through funding from the Child Care and Development Fund quality set-aside. Texas has tracked the proportion of subsidized care that is provided by the designated quality vendors.

According to Amantangelo (2003), in FY 98, 7.25 percent of subsidized care in the state was provided by such vendors. By 2003, 22 percent of all subsidized care in the state was provided by Texas Rising Star Vendors. However, in subsequent years there have been budget cuts in the

state, and it is not clear if it has been possible to continue this positive trend or whether it has reversed.

Following a somewhat different approach, there is also evidence from the four Midwestern states that setting specific quality criteria and providing supports for facilities to meet those criteria can result in the provision of higher quality care. As reported by Raikes and colleagues (2003), in three of the four states in the consortium, Missouri, Kansas and Nebraska, federal or state funds have been allocated to an initiative in which Early Head Start and Head Start programs can receive funding for partnering with and assisting center or family child care facilities that make the commitment to follow Head Start performance standards. As noted in greater detail below in the section on child care partnerships, survey data and direct observations of child care quality in the Midwestern states (with samples drawn so that they are representative of the Midwest states) provide several indications that community-based child care facilities participating in these partnerships with Early Head Start and Head Start were of higher quality.

A study of tiered reimbursement (or setting higher subsidy reimbursement rates for child care that meets specified quality requirements) carried out in Minnesota (Tout & Zaslow, 2004) cautions that a limited supply of facilities that have attained higher quality standards may hinder access for low-income families. This may be especially so in rural areas with fewer child care options. In order for tiered reimbursement to increase the proportion of children participating in higher quality care, financial supports may need to be available to help facilities serving these children meet the quality requirements. In addition, families need to have access to and understanding of the information that differentiates facilities that are and are not eligible in the higher “tier.”

Studies such as those summarized here are beginning to address the need identified in the GAO report for careful study of the effectiveness of differing child care quality-improvement strategies. Other research funded by the CCB is further extending this new body of research by studying the effects of differing professional development approaches for family child care providers and entry-level center child care providers through the Quality Interventions for Early Care and Education (QUINCE) evaluation.

How can state and county representative studies of the quality of child care be used to target quality-improvement efforts in states?

Six states have now carried out observational studies of the quality of their center child care using sampling strategies that permit generalization to the quality of such care state-wide: Massachusetts, Minnesota, and the four states participating in the Midwest Consortium (Iowa, Missouri, Nebraska and Ohio). In addition, Wisconsin has collected data on state subsidized center child care, though without assuming that findings generalize to all center care in the state or to subsidized center child care in the state (because of response rates). The four Midwest states and Massachusetts have also carried out observational studies of the quality of their family child care (the study in the Midwest states included licensed as well as license-exempt care while the study in Massachusetts included only licensed family child care). Work in Alameda County, California, uses this strategy to provide a picture of both center child care and licensed family child care at the county level. These studies are making it possible to ask a series of questions

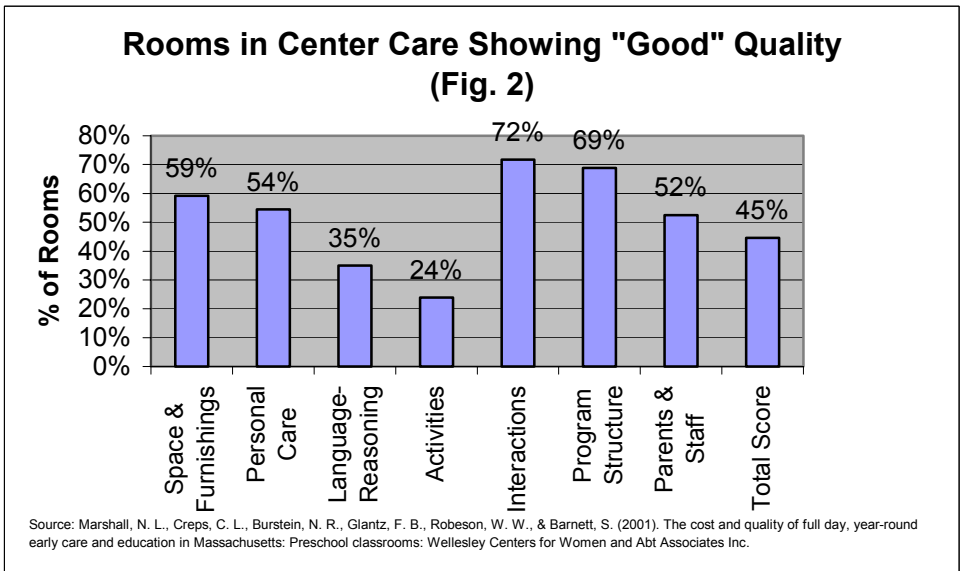
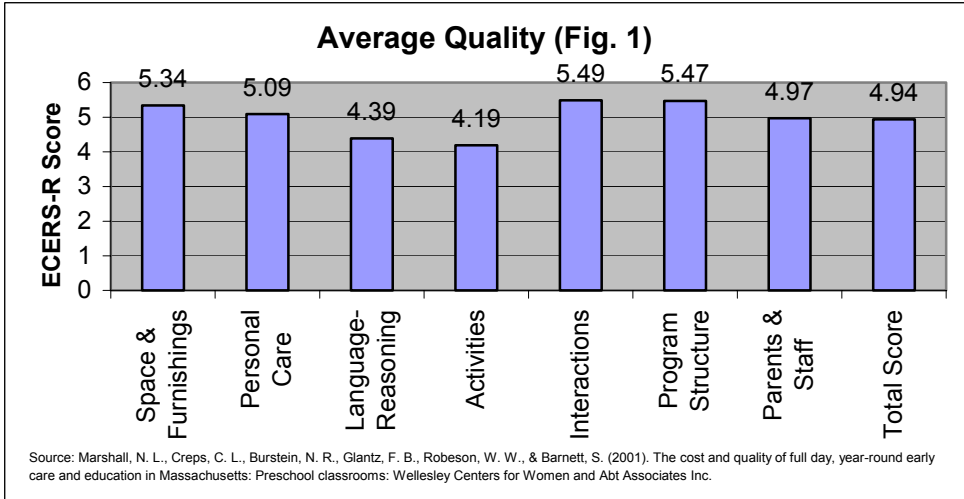
about child care quality for geographical areas. In particular, for states and counties, these studies permit consideration of areas of strength and weakness within each type of care, and in a number of instances, a contrast of care quality across types and subtypes of care.

The observational measures of child care used in this set of studies generally include the early childhood environment ratings scales (or “ERS” scales). While these studies usually include other scales as well, the present review focuses on emerging patterns of findings for the environmental ratings scales because they are used in each of the state and county studies to assess process quality. These scales were developed by Harms, Clifford and Cryer at the FPG Child Development Institute, and include the Infant/Toddler Environmental Rating Scale (ITERS) for ratings the center classrooms of infants and toddlers, the Early Childhood Environment Rating Scale (ECERS) for rating the center classrooms for preschool-age children; and the Family Day Care Rating Scale (FDCRS) for rating family child care environments. They each provide ratings ranging from 1 to 7 on discrete items that sum to form specific scales as well as a summary or total rating of the environment. A rating of 1 indicates inadequate quality, a 3 indicates minimal quality, and 5 to 7 indicate good to excellent quality.

The availability of ratings of the specific aspects of care quality have made it possible for states to consider which aspects of quality are strongest and which should be the focus for efforts to improve quality. As an example, Figures 1 and 2 summarize the findings presented by Marshall, Creps, Burstein, Glantz, Robeson and Barnett (2001) regarding full-day full-year classrooms for preschool-age children in Massachusetts. Figure 1 provides average ECERS scores for the specific scales as well as the summary (total) score, while Figure 2 gives the percentage of center rooms with ratings of good (5) or higher on each of these. These figures are taken directly from the report though renumbered for the present context.

As can be seen, the average rating was close to or above 5 for five of the scales: Space and Furnishings, Personal Care, Interactions, Program Structure, and Parent and Staff Interactions, and the average total score was just under 5 for center child care in Massachusetts. However the average scores for Language and Reasoning and Activities fell below the good range. Forty-five percent of the centers in the state sample received a score of good or higher on the summary score, and more than half received a rating of good for each of the specific scales with the exception of the Language and Reasoning and the Activities scales (for which 35 percent and 24 percent respectively received ratings of good or higher). In the context of generally strong center care quality within the state, this set of scales nevertheless indicates room for improvement in the language stimulation children are provided with (for example, improving the number and variety of books available and encouraging communication through the use of materials and activities) and in the variety and quality of the materials used in children’s daily activities in child care (for example, in art, music, fine motor, and dramatic play).

Other states show different profiles. For example, in center care in Minnesota (Tout & Sherman, 2005), results point to Program Structure and Interactions as areas of strength, with average ratings at or above 5. Areas where attention could be focused include Personal Care Routines as well as Language Reasoning and Activities. Whereas 64 percent of the centers in the sample received a rating of good or higher on the Interactions Scale, and the same proportion received a rating in this range on Program Structure, only 11 percent received a rating of good or higher on



Personal Care Routines, 38 percent on Language and Reasoning, and 14 percent on Activities. Minnesota is in the process of developing a summary of its findings with explanations of each of the scales as well as a discussion of how individual centers can work to strengthen quality in each specific area. Thus, the findings from the state representative samples are themselves becoming tools for quality improvement.

Marshall and colleagues (2003) interpret the strengths and areas for improvement in the Massachusetts study focusing on the quality of licensed family child care as follows:

While the vast majority of providers do a good job of meeting the needs of parents and [children], most providers do not meet the Good benchmark for basic care, reflecting minimal standards of safety and health, particularly in food preparation and diapering and toileting. In addition, a majority of providers did not meet the Good benchmark for stimulation or for warm and responsive relationships between providers and children...” (p. 23).

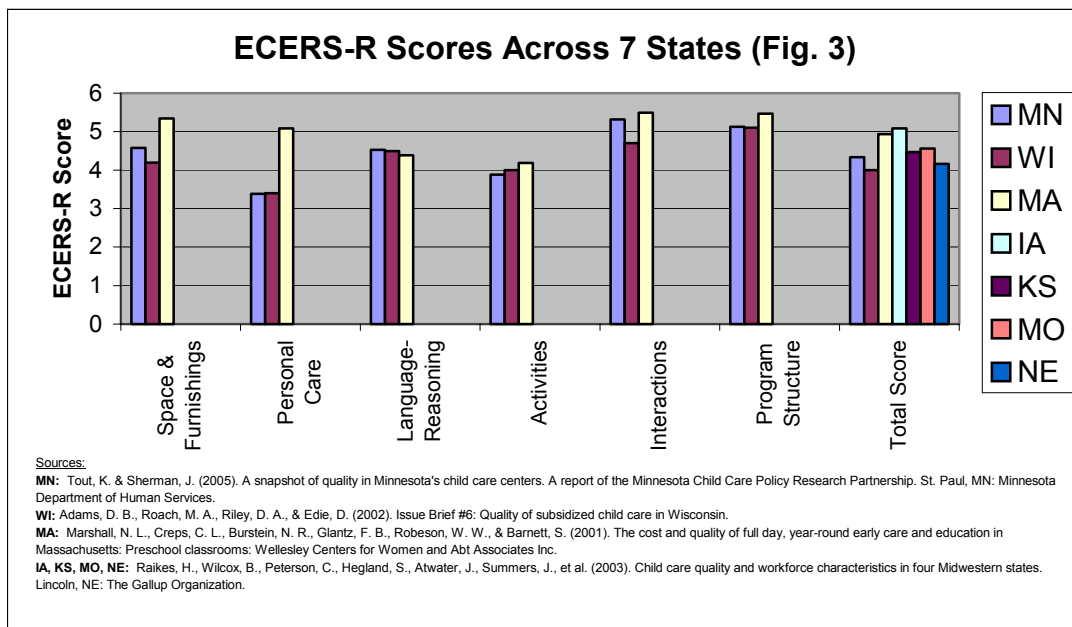
The “ERS” scales have been used in both center and family child care in the four Midwestern States (reported with scores summed across the states and including both licensed and license-exempt care), in Massachusetts and in Alameda County (these studies including only licensed care). Given that the scales use a common metric and that it is possible to calculate the proportion of each type of care in the good range (that is, with ratings of five or above on a rating scale ranging from 1 to 7), a number of the states have looked at quality across the types of care. However the reports caution that the scales are not completely comparable. As Marshall and colleagues (2003) note (in their study of family child care in Massachusetts), there is less agreement about the components of quality for family child care than center care. Some researchers have called for further measures development to capture the unique strengths of family child care (such as continuity of relationships over time, which cannot be included in a measure of quality that rests on an observation of the environment on one particular day). The possibility also exists that the average age of the children differed for the family and center child care observed in these studies. It is unclear if differences in quality reflect only on type of care, or also on the age ranges of children in care.

Keeping these cautionary notes in mind, the studies to date conclude that the quality of care in centers, at least for preschoolers, tends to meet the “good” benchmark of the ERS scales more often than family child care in the same state or county. As already noted, the proportion of center care rated as good overall in Massachusetts was 45 percent. In the companion study carried out by Marshall and colleagues (2003) of licensed family child care in the state, the proportion showing an overall rating of good was 30 percent. Summing across the four Midwestern states, Raikes and colleagues (2003) report that 39 percent of center-based care for preschoolers met the good benchmark, while 29 percent of infant-toddler care in centers, and 30 percent of family child care met this benchmark. At the other end of the spectrum, in the Midwestern states, 10 percent of center-based care for preschoolers, 8 percent of center care for infants and toddlers, but 27 percent of family child care received an overall rating of poor (ratings of less than 3). Finally, Whitebook and colleagues (2004), in their study of child care in Alameda County, California report that 2/3 of the centers in their sample but only 3 percent of the licensed family child care homes received a rating of good or higher. It should be added,

however, that Whitebook and colleagues (2004) found that ratings of caregiver sensitivity (using the Arnett Caregiver Interaction Scale), were less divergent across types of care than overall ratings of quality using the ERS scales. These findings suggest that when states and counties target their quality-improvement efforts, family child care should be a particular focus. Results by Whitebook and colleagues (2004) suffice to caution that certain areas of family child care, but not others (such as caregiver sensitivity) may need to be targeted.

Among those states that have carried out state studies of the quality of regulated care, what is the variation in quality across states?

Through CCB-funded research, summary ratings of child care quality in center settings, using the ECERS-R, are now available for seven states: Minnesota, Wisconsin (subsidized care only), Massachusetts, Iowa, Kansas, Missouri and Nebraska. Figure 3 shows the average total quality score from the seven states (please note that while total scores are available for all of the states, subscale scores are available only for three states). This summary comes directly from data presented in Adams et al. (2002); Marshall et al. (2001); Raikes et al. (2003); and Tout & Sherman (2005). As can be seen, Iowa was the only state to show an average score above the “good level” (that is, rating of 5), though the overall rating for Massachusetts was only slightly lower (4.94). The remaining five states all had scores between 4 and 5, between minimally adequate and good.



This is, of course, only a minority of states overall, and is certainly not a geographically diverse set of states, or a sample of states representative of the full diversity of the U.S. population. Yet these state studies can be seen as a starting point, beginning to provide a picture of the extent of cross-state variation. The results to date suggest what it might be possible to learn from a larger and more representative set of state studies.

What do studies to date suggest about the quality of care received by families using child care subsidies?

There is very little empirical evidence focusing on the quality of care used by families receiving subsidies, and *CCB-funded research* is beginning to shed light on this issue. It must be acknowledged at the outset that the number of studies focusing on any particular facet of this key issue continues to be limited. Thus, emerging patterns need to be seen as hypotheses that should be replicated and extended in further work. Yet an important balancing factor is that studies the *CCB-funded research* draws upon geographically and demographically diverse samples, and in some instances, samples that are representative of regions (states, or in one instance, a county).

The recent findings provide a somewhat different picture for different aspects of care quality. On measures of the observed quality of care that describe the overall environment or caregiver-child interaction, as well as measures of caregiver characteristics such as education, subsidized family child care homes have been reported to show lower quality than unsubsidized facilities. Yet these differences do not appear consistently for center child care, and sometimes the pattern is reversed, with subsidized centers showing better quality than unsubsidized centers.

Observed quality in the caregiving environment. Two recent studies have contrasted the observed quality of care in subsidized and unsubsidized child care facilities. Whitebook and colleagues (2004; undated) found the observed quality of care in child care centers in Alameda County to show few differences according to subsidy receipt or neighborhood income, and concluded that, “In general, subsidized and [unsubsidized] centers provided comparable levels of care and education, as did centers in low- and middle-income neighborhoods” (Whitebook et al., undated, p. 7). Indeed, subsidized centers in low-income neighborhoods had significantly better ratings than unsubsidized centers in such neighborhoods on the Personal Care Routines scale of the ECERS-R. Subsidized centers in low-income neighborhoods also had better ratios for toddlers and preschool-age children (though not for infants) than other centers in low-income neighborhoods.

However, in licensed family child care, mean scores on the Learning Activities scale were significantly lower for subsidized homes than either unsubsidized homes in low-income neighborhoods or homes in middle-income neighborhoods. Caregiver Sensitivity and Opportunities for Social Development differed by income rather than subsidy receipt, with higher scores for facilities in middle-income neighborhoods than both groups (subsidized and unsubsidized) of family child care homes in lower income neighborhoods.

In the four Midwestern states, mean scores on the environmental ratings scales were lower for the child care settings that subsidized children were participating in than for settings that only unsubsidized children were in. However this difference was statistically significant only in analyses summing across all types of care and in analyses specifically of family child care. Differences were not significant by subsidy receipt for infants and toddlers in centers or preschool-age children in centers. The mean FDCRS rating was 4.41 for unsubsidized family child care but 3.85 for subsidized family child care. In terms of the proportion of settings receiving a rating in the poor range, the researchers conclude that “subsidy-receiving providers were more often rated as providing poor quality care...” (Raikes et al., 2003, p. 69)

The hypothesis these studies suggest is that the quality of subsidized vs. unsubsidized care may differ more for family child care than center care settings. Indeed, some findings for centers (albeit only in the study in California), favor subsidized over unsubsidized centers. It will be important to replicate this pattern in other locations, particularly in states varying as to reimbursement rates. The pattern noted in the two studies is in accord with the conclusion noted by Huston (2004) based on findings from the NICHD Study of Early Child Care (2000) that differences in quality are more marked for low-income children and middle-income children for family child care than for center care. In general, these results suggest the need for greater attention to the family child care environments in which low-income children, and particularly children receiving subsidies, participate.

Structural features of quality and subsidy receipt. Structural features of care include group size, ratio, caregiver education and training. These features of care are “regulable,” and tend to predict “process quality,” or the support and stimulation provided directly to children. In recent years, the working conditions of child care providers, such as wages and benefits, while generally not regulated, have also come to be included among the structural features of care in research on child care quality. As with the other structural features, these aspects of the caregiving environment have been found to predict “process quality.” The studies carried out to date that permit comparisons of structural features of the care that subsidized and unsubsidized families are using, do show differences according to subsidy receipt, but the differences do not fall in the same direction across studies. We distinguish here between the structural characteristics that relate to provider characteristics (education, training, and in Alameda County, literacy and depressive symptoms) and working conditions (wages, benefits, number of children a provider is responsible for).

In the two studies that permit comparisons according to subsidy receipt, where differences in background characteristics of providers did occur, differences were again more marked in family child care than in center care settings. In the study in Alameda County (Whitebook et al., 2004), education and training did not differ according to subsidy receipt, nor did levels of depressive symptoms. However, on direct assessments of child care provider literacy, providers in subsidized licensed family child care homes had lower literacy scores than other providers of licensed family child care, while differences in literacy were not statistically significant according to subsidy receipt for centers. In the Midwestern states (Raikes et al., 2003), subsidized providers were significantly less well educated than those not receiving subsidies. This difference was significant, however, only for family child care homes.

The study in Alameda County, California (Whitebook et al., 2004) provides some indication that care for subsidized children may be associated with better working conditions, including benefits and wages as well as number of children a provider is responsible for. However, the study in the Midwestern states (Raikes et al., 2003) does not consistently bear this pattern out.

In Alameda County (Whitebook et al., 2004), centers in low-income areas serving a substantial proportion (at least 25 percent) of subsidized children were more likely to offer paid health benefits and retirement plans than such centers not serving a substantial proportion of subsidized children. These centers also had better staff to child ratios for toddlers and preschool-age

children, though not infants. Licensed family child care providers serving subsidized families had more access to paid holidays and vacations than their counterparts in low-income neighborhoods not serving subsidized children. Licensed family child care providers receiving subsidies for at least 25 percent of their children also had higher net income from providing child care than other providers.

In analyses with the data from the four Midwestern states (Raikes et al., 2003), as noted above, the sample of subsidized providers included license-exempt as well as licensed family child care. In addition, comparisons were carried out contrasting subsidized providers with all other providers, irrespective of income level of neighborhood or families served. In these analyses, “providers who received no subsidies had... slightly higher wages than subsidy receivers overall, with average wages of \$14,280 for non-subsidy and \$14,000 for subsidy. However, this pattern was influenced by license-exempt providers and, notably, for some subgroups the pattern was reversed. For example, licensed family providers (\$15,680 subsidy vs. \$13,130 nonsubsidy) made significantly more if they accepted children whose tuition was paid through subsidies” (, p. 42). On average, subsidized providers cared for significantly more children than those not receiving subsidies (10.2 vs. 9.7). Though licensed family providers receiving subsidies earned more from child care, they too cared for more children on average (9.0 vs. 7.5 children) (Raikes et al., 2003, p. 51). Thus, at least for earnings and in the specific setting of licensed family child care, a pattern similar to that noted in the work of Whitebook and colleagues (2004) is documented in the Midwestern states, with better working conditions for providers receiving subsidies.

Further work is needed to explore under what circumstances child care subsidies contribute to better working conditions for child care providers (such as wages, benefits, turnover, and the number of children each provider or teacher is responsible for), and how improvements in working conditions are linked with improvements in observed child care quality. Analyses that take into account the generosity of subsidies and maximum allowable group size and ratio, may shed light on the factors (individually and in combination) that predict better working conditions.

What does recent research focusing specifically on family child care indicate about quality in this type of care?

The research on child care quality in light of subsidy receipt calls special attention to family child care. Some of the differences in child care quality in light of subsidy receipt occurred only or especially in family child care settings. Further, surveys show that a substantial proportion of low-income children of employed mothers, approximately 50 percent of those who participate in non-parental care, are cared for in a home-based care setting. For example, the community survey carried out in 1999-2000 for the National Study of Low-Income Child Care (cited by Layzer & Goodson, 2003) found that 31 percent of low-income families with children younger than 13 were cared for in a relative’s home, and 20 percent were cared for in a family child care home. Additionally, an analysis on 2001 NHES data found that 52 percent of children aged 0 to 6 (not yet in kindergarten) living below 100 percent of the poverty line receive home-based care for their primary child care arrangement (Kinukawa et al., 2004).

Yet there is substantially less research on family child care than center care, especially as a context for the development of low-income children. Further, there has been a tendency to group all forms of home-based care under the heading of family child care; to fail to consider in greater detail whether there are important subtypes of such care, or what predicts higher or lower quality care in home-based settings. Gaining a more differentiated understanding of family child care can help to target efforts to improve quality in this type of care. The *CCB-funded research* takes important steps in this direction.

Differentiating subtypes of family child care. The study of child care quality in the four Midwestern states (Raikes et al., 2003) looked at three different subtypes of family child care: licensed, registered, and license-exempt. The observed quality of care was found to be substantially higher in licensed care, which required inspections initially and at least annually, than the other two forms of care, which did not require inspections. Across the states, the mean total scores on the Family Day Care Rating Scale were 4.63, 3.62 and 3.57 for licensed, registered, and license-exempt care, respectively. Whereas 40 percent of licensed family child care fell in the “good” range, 20 percent of registered care and 21 percent of license-exempt care in this study fell in the “good” range. “Thus, the study shows that a large increase in quality associates with licensing that includes inspection” (Raikes et al., 2003, p. 68)

A further major step in providing a more differentiated picture of family child care comes from the National Study of Child Care for Low-Income Families (Layzer & Goodson, 2003). As one aspect of this multi-component study, an in-depth study was carried out examining the characteristics of family child care received specifically by subsidy-eligible families in five counties. On-site observations of child care quality were carried out in the family child care homes in which children in 618 subsidy-eligible families were participating. The families were from five geographically diverse Counties (Los Angeles, California; Hamilton County, Cincinnati, Ohio, Harris County, Houston, Texas, King County, Washington, and Franklin County, Massachusetts). A key strength of this study is its focus specifically on subsidy-eligible families, as well as the geographical and demographic diversity of the sample. However, it should be kept in mind that the samples in the five counties are not representative, but rather were samples that were actively sought out and recruited. As the authors note, this may result in under-representing lower quality care. It should also be kept in mind that children in the sample extended from 1 to 9 years. This is a broader age range than in many studies of child care quality, and yet reflects the range in child age that family child care providers often care for.

The observational components of this study (Layzer & Goodson, 2003) suggest that a particular strength of family child care involves warmth and attentiveness of the providers towards the children in their care. Observational ratings indicated high average scores for provider interest, affection and responsiveness. The space for caregiving was generally found to be adequate and comfortable for children’s needs, and outdoor play space was also observed to be generally appropriate. There were challenges associated with providing play materials for children falling in a wide range of ages. While 70 percent of the settings observed had adequate indoor play materials for preschool-age children and younger, only 58 percent had such materials for school-age children. Similarly, while most settings had some books, less than half had at least 10 books appropriate for children in differing age ranges. A substantial minority of the homes, 41 percent, received a low (poor) rating for amount of time the TV was off. While the overall rating of

health and safety practices indicated generally appropriate practice, there were many specific areas where improvement was needed. For example, about half of the observed settings lacked electrical socket coverings, about half had doors on bedrooms or bathrooms that children could lock from the inside, about one-third had unsafe materials in unlocked lower cabinets, and about a quarter were not following hygienic hand washing practices.

Most settings involved warm and attentive caregiver-child relations, about 1/3 did not consistently foster social learning (for example, teaching children to share, cooperate, take turns, communicating rules and limits). Further, the authors note that on 12 of 17 ratings of the extent to which the environment fostered learning (in literacy, math, science or creative arts), fewer than half of the environments were rated as consistently supporting learning by teaching or providing appropriate activities. Thus, in general, the environments tended to involve warm and positive relationships between providers and children, but active support for social learning or cognitive learning was more limited, and there were concerns about extent of television exposure and specific health and safety practices. This information can guide efforts to improve the quality received by families eligible for subsidies (again, assuming that the sampling strategy used in this study nevertheless permits generalization to the broader population of subsidized families).

Looking at the issue of meaningful subtypes of family child care, a key distinction that emerged in this study is that between care in which *all of the children are related to the provider*, *all of the children are unrelated to the provider*, and there is a *mix of related and unrelated children*. In terms of provider background characteristics, for example, providers who cared for unrelated children were almost three times as likely to have gone beyond a high school education as those caring only for related children, much more likely to have taken a course related to child care or children's development, much more likely to be licensed, and more likely to be affiliated with a sponsoring agency or organization or meeting regularly with other family child care providers. Providers caring only for related children tended to have smaller group sizes; a higher proportion of the children in their care (all of whom were subsidy-eligible) actually receiving subsidies; were less likely to have an assistant but more likely to have another family member present; and were less likely to be caring for a child with special needs. When providers and parents were related, there were stronger feelings about the relationships, both positive (e.g., stronger friendship), and negative (e.g., more disagreements). Related providers tended to note helping a family member, friend or neighbor as a motivation for working, while unrelated providers were more likely to note working for oneself while still being a teacher, and not worrying about standard job requirements like more formal dress. Stressors too differed by relatedness, with related providers less likely to note as a source of stress having insufficient time for self or having concerns about parents picking up the child late (Layzer & Goodson, 2003).

Specific ratings based on observation of the child care environment as well as surveys also often differed by relatedness. Here it is just as interesting to note where differences did not occur based on this typology as where they did. For example, observed warmth and emotional responsiveness with children was generally high and did not differ by relatedness, nor did the adequacy of space and materials indoors or outdoors, the degree to which the setting fostered positive social relationships, or the caregivers' monitoring and supervision of child activities (which was high across the settings). Continuity of care differed by relatedness: 45 percent of the children in this study cared for by a relative, and 27 percent cared for by a non-relative had been cared for in a

single arrangements since birth. Child distress was rare across all of the settings observed, but was especially rare in homes with all related children. However, there was at least one concern about health and safety in 97 percent of the settings in which all children were related to the provider, while the rate was lower when the provider was caring for no related children. Homes with all related children had more TV watching and routine activities and fewer learning activities. A rating of the complexity of play with objects was lower in homes with all related children, there was less peer play overall, and less frequent high-level play with peers in homes with all related children. In sum, this study suggests that continuity of the relationship with the provider and low levels of child distress are strengths, but that health and safety practices and stimulation for learning are areas that could be focused on in seeking to improve quality (Layzer & Goodson, 2003).

A study in Wisconsin of family child care homes serving subsidized families provides further evidence that differentiating among providers according to relatedness may be meaningful. In this study, “a comparison of providers serving only the public and those doing relative care indicated that providers serving only unrelated children met higher regulations..., more frequently joined professional associations (36 percent vs. 24 percent), were more likely to have at least 6 years of child care experience (58 percent vs. 44 percent), and were more likely to have net incomes over \$12,000 (57 percent vs 44 percent)” (Adams et al., 2001c).

Predicting quality in family child care. Raikes, Raikes and Wilcox (2005) extend the understanding of quality in family child care by looking at the predictors of quality. They note that the characteristics of individual providers may be more strongly linked with quality in home-based settings than in centers because the provider is working alone. This is an observation that is well balanced with that of Whitebook and colleagues (2004; undated) who observe that in centers, it may be measures of the classroom or center as a whole (such as proportion of all teachers who have a bachelors degree) rather than measures of individual teachers that are most closely linked with quality. Raikes and colleagues note, however, that qualifications of home-based providers such as education and training are embedded in and influenced by the policy context. The level of education and/or training that a provider has may be dictated, for example, by pre-service and in-service requirements. It is not clear if such requirements draw in more motivated providers (and so an association of these characteristics with quality reflects selection effects), or if the requirements act causally, with fulfillment of the requirements improving quality. But Raikes and colleagues note that provider qualifications should be seen in the context of regulatory stringency. Similarly, these researchers note that the state policy context regarding subsidies may also be important to caregiver qualifications and thereby quality, for example by attracting certain providers who might not otherwise be caring for children.

To explore the degree to which policy variables are related to caregiver qualifications and in turn to observed quality in family child care homes, Raikes and colleagues (2005) operationalize the policy context in terms of extent of regulatory requirements (a scale of 1 to 5, taking into account number of annual visits, required training in abuse and neglect, required training in child development, and further training), and subsidy density (the proportion of children in the setting paying for care with subsidies). They examine caregiver qualifications in terms of number of years of education and the hours of training in the past year through all sources. Their outcome measures are the FDCRS total score and the total score on the Arnett Caregiver Interaction Scale.

These researchers find that level of regulation and years of education each predicted global quality as measured by the FDCRS, controlling for other variables. Providers with higher levels of regulation and more education were observed as providing higher quality care. Regarding caregiver sensitivity, there was an indirect effect of subsidy density via caregiver education. Having a higher proportion of children receiving subsidies was associated with lower education, which in turn predicted lower quality. Further, there was an interaction of subsidy density and education indicating that education may have a stronger effect on sensitivity when providers are less regulated.

Raikes and colleagues (2005) conclude that quality in family child care homes is related to both policy factors and caregiver characteristics. Provider characteristics are not independent of, but function in the context of, policies. There were reliable effects of policy variables on quality, operating both directly and indirectly. When education and training were taken into account, for these family child care homes it was primarily education that was directly related to quality and that helped to convey the influence of the policy variables on quality. In the words of the authors: “education may serve as a conduit through which policy-level variables are linked to child care quality...” (Raikes et al., 2005).

Emerging Questions and Issues

These studies make significant progress in documenting the outcomes of approaches to improving child care quality, in providing a detailed look at quality at the state level in a way that can help target quality-improvement efforts, in describing the quality of care that children receiving subsidies participate in, and in differentiating among subtypes of family child care. However there is a clear need to follow up on these studies with further research on child care quality. In particular, this review and synthesis suggests that fruitful next steps would include:

- Expansion of rigorous research, including experimental evaluations, focusing on the effectiveness of specific child care improvement strategies.
- Extension of the research on the provision of consumer information as a strategy to improve child care quality to look at consumer response not only in terms of overall levels of enrollment in particular child care facilities, but also individual consumers’ use of quality information in making their child care choices.
- Encouragement of additional states to use state representative samples for the collection of data on child care quality.
- Greater consideration of the role of continuity of care in contributing to child outcomes. Assessment of the contribution to child outcomes of continuity of care in family child care in balance with other features of care.
- The development and evaluation of strategies to improve family child care, and especially license-exempt care provided by relatives.

Policy Implications

Funding for many of the efforts to improve child care quality described in this review come from the CCDF four percent quality set-aside, along with the earmark to improve infant and toddler child care. Interestingly, there are several references in the reports reviewed here to the possibility that systematic investments in quality in particular locations through these and other funding sources are beginning to affect overall markers of quality in a geographical area rather than simply the quality in specific and limited programs or facilities.

For example, Raikes and colleagues (Raikes et al., 2003) note that the quality of infant/toddler care documented in the Midwest Consortium, while still not regularly in the “good” range, is better than noted in previous studies. They raise the possibility that the systematic efforts to improve infant and toddler child care quality through multiple initiatives in the Midwest states have started to affect the general level of infant and toddler child care quality. Similarly, Whitebook and colleagues (2004; undated) document lower staff turnover in Alameda County than would be expected based on their earlier work in that county. They too raise the possibility that because there have been multiple efforts addressed at improving wages, benefits and retention in the child care workforce in the county and in the state, the overall rate of turnover may have been diminished.

There are indications in these studies of overall improvements in child care quality in response to the use of quality funding to address problems that states or regions have identified. Yet, the review of state use of the quality set-aside funding by Porter and colleagues (2002) suggests that for some states there is no systematic needs assessment and prioritization for the use of the quality funding. Rather, the funding is scattered across smaller projects with multiple foci. Further, as noted by Porter, as well as in recent GAO report (2002), there are as yet, few rigorous evaluations of the effectiveness of child care quality-improvement strategies to confirm that specific approaches are effective.

There is a need to follow up on the promising findings of the potential importance of the quality-improvement funding with (1) systematic documentation of state efforts, and (2) evaluations of the effectiveness of state initiatives. The work by Porter and colleagues (2002) gives a picture of the wide range of efforts now underway in the states. This is a period of experimentation with strategies to improve child care quality, and much could be learned from state efforts to systematically inform the allocation of funding in the future. One approach, for example, might involve identifying a set of states carrying out quality initiatives that are similar in terms of objective, such as efforts to improve the professional development of providers through scholarships for further education. Technical assistance could be provided so that similar data could be collected across these states to document the implementation and effectiveness of such approaches. In general, there is great potential to inform the use of quality funding through more systematic collection of information about the wide range of current state efforts.

Early Care and Education Partnerships

Context

Early care and education partnerships examined here are created by blending funding and resources across child care centers, home-based care providers, Head Start programs, and pre-kindergarten programs (Kiron, 2003; Schilder, Kiron, & Elliott, 2003). Sources of funding for partnerships include: Head Start-State Collaboration Grants, the Child Care and Development Fund (CCDF), general revenue funds, tobacco taxes, lottery funds, TANF funds, local and regional foundations, national foundations, United Ways, and state and district pre-kindergarten funds (Kiron, 2003; Schilder et al., 2003). The goals of partnerships are to meet the needs of working families (especially those transitioning off of welfare) and to help support early child development by increasing the amount of full-day, full-year quality child care for low-income children, increasing comprehensive services to children and families, and providing continuity of care (Kiron, 2003; Schilder et al., 2003).

Key Questions Addressed

Below, we summarize the key questions addressed by the studies of partnerships recently funded by the CCB.

- What are the key characteristics of partnerships?
- What are the benefits of partnering child care and Head Start?
- What factors support the development, maintenance, and growth of partnerships?
- What challenges remain in implementing child care partnerships?

Findings

While child care partnerships are not exactly a “new” phenomenon, the research base on partnerships is still in its early stages. As such, the existing research on partnerships is more descriptive than evaluative in design (for example, involving experimental evaluations contrasting partnerships with single forms of care). The *CCB-funded research* helps us learn more about “best practices” and “lessons learned” from within the early childhood care and education community.

What are the key characteristics of partnerships?

The limited research on characteristics of partnerships is local rather than national in scope. One study, carried out in Ohio, suggests that child care centers that partner with Head Start programs serve a higher percentage of subsidized children than non-partnering centers. In particular, in a

stratified, random sample of 141 child care centers in Ohio,¹⁸ Schilder (2003) found that 56 percent of the families in child care centers that partnered with Head Start received subsidies, while 50 percent of families in non-partnering centers did.

What are the benefits of partnering with Head Start?

Further findings from the research by Schilder (2003) indicate that providers in Early Head Start/Head Start (EHS/HS) partnerships in Ohio provide more comprehensive services and higher quality care than providers not in partnership with EHS/HS, especially partnerships in infant-toddler center-based settings and family child care homes. Another finding from the Schilder (2003) study was that centers that partnered with Head Start programs were more likely than non-partnering centers to provide parent involvement opportunities, parent referral services, and comprehensive screenings and services to children. There were statistically significant differences between partnering and non-partnering centers on provision of the following services to parents: family goal-setting, medical referrals, employment referrals, GED preparation, immigration, and adult literacy. The centers did not differ on four services to parents: social services referral, parenting workshops, mental health, and marriage counseling. Partnering centers were more likely than non-partnering centers to provide 12 of the 14 child screenings, referrals, and services that were measured. Centers did not differ in light of partnering on medical and social service referrals for children. On average, partnering centers provided more parent services and child screenings than did non-partnering centers.

Schilder (2003) reported that partnering centers in Ohio also received funds directly from Head Start to purchase learning centers, playground equipment or supplies, or to provide teachers with professional development experiences or higher salaries. In addition to funds with which centers purchased these quality-enhancing features, Head Start also provided these centers with equipment, supplies, and training. In fact, 92 percent of partnering centers received training from Head Start. Thirty-two percent of partnering centers in Ohio reported that Head Start employed and directly supervised teachers who worked with Head Start children in their centers (Schilder, 2003). Centers that partnered with Head Start programs were also likely to apply Head Start's performance standards in their centers.

While these findings all suggest that partnering with Head Start programs can enhance the quality of care, this study did not examine whether partnerships lead to increased child care quality using observational methods, which are thought to provide a more direct measurement of quality.¹⁹ However, another CCB-funded study did observe the quality of partnership sites (Raikes et al., 2003). Helen Raikes and colleagues obtained a sample of child care providers in four Midwestern states (Iowa, Kansas, Missouri, and Nebraska). The sample was stratified by state, subsidy receipt, and type of care (e.g., infant-toddler, center-based; licensed, family child care; etc.). The research also noted whether the providers were in partnerships with Early Head

¹⁸ Only centers that provided full-day, full-year services were included in the study. The sample was selected from the Ohio Department of Job and Family Services child care licensing database, and was stratified across urban, suburban, and rural locations.

¹⁹ These authors plan further research with a new, random sample of child care centers to examine outcomes, including program quality, parents' access to services, and child outcomes. Future analyses of the current sample will examine whether duration of partnerships leads to increased services, and whether partnerships lead to increased child care quality (although it is not clear how quality is/will be measured).

Start/Head Start (EHS/HS). Although 2,022 providers were interviewed by phone, a systematically selected subsample of 365 also allowed their child care settings to be observed by the researchers. H. Raikes et al. (2003) found that providers in EHS/HS partnerships offered higher quality care (as indicated by observational measures such as ITERS, FDCRS, and ECERS) than was found in the general population of providers. In particular, significantly higher observed quality was found in infant-toddler, center-based settings and in family child care homes that partnered with EHS/HS. Furthermore, partnering providers “differed in many other ways that have been associated with higher quality care” (Raikes et al., 2003, p.9). For example, providers who earned a Child Development Associate (CDA) credential were more prevalent among EHS/HS partners (42 percent) than other providers. EHS/HS partners also received more training than other providers.

What factors support the development, maintenance, and growth of partnerships?

Many factors have been identified that support the development, maintenance and growth of partnerships. States support and promote partnerships by *coordinating efforts among and across state agencies* to increase efficiency and reduce fragmentation. For instance, some states create a “one stop shop” for information, activities, and resources related to early care and education partnerships (Schilder et al., 2003). Another way that states help support the development of partnerships is by *providing opportunities for professional development, training, and technical assistance* that work toward ensuring comparable professional development standards across early education professionals. Different standards of professional development and training among providers can pose a major barrier to partnering. States can also take action to *facilitate the smooth operation of partnerships* between pre-kindergarten, Head Start and subsidized child care (Amatangelo, 2003). Finally, states can *provide incentives* for partnering. For example, states can offer grants for forming partnerships, or increase reimbursement rates for providers who meet quality standards necessitated by partnerships.

Other factors that have been identified as supporting the development and growth of partnerships include *engaging in start-up activities, strong relationships among partners, and management procedures and policies*. Some specific factors include crucial activities prior to the formal establishment of partnerships, such as planning meetings that aim to acquaint potential partners with each others’ practices and regulations. It is also strongly recommended that partnership agreements be developed that explicitly set out expectations and roles of the potential partners prior to the formal establishment of partnerships. Once partnerships have been established, it is important to foster a culture of mutual respect between partners. Activities that help to maintain a strong relationship between partners include good communication within and across partnership organizations, and involvement of staff from both organizations in all phases of the partnership planning and implementation. Finally, good management procedures and processes are essential for partnerships to succeed. Specifically, partnerships need good financial management to coordinate multiple funding streams and different payment mechanisms. It is also advised that partnerships establish a continuous quality-improvement system to monitor partnership activities and change course, if necessary.

These “best practices” and “lessons learned” were gleaned from standardized case study data from a convenience sample of 65 partnerships (representing over 200 providers) within the Quality in Linking Together Early Education Partnerships (QUILT) database (Schilder et al.,

2003, p.5). The QUILT database includes partnerships from 36 states, Puerto Rico, a tribal nation, and each federal region of the country (Kiron, 2003).

Finally, providers who are in partnerships have identified a set of basic questions that help plan for a successful partnership by clarifying roles and expectations and establishing clear processes. These questions, reported in Schilder (2003, p.71), are:

- How will our partnership work?
- Who will do what?
- What resources will we use and how?
- How will we shape our systems and prepare staff?
- What are the implications of our decisions?
- How will we assess continuous progress?
- How will we resolve conflict and differences?

What challenges remain in implementing child care partnerships?

There are multiple benefits to partnerships, yet challenges remain. The benefits of partnerships include maximizing resources and serving more low-income children in full-day, full-year programs, as well as by blending curriculum and educational perspectives, and coordinating and maximizing staff training. Other benefits include enhanced educational curricula, additional services for parents and children, expanded services in terms of extended hours per day or days per year, increased availability of openings for low-income children, and (potentially) improved quality (Schilder et al., 2003, p.6).

However, there are also challenges. Implementing new educational standards incurs costs to partnering programs (Kiron, 2003). In addition, different eligibility requirements and reimbursement procedures across funding streams pose a problem for partnerships (Kiron, 2003). Planning, budgeting, and managing resources are important under these circumstances. Several strategies have been used by successful partnerships to overcome the challenges of blending funding streams (from Kiron, 2003, p.5). These strategies include understanding funding systems and programs before agreeing to a partnership's financial terms, involving federal and state funders in the planning process, addressing child care eligibility redetermination requirements, and establishing contingency plans to address changes in child care eligibility and enrollment fluctuations. It is recommended that systems be established to track and report on funds and services from the beginning of the partnership, and that the financial terms of the partnership agreements be revisited regularly. Parents should be provided with child care co-payment policies early in the development of the partnership, and fee collection procedures should be included in Head Start's parent handbook and discussed at parent and staff orientations and at Parent Policy Council meetings. Processes for communicating to partners any changes in eligibility should be established in order to ensure that partnering programs can promptly address families' changing needs, preserve continuity of care, and maintain funding to sustain the partnership. Another way to ensure continuity of care and provide for parents' needs is for

partnerships to pursue alternative resources for “bridge funding” that temporarily stand-in for lost child care subsidies when families lose eligibility.

Budgetary shortfalls at the state level could place funding for partnerships, especially incentive funding, in jeopardy (Schilder et al., 2003). Finally, partnerships need to address the challenge of reconciling differences in goals, quality standards, and services provided across partners (Schilder et al., 2003).

Emerging Questions and Issues

A fundamental issue in the research to date is the strong focus on partnerships of Head Start and child care. At least in this set of studies, there has been limited focus on other forms of partnership, for example across pre-kindergarten and child care. It is not clear if the implementation of pre-kindergarten programs *in* child care settings should be considered a partnership or rather a merging of forms, but this is a prevalent form for implementing pre-kindergarten programs and should also be systematically studied.

The authors of the reports reviewed above that focus especially on partnerships of Head Start and child care offer several suggestions to pursue in this area:

- Identifying successful partnership programs that can serve as models and mentors for newly forming partnerships. Ideally, identifying model programs around the country to serve as regional resources.
- Creating a resource manual for start-up partnerships that identify the “lessons learned” and strategies that successful partnerships have used to overcome challenges (see Kiron, 2003).
- Extending the research to look at child outcomes associated with partnerships. The existing research suggests that quality may be improved in centers that partner with Head Start sites (Raikes et al., 2003) but there is currently no research looking at child outcomes associated with partnerships.
- Studying what states choose to do with regard to funding incentives for partnerships when faced with budget cuts and fiscal shortfalls.

Policy Implications

The main policy suggestion offered by the authors of the *CCB-funded research* was to increase incentives and other supports for partnerships (Kiron, 2003; Schilder, 2003; Schilder et al., 2003). Increasing incentives to partner would likely increase the number of partnerships that are formed. Providing technical assistance and ongoing support for partnership members would be helpful in assuring continued success of partnerships.

The Child Care Workforce

Context

This section of the review summarizes work that points both to a need to strengthen data on the child care workforce, and to strengthen the workforce itself. There are many reasons that it is important to have reliable estimates of the size and characteristics of the child care workforce. For example, knowing the size of the workforce and how it is distributed across types of care and geographical areas may be essential to planning for quality improvement. A state may want to know the education and training levels of child care providers in different regions of the state in order to plan effectively for an initiative aimed at expanding the supply of care or providing further professional development. Data on the numbers and perceived needs of family friend and neighbor caregivers may be a preliminary step to determining if this is a group that needs supports, and whether the supports should differ from those for other providers. Determining the location of highly qualified early childhood providers relative to the location of low-income children may be of importance in a state working especially to improve care and education for its low-income population.

Yet the evidence reviewed here indicates that data at both the national and state level have limitations for providing the kind of description of the workforce that would be useful for such efforts. A dominant theme is the lack of clear and consistent definitions for types of care and aspects of professional development. Problems with definition and measurement undermine the development of a comprehensive picture of the workforce. Widely varying measurement approaches prevent looking across geographical regions.

Within this context, the data on characteristics of the child care workforce reviewed here, collected in rigorous studies at the state and county level, are particularly valuable. These studies suggest that there are differences across segments of the workforce (center teachers, regulated family child care providers, and license-exempt providers) in terms of such characteristics as education and training, wages and longevity within a child care position.

Questions Addressed

The set of studies reviewed here focusing on the child care workforce addressed three primary questions:

- What is the status of data collection regarding the child care workforce?
- Are there systematic differences in workforce characteristics for child care providers in different types of child care?
- What predicts turnover in the early childhood workforce?

Findings

What is the status of data collection regarding the child care workforce?

Based on a review of available data for assessing the size and characteristics of the child care workforce, Breunig and colleagues (2004) conclude that “federal and state governments lack reliable data on the number of caregivers, especially with breakdowns in the following categories: (a) age group of the children in their care, (b) type of child care setting in which they work, (c) relationship to children, and (d) educational qualifications” (p. 6)

Their review finds that at the national level, while there are a variety of data collection efforts, each major survey lacks key pieces of the overall picture or has methodological problems that limit the usefulness of the data. For example, the Bureau of Labor Statistics, a major source of data on workforce issues, collects data on two positions for child care staff; “preschool teacher” and “child care worker.” The data collection does not distinguish among directors, teachers and assistant teachers. Further, data are not collected on the self-employed, and therefore family child care homes and domestic workers are not included. Paid relatives providing child care may be missed if they do not self-identify as child care workers.

Breunig and colleagues (2004) find that state-level data collection lacks basic agreement on definitional and measurement issues. Further, there are methodological issues with some of the specific approaches used by states. For example, data compiled by state regulatory agencies on licensed child care providers often focus on capacity rather than actual enrollment, and may not provide data on individual caregivers and staff at particular facilities. States are required to carry out periodic surveys of their licensed centers and family child care homes to set market rates, yet few states use this as an opportunity to collect data on the number or characteristics of staff at each facility. State child care resource and referral agencies provide another opportunity for regular data collection on the child care workforce, with the National Association of Child Care Resource and Referral Agencies now providing software that can be used across states. However, Breunig and colleagues (2004) note that there is wide variation in the extent to which local resource and referral agencies update their provider files or collect information on license-exempt providers. A number of states have registries for recording that child care providers have fulfilled annual training requirements. Some state registries include information on education and certification as well as training. However, the registries are usually voluntary, and usually include information only on the components of the workforce to whom training requirements apply. The registries exclude license-exempt providers for whom there are no training requirements (unless training is required for participation in the subsidy system, as in Georgia; see paper by Porter & Kearns (2005)). Finally, Breunig and colleagues (2004) note that studies have been launched to address particular issues concerning the workforce that are of high priority to individual states, state consortia, or substate regions such as counties. This work is often extremely valuable but narrow in focus, responding to a particular need or initiative. It may not provide data appropriate to estimate the size or characteristics of the workforce in the designated geographical area as a whole.

Breunig and colleagues (2004) located and reviewed the sources of child care workforce data available for each of the states, assessing the sources for their methodological adequacy and appropriateness for estimating the number of paid child caregivers in different types of child care arrangements. They assessed the data for such issues as whether the sample was current and pertained to the full universe of child care providers or only a segment of the workforce, whether data permitted a breakdown by setting (center, family child care), and whether certain key pieces

of information were collected such as highest education level of the provider, demographic characteristics, and full- vs. part-time employment. Using these criteria, the review found that fewer than half of the states (16), had data appropriate for estimating the size of the paid child care workforce working with children birth to five. Thirteen additional states had current data but with specific limitations, while 22 states lacked current workforce data.

The conclusions of this paper are best seen in close coordination with those of another paper completed with funding from the CCB along with other agencies participating in the SEED (Science and the Ecology of Early Development) consortium. This further paper, by Maxwell, Feild and Clifford (2006), points to problems with the definition and measurement of education, training and credentials in research on the early childhood workforce. Lack of agreement across research studies on how to categorize training, for example, has seriously hindered the ability to look at what training makes a difference to the quality of early childhood environments or the development of children. Discrepancies across studies as to whether training refers to course content in higher education, or only to training occurring outside of formal education, means that it is very difficult to use existing research to reach conclusions as to whether training outside of formal educational settings supports quality. Together, the Breunig et al.(2004) and the Maxwell et al.(2006) papers make a strong argument for taking steps towards stronger and more consistent definitions and measures of the characteristics of the early childhood workforce.

Are there systematic differences in workforce characteristics for different groups of child care providers?

The *CCB-funded research* suggests differences across segments (center care, regulated family child care, and license-exempt home-based care) of the child care workforce on such characteristics as education, training and wages. While there are clearly differences across states and localities in the levels of these background characteristics, the tendency for background characteristics to differ for center directors, preschool teachers, infant teachers, and different subgroups of family child care providers has appeared in studies of multiple locales.

The Midwest consortium results (Raikes et al., 2003) can be used to illustrate the differences across segments of the early childhood workforce in background characteristics. In the four states studied, teachers of preschool-age children in centers were most likely to have completed an AA degree, a bachelor's degree, or higher (48 percent), followed "stepwise" by center teachers of infants (36 percent), licensed and registered family home providers showing similar proportions (25 percent and 27 percent respectively), and license-exempt providers (13 percent). Annual earnings from child care before taxes followed the same stepwise progression (ranging from \$16,330 for preschool teachers to \$7,920 for license-exempt providers). However the mean number of training hours focusing on child-care-related topics varied slightly from the stepwise progression noted above, with licensed family child care providers exceeding the mean hours of training reported by center infant teachers.

Differences by segment of the workforce are also apparent in the study by Whitebook and colleagues (2004; undated) focusing on Alameda County, California. Using the same education as those used above, 93 percent of center directors, 48 percent of center teaching staff and 42 percent of licensed family child care providers had a two-year degree, a four-year degree or at

least some graduate school. Center directors reported mean hourly wages of \$23.67, center teaching staff reported a mean hourly wage ranging from \$18.25 for teacher/directors to \$10.18 for assistant teachers, and licensed family child care providers reported wages of \$13.34 (less than that of center teachers, but more than that of assistant teachers).

Studies do not, however, suggest that turnover is greater among family child care providers than center teachers. For example, when asked “How long have you been caring for children in your home/this center?” the group of providers in the Midwest Consortium most likely to respond “five years or more” were licensed family home providers (57 percent for licensed home providers, 55 percent for registered home providers, 38 percent for center preschool teachers, 33 percent for licensed home providers, and 21 percent for center infant teachers) (Raikes et al., 2003). The groups most likely to have been caring for children in their current facility only for a short time (one year or less) were infant teachers (30 percent) and preschool teachers (23 percent) in centers, with smaller proportions of home-based providers reporting such brief durations (8 percent for licensed family home providers, 7 percent for registered home providers, and 18 percent for license-exempt providers). Similarly, in the study conducted in Alameda County, staff turnover during a two-year follow-up period ranged from 26 percent for center directors and 24 percent for teaching staff in centers to 18 percent for licensed home providers (Whitebook et al., 2004; Whitebook et al., undated).

What predicts turnover in the early childhood workforce?

The overall two-year turnover rate of 23 percent in the Alameda County study gives one indication of how widespread a problem turnover can be. As noted earlier, Whitebook and colleagues (2004; undated) actually found this overall turnover rate to be low relative to what they had documented earlier in the same county and elsewhere. The Midwest Consortium’s finding that center teachers of infants are particularly likely to have recently assumed their jobs suggests that turnover may disproportionately affect those just forming their first relationships with adults (Raikes et al., 2003). Weber (2005) notes that turnover rates have not been estimated nationally for low-income families, for whom other forms of instability such as job and residence changes may accumulate to create overall instability in the lives of children.

Whitebook and colleagues note that it is a high priority to understand the specific circumstances that heighten the likelihood of turnover. Their careful examination of the predictors of stability and turnover indicate that these differ somewhat for directors, teachers and licensed family child care providers. Interestingly, the predictors include not just individual characteristics of the child care workers, but also the overall characteristics of the programs they work in (Whitebook et al., 2004).

Thus, for example, these researchers found that those who stay longer in their positions as child care center director tend not to show symptoms of depression, to show familiarity with professional development opportunities, and come from a center that is higher in overall quality. Parallel analyses for center teaching staff indicated that stability at this professional level is associated with the personal characteristics of having chosen the job as a profession rather than a stepping stone to another job, having sought updated training, and having fewer depressive symptoms, and with program characteristics of being part of a more stable group of teachers and

working in a higher quality program. Few measures predicted stability for licensed family child care providers, and these did not include program characteristics such as overall quality. Stable licensed family child care providers tended not to have young children of their own and to be older.

The Wisconsin Child Care Research Partnership examined turnover among center and family child care providers serving subsidized families. This study provides the finding that a majority of child care center staff serving subsidized families (59 percent) had been working at their current centers for less than two years. In contrast, about one-third of family providers (32 percent) had begun their child care businesses within the last two years (Adams et al., 2001a). Thus, as for other studies, retention seems to be greater for family than center child care. This study examined correlates of turnover in centers but not family child care homes. Turnover in centers was found to be substantially lower in centers paying higher wages, and with more experienced directors.

Emerging Questions and Issues

This set of studies suggests that a high priority should be placed on working towards greater clarity and consistency in measuring the early childhood workforce and in defining categories of caregivers and professional development. It is difficult to look across studies and provide summary statements regarding workforce characteristics even in this set of reports because of differing definitions and measurement approaches. Training is summarized in widely divergent ways across the studies. Even turnover is defined in different ways across studies.

In addition to strengthening definitions and measurement, the studies reviewed here suggest the need for employing a set of criteria in state data collection on the workforce. Specific recommendations by Breunig and colleagues (Breunig et al., 2004) include relying on data collection efforts that sample from the universe of providers rather than limited segments, collecting data for the entire state rather than regions, using definitions of staff categories that are mutually exclusive, and taking steps to follow up with respondents to work towards adequate response rates. The paper raises the possibility of amending market rate surveys to collect data at the level of individual care providers and not just facilities, including the number of staff by positions and full- or part-time status. Just as we have noted above the potential to build towards a national picture of child care quality from rigorously conducted state-level studies of quality, this paper points to the potential to build towards a national portrayal of the child care workforce through state surveys that are representative and have adequate response rates.

The work on turnover in the child care workforce shows the interesting pattern that while some characteristics of family child care (such as caregiver education) appear less favorable than in center care, stability in family child care appears to exceed that in center care. While turnover was approached here from the perspective of longevity in a job by a caregiver, it has implications for stability of care for a child as well. We know a great deal less about the implications for children's development of child care stability (from the child's perspective) than about other quality features (such as group size and ratio). Indeed there is a tendency to look at quality features at a single point in time and relate them to child outcomes, whereas stability in the workforce and in children's experiences in care must of necessity be studied over time. It would

be useful to consider how important stability of care over time is to children's development relative to other features of quality experienced at multiple points in time.

The work on stability in the workforce summarized here challenges assumptions by considering center-level variables as predictors of stability among child care staff. Features of care beyond individual characteristics, such as overall child care quality, predicted longevity on the job. This perspective might be important to take in other child care research. For example, is it the education level of the individual caregiver, or the average educational level in a center (or of adults in a classroom), that might be of greater importance to child outcomes. While stability/turnover in the child care workforce is usually considered as a factor contributing to children's well-being, the work summarized here suggests a broader perspective. Turnover needs also to be thought as costly to centers because of the expense of needing to find and train replacement staff. It is also costly in terms of relationships among staff members. A cost-benefit analysis examining the cost of turnover relative to the cost of interventions aimed at diminishing turnover would be informative.

Policy Implications

The President's *Good Start, Grow Smart* initiative places a priority on strengthening professional development in early care and education. States have been requested to develop early learning guidelines, or specifications of what young children are expected to know and be able to do prior to school entry. Early learning guidelines that are linked with the content of education and training are viewed as having greater potential for full implementation, and federally funded programs are asked to develop a plan for how professional development of the early childhood workforce will help them address the early learning guidelines (Martinez-Beck & Zaslow, 2006). These policy priorities suggest a need to focus more intensively on the current status of early childhood professional development, and on how best to strengthen it.

The *CCB-funded research* clearly indicates that an important prerequisite to strengthening professional development is understanding the current education and training of the workforce, across all sectors. Yet as noted, there are serious limitations to both state and national data on the workforce. In addition, there are serious problems of incomplete and inconsistent measurement approaches. An important foundation to strengthening the early childhood workforce will be taking steps to strengthen ongoing data collection about the child care workforce.

A series of steps undertaken by the CCB to address the limitations in data collection on the child care workforce are already underway. A meeting focusing specifically on the need for better definition and measurement in data concerning the early childhood workforce, held in February 2004, alerted a group of researchers, practitioners and policymakers to this set of problems and helped to clarify the nature and extent of the issues. Discussions at the meeting identified opportunities to move forward in specific ways, and follow-up steps are now underway.

Some of these steps focus specifically on introducing a systematic set of definitions and measures of training, as problems with definition and measurement of training have been most severe. These steps include:

- Work towards a systematic characterization of the content of training for use in the new data collection software being developed by the National Association of Child Care Resource and Referral Agencies;
- Work towards a common categorization of training for use across state child care registries; and
- The introduction of a detailed approach to measuring ongoing training into a multi-state evaluation of on-site consultation as an approach to improving child care quality (the QUINCE Evaluation).

A steering committee focusing on definitions and measurement convened by the CCB will also be considering ways to introduce more tightly defined categories of the workforce into such major national studies as the Early Childhood Longitudinal Study – Birth Cohort. There is discussion of building on the previous experience of the Department of Education in developing a common core of definitions for research focusing on education in kindergarten through 12th grade, doing parallel work for early care and education research.

It will be important to continue to provide a strong foundation for efforts to strengthen professional development of the early childhood workforce by understanding the current characteristics of the workforce. With better definitions and measurement approaches, it will also be possible to track whether investments in improving professional development are leading to changes over time. Further work is also needed to shed light on which specific strategies for increasing professional development are both effective in bringing about change in practice in the caregiving environment, and cost effective (Barnett & Kelley, 2006).

CONCLUSION

The research reviewed here raises a number of policy issues. In the individual sections above, a range of policy options have been noted and emerging questions and issues for research have been identified. In concluding, this review and synthesis looks across the five research topics that have been central in recent *CCB-funded research*, considering the highest priority issues for policymakers to consider, and research approaches that could help policymakers distinguish among important options.

Child care subsidies appear to have benefits for both parents and children. For parents, they support employment and help to prevent a return to welfare. For children in low-income families, they expand the range of child care options the family can afford, especially the use of center child care.

An important challenge for policy is to gain a greater understanding of the relatively low percentage of potentially eligible families utilizing child care subsidies. It may be that this simply reflects family preferences or limitations on resources within states. Families who rely on legally unregulated family, friend, and neighbor care may not realize they can utilize child care subsidies to pay for this form of care. Resources provided by the federal government can be extended by state general funds and/or the decision to transfer TANF funds. States exercise some discretion in terms of the number of families served through decisions about reimbursement rates

and co-payment requirements. While there are ways to expand the number of families served, there are also limits due to overall constraints on available funding.

The research reviewed here raises the possibility that even within this framework, there may be barriers to utilization; that available resources are not always used. A first important step for research would be to clarify whether there are indeed barriers to utilization of child care subsidies. If findings point to the presence of barriers, then a number of steps could be explored. The *CCB-funded research* suggests that many families lack an understanding of their eligibility status and of where and how to apply for subsidies. It would be fruitful to assess the efficacy of outreach aimed at increasing eligible families' understanding of their eligibility status and of the application process. Contrasting both utilization and understanding in delineated geographical areas in which outreach did and did not occur would be a potential strategy for evaluation.

Researchers in CCB-funded studies have identified relatively short average spells of subsidy receipt, although spell length varies across states. It appears that many families exit while still eligible for a subsidy. A central issue here is the relationship between employment instability among low-income workers and receipt of child care subsidies. Is it possible that families who are assured continuity of child care subsidies for a period after loss of a job would reenter the labor force sooner? Would children experience greater continuity of child care and more favorable child outcomes if subsidy spell length were supported? It would be important to consider implications in both generations: that is, implications for employment and welfare receipt as well as for continuity of child care and child well-being.

One of the important findings regarding subsidy utilization from the set of studies reviewed here is that subsidies should not be considered alone, but rather in conjunction with other forms of public support for early childhood care and education. Is it the case that families who do not apply for or use subsidies are instead using other forms of public support? Is there a regularly occurring sequence in which subsidy use progresses to participation in Head Start or pre-kindergarten as children grow older? Do families with differing background characteristics avail themselves of the different public supports for early care and education? Rather than focusing on those families who do and do not utilize child care subsidies, perhaps the issue should be broadened to those eligible families who do not use any form of public support for early care and education.

The *CCB-funded research* clearly suggests that it is important to extend beyond issues of policy to consider the implementation of child care subsidy policies at the state and local levels. Indeed it has been suggested that administrative hassles in applying for child care subsidies, in the recertification process, and in having reimbursements reach child care providers may all be possible reasons some families may not use subsidies. An important next step here would be to study systematic variation in implementation practices. For example, does utilization of subsidies increase or become more stable when the application process is simplified? When parents can apply outside of 9 to 5 office hours? When steps are taken to make provider reimbursement more efficient?

Assuring **parental choice** is a principle of the child care subsidy system. The evidence from the studies reviewed here does suggest that the availability of subsidies makes a wider range of child

care affordable to low-income families, especially increasing the option of using regulated care. Yet state and local child care markets have an important effect too, contributing to the range of options that are available.

Little is known about parents' decision-making process when determining what child care to use. That is, research focuses more on utilization and the predictors of type and timing of care used, than on the factors parents consciously take into account in deciding on care. It is particularly important from a policy perspective to understand the extent to which parents receiving subsidies actively weigh such factors as whether higher reimbursement rates can be paid for child care with certain quality indicators. It would be extremely useful for research to focus on the question of whether the process of decision-making changes when community workers provide more information to parents on available child care options and on how to assess child care quality. Does the type of staff or organization that provides the information affect the impact on decision-making? It would also be important to examine whether and how child care decision-making changes when families are given more time to finalize a child care arrangement.

CCB-funded research suggests that subsidies may be particularly important in extending the options available to families of children with special needs, perhaps especially so in rural areas where options are more limited. It would be important to examine the implications of child care subsidies on choice for these families. Is there more access to care in which the provider has received training in the care of children with special needs when parents have child care subsidies? Does children's development differ according to use of subsidies and related choice of care for children with special needs?

The evidence reviewed indicates that parental choice among families receiving subsidies is constrained by whether or not a child care provider is willing to accept subsidies. At least in the geographical areas studied, family child care providers appear to be more willing to accept subsidies than those in centers. An important next step would be to shed light on why some providers are not willing to accept child care subsidies. If, for example, efficiency in payment is the key issue, policymakers could focus on approaches to improving efficiency, and this in turn would extend parental choice.

The evidence summarized here indicates that parents actively seek out information on **child care quality** available through rating systems or inspection reports. Yet very little is known about whether and how this information influences child care choice. Research is needed among families receiving subsidies, and for families of varying socioeconomic backgrounds, to better understand the types of information about child care quality that families find most useful, and how the information about child care quality is actually taken into account in choosing care. For instance, do families find summary ratings (like star rating systems that have now been introduced in a number of states) useful? Or do they prefer discrete ratings that allow them to weigh different quality factors? Carrying out direct observations of child care quality as part of a state child care quality rating system is costly though quite informative. Do parents particularly value such direct observations?

CCB-funded research has taken important steps to document how the funding from the child care quality set-aside is being used, and to begin to evaluate the effectiveness of initiatives to improve

quality. Yet systematic evaluations of child care quality initiatives are, as yet, few in number. Further, it is only recently that the most rigorous approach to evaluating the impact of such programs, experimental evaluation, has been used. The Quality Interventions for Early Care and Education (QUINCE) evaluation uses an experimental design to ask whether on-site consultation approaches improve the quality of family child care and entry-level center care. The implementation of a curriculum focusing on early literacy in subsidized child care centers in particular Florida communities is also being evaluated using an experimental design.

This is a period of experimentation with strategies to improve child care quality, and much could be learned from state efforts to systematically inform the allocation of funding in the future. One approach, for example, might involve identifying a set of states carrying out quality initiatives that are similar in terms of objectives, such as efforts to improve the professional development of providers through scholarships for further education. Technical assistance could be provided so that similar data could be collected across these states to document the implementation and effectiveness of such approaches. In general, there is great potential to inform the use of quality funding through more systematic collection of information about the wide range of current state efforts. Evaluations should include an examination of costs, so that policymakers can make decisions in light of both costs and potential benefits.

A substantial percentage of children overall, and low-income children in particular, participate in care provided by family, friends and neighbors. *CCB-funded research* has helped to identify both the strengths of such child care settings and areas in need of improvement. Yet very little is known about the openness of family, friend and neighbor providers to efforts to improve quality. Further, virtually no evidence is available regarding effective approaches to improving quality in these settings. Given the numbers of children whose primary care comes from family members, friends and neighbors, it would appear important to understand what resources and supports would be welcome, and which would be effective in improving quality in these care settings.

Collaborations and formal early care and education partnerships are encouraged through the administration's early childhood initiatives. The President's *Good Start, Grow Smart* initiative calls for the development of early learning guidelines as well as for taking steps to prepare the early childhood workforce to support children in reaching the goals identified in such guidelines. Because the goal is to ensure that children gain the skills and abilities to succeed in school in different early care and education settings, there is an emerging need for approaches to professional development that are appropriate across types of early care and education. It will be important to ask whether training and education approaches are indeed working well across "sectors" of early care and education. It will also be of interest to determine whether this policy approach is fostering more collaborative efforts at the state level across programs with different funding, such as child care, Head Start, and pre-kindergarten.

In addition to collaborations that may be fostered through common early learning guidelines and professional development approaches, early care and education partnerships take a further step, formalizing relationships. Head Start-child care partnerships meet an important set of policy goals by providing care that matches the needs of working low-income parents while also providing comprehensive services to families and early learning opportunities to children. Pre-kindergarten programs implemented in community-based child care centers represent another

important partnership approach. There has been limited research focusing on the effects of such partnerships. The evidence to date suggests that such partnerships bring resources to child care such as training, equipment and materials, and further that care quality is higher in child care that is partnering with Head Start or Early Head Start. However to fully address the policy goals of such partnerships, effects on parents' employment and on children's outcomes should be examined. A valuable next step would be to go beyond describing partnerships to examining such outcomes.

Work is also needed examining a broader range of collaborations across specific early care and education programs. For example, it is clear from recent research that a substantial number of pre-kindergarten programs in states are being implemented in child care settings. This is another form of collaboration across programs. Important questions remain about this approach to expanding access to pre-kindergarten programs. It is important to understand what criteria states are using to determine the child care programs that are eligible as pre-kindergarten sites. It is also important to describe what resources states are making available in terms of professional development, equipment and resources so that child care programs can meet eligibility criteria. In addition, it is important to ask whether pre-kindergarten programs implemented in child care programs are particularly effective at enrolling working parents, and whether they play a role in helping parents retain employment.

At present there are serious limitations to the information that is available regarding the **early childhood workforce**. Such information is important to guiding efforts both to expand the workforce and to improve professional development. National and state surveys have such limitations as not regularly including all categories of paid child care workers, and not having effective approaches to capturing the content and extent of training that providers participate in outside of formal education. Problems with appropriate documentation of provider education and certification also exist though are less severe than for training. There is limited comparability in the data collected in state workforce surveys and in data collected by state child care registries in different states.

A high priority should be placed on working towards better data collection on the child care workforce. Key steps could include working towards agreement on common definitions and measurement approaches for use in national surveys and across state surveys, introducing data collection that captures the content and extent of training using a common approach across state child care registries, and extending and coordinating data collected by child care resource and referral agencies. The development of a common core of data elements for documenting the characteristics of educators in kindergarten through grade 12 in state surveys funded by the Department of Education could serve as a model for the development of consistently collected data on education, training and certification for the early childhood workforce.

Finally, the issue of turnover in the workforce remains a problem. Turnover affects program costs, as resources must be diverted to hiring and training new staff. Turnover also affects outcomes for children when relationships between children and their caregivers are disrupted. Outcomes for parents may also be affected, particularly if discontinuity in care interrupts employment. The work reviewed here suggests that initiatives at the state and county level to address retention in the child care workforce can affect overall rates of turnover in center care.

There is a need for systematic evaluations of initiatives to address turnover. Such work should include cost-benefit analysis, considering the costs of retention initiatives in relation to the benefits of diminished turnover for programs, for parental employment, and for child outcomes. Varying approaches are currently being undertaken by states in attempts to reduce turnover. Planned variation studies, systematically varying the approach taken and replicating the varied approaches in different locations, would help greatly in assessing the effectiveness of differing approaches to improving retention in the child care workforce.

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GLOSSARY OF TERMS

Administrative data: Records that are gathered in the context and for the purpose of administering a program. Records include information on characteristics of participants in a program and extent or duration of program participation. Administrative data may be aggregate statistics (e.g., the percentage of participating children whose parents received parenting education classes), or may take the form of microdata with whole records of individuals that can be tracked over time and merged with administrative data across programs.

Assessing the New Federalism Study: Study conducted by the Urban Institute and Child Trends to track how children and families are progressing as the federal government transfers authority for health and social welfare programs to states.

Block grant: Federal money given to state and local governments for general areas of social welfare, rather than for specific programs.

Center-based child care provider: A provider who is licensed or otherwise authorized to provide child care services in a nonresidential setting.

Certificate: Within the subsidy framework, a check, voucher, or other disbursement issued by a State Lead Agency to a parent to facilitate payment for child care services.

Child and Adult Care Food Program (CACFP): A program under the USDA's Food and Nutrition Service (FNS) that provides nutritious meals and snacks to children in child care (child care center and in-home care) and adults who receive care in nonresidential adult day care centers.

Child Care and Development Block Grant (CCDBG): The primary law governing CCDF; a block grant given to states as a part of welfare reform for child care assistance in order to help low-income working families make a smooth transition from welfare to employment.

Child Care Development Fund (CCDF): Program authorized by the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 that assists low-income families, families receiving temporary public assistance, and those transitioning from public assistance in obtaining child care so they can work or attend training/education.

Child Care Development Fund (CCDF) Lead Agency: The state, territorial, or tribal entity designated to receive and administer the CCDF program, either directly or indirectly through another entity.

Child Care Dynamics Team: A group of Child Care Policy Research Consortium members representing Illinois, Maryland, Massachusetts Oregon, and Texas who conducted a collaborative study to better understand who is served by child care subsidy systems, the services they receive, and provider stability.

Child Care Policy Research Consortium (CCPRC): National alliance of research projects sponsored by the Child Care Bureau to increase the national capacity for sound child care research.

Child Care Registries: Organizations that collect information about early childhood care and education providers as well as administrators, including their education and training credentials, positions, employers and salaries, as part of early childhood professional development and recognition systems. See also professional development registries.

Child Care Resource and Referral (CCR&R): Agencies or organizations that help families, child care providers, and communities find, provide, and plan for affordable, quality child care.

Co-payment: The financial contribution a family receiving CCDF funding must make toward the cost of child care. The CCDBG Act requires that co-payments be determined based on a sliding fee scale that takes family size and income into account. By federal regulation, states may consider other factors in determining co-payments, such as the number of children in child care. States may waive the co-payment for families at or below the federal poverty level.

Construct: A concept measured by one or more items in a survey instrument or other data collection approach, such as direct observation or assessment.

Contract: An agreement between a State Lead Agency and a provider to provide funding in exchange for direct child care services and/or reserved “slots” in child care facilities for specific populations. These services may include Head Start “wraparound” initiatives, school-age child care, and programs that target specialized populations or services, such as child care for migrant or teen parent populations or child care during nontraditional hours.

Cost, Quality, and Outcomes Study: Study designed by National Center for Early Development and Learning in 1993 to examine the influence of center based child care on child development during the preschool years and subsequent years.

Discriminant function analysis: Statistical procedure that allows a test of whether a set of independent variables can be used to discriminate group membership and provides the equations for such discrimination.

Early Childhood Environment Rating Scale (ECERS): A 43-item rating scale designed to assess quality of group programs for children 2.5 through 5 years of age. It is organized into seven subscales: space and furnishings, personal care routines, language-reasoning, activities, interaction, program structure, and parents and staff.

Early Head Start (EHS): A federally funded community-based program for low-income pregnant women and low-income families with children 0-3 years of age.

Eligible Children: By federal statute, children under age 13 of families with incomes up to 85 percent of the state median income and whose parent(s) is (are) working or attending a job training or educational program. States have the flexibility to set eligibility below the federally

set 85 percent level. The CCDBG Act also allows states to serve eligible children of eligible families who are under age 19 and under court supervision or mentally or physically incapable of self-care. In their Biennial State Plans, states must also indicate how they prioritize services to the very lowest income families and children with special needs.

Event history analysis: Statistical examination of longitudinal data collected on a set of observations to study temporal change.

Environment Rating Scales (ERS): Assessment tools that enable teachers or outside observers to evaluate the physical environment, basic care, curriculum, interaction, program structure, and parent and staff based on a set of research-based quality indicators. Scales exist for the following age groups and care types: Infant/Toddlers, Preschoolers, Family Child Care, and School-Age Care.

Family child care (FCC) provider: An individual who provides child care services as the sole caregiver in a private residence other than the child's home.

Family Day Care Rating Scale (FDCRS): A 32-item rating scale adapted from the Early Childhood Environment Rating Scale (ECERS) that focuses on the quality of family day care settings. It is organized into 6 subscales: space and furnishings for care and learning, basic care, language and reasoning, learning activities, social development, and adult needs.

Family, Friend and Neighbor (FFN) Care: Family, friends and neighbors not part of the licensed child care system who care for children in the home.

Federal Poverty Level: Poverty guidelines set every year by the U.S. Department of Health and Human Services that serve as one of the indicators for determining eligibility in a wide variety of federal and state programs. The federal poverty level is based on the number of people in the household as well as total household income.

Florida's Family Transition Program (FTP): One of the first welfare initiatives to impose a time limit on receipt of cash assistance; funded by a contract with the Florida Department of Children and Families with support from the U.S. Department of Health and Human Services and the Ford Foundation.

Good Start, Grow Smart: President Bush's early learning initiative to improve school readiness for young children in all types of early care and education settings.

Government Accountability Office (GAO): Agency that studies the programs and expenditures of the federal government, monitors how the federal government spends taxpayer dollars, and reports the information to Congress.

Growth Curve Modeling: A statistical analysis of longitudinal data to analyze repeated measures over time. The analysis yields information on the initial level (intercept) of a factor among a group of individuals, as well as the rate of growth (slope) of that factor over time.

Head Start: Comprehensive child development programs administered by the Head Start Bureau, the Administration on Children, Youth and Families (ACYF), Administration for Children and Families (ACF), Department of Health and Human Services (DHHS) that serves preschool (3-5 years of age) children. They are child-focused programs and have the overall goal of increasing the school readiness of young children in low-income families.

Health and Safety Requirements: Under CCDF, states must implement requirements for child care providers that are designed to protect the health and safety of children. While states have tremendous discretion in these requirements, they must include prevention and control of infectious diseases (including immunizations), building and physical premises safety, and minimum health and safety training appropriate to the provider setting.

Hierarchical Linear Modeling: A regression technique that takes hierarchical structure into account.

Infant/Toddler Environmental Rating Scale (ITERS): A 35-item rating scale adapted from the Early Childhood Environment Rating Scale (ECERS) and the Family Day Care Rating Scale (FDCRS) to assess the quality of out-of-home group care for infants and toddlers up to 30 months of age. The scale is organized into seven subscales: furnishings and displays, personal care routines, listening and talking, learning activities, interactions, program structure, and adult needs.

In-home child care provider: An individual who provides child care services in the child's own home.

License-exempt child care: Child care that is operating legally without regulation. A caregiver providing services under CCDF who would not be subject to state or local child care regulations if she or he were not participating in the CCDF program; a number of States, for example, exempt from regulation family child care homes that care for a small number of children. Programs can operate without a license.

Licensed/Regulated: A provider subject to regulation under the laws of a state or local jurisdiction.

Low-income: While there is a formal threshold and a set of guidelines for determining when families of different sizes are at the federal poverty level, there is no formal definition of "low-income." A number of studies, including the National Study of Child Care for Low-Income Families and the Assessing New Federalism Project, use 200 percent of the federal poverty level as the threshold for low-income families.

Maintenance of Effort (MOE) funds: A federal requirement that instructs grant recipients and /or sub-recipients to maintain a certain level of state/local fiscal effort to be eligible for full participation in federal grant funding. Grant recipients or sub-recipients not meeting MOE requirements face loss of a portion of their federal funds.

Market rate survey: A survey of the child care rates charged by providers who care for children within the local child care market. States are encouraged to set their provider payment rates based on information from the survey.

Matching Funds: A funding stream of CCDF appropriated under Title IV of the Social Security Act to states to provide child care services. The Federal Matching Funds are the remaining portion of the funds appropriated under Title IV of the Social Security Act that are not allocated as Mandatory Funds to the states. These funds are distributed based on the number of children under age 13 in a state compared with the national total of children under age 13. To receive these funds, states must expend a designated amount of their own funds for Maintenance of Effort and must match these “remainder” funds at their Federal Medicaid Assistance Percentage Rate.

National Association of Child Care Resource and Referral Agencies (NACCRRA): A national network of more than 850 child care resource and referral centers (CCR&Rs) located in every state across the U.S. NACCRRA provides training, resources, and best practices standards to local and state CCR&Rs that support high quality services.

National Child Care Staffing Study: Conducted by the Center for Child Care Workforce to assess teaching staff wages, benefits and turnovers and their effects on child care quality.

National Registries Alliance: A consortium of child care registries in 30 states across the US.

National Study of Child Care for Low-Income Families: A research effort conducted for the Administration for Children and Families in the U.S. Department of Health and Human Services in 17 states and 25 communities to provide information on the response of states and communities to the child care needs of low-income families, on the employment and child care choices made by low-income families, and on the factors that influence those choices.

Nonstandard work hours: Hours worked in the evenings, during nights, on weekends, on a rotating schedule, or highly variable hours.

Path Analysis: A statistical model that is an extension of the regression model which is used to test the fit of the correlation matrix against two or more causal models which are being compared by the researcher. The model is usually represented in a circle-and-arrow figure.

Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA or P.L. 104–193): The welfare reform legislation of 1996 that created TANF and unified several federal child care programs to form CCDF.

Professional development registries: Lists or records that include information about the professional development of early childhood care and education providers and directors, such as their education, training, certification and employment. Part of a system of professional development and recognition. May serve as a source of information for programs such as child care licensing or quality rating systems. See also Child Care Registries.

Quality Interventions for Early Care and Education (QUINCE) - A multi-state experimental evaluation study of an on-site, consultation model for professional development of providers and teachers in both centers and homes, with a special emphasis on providers in family child care homes (including license-exempt care). The ultimate goal of the professional development training is to enhance the quality of the family home or child care classroom.

Quality Rating Systems (QRS): A method to measure and improve the quality in early care and education settings through a uniform approach that is available throughout a State. The five common elements of QRS are standards, accountability, program and practitioner outreach and support, financial incentives to improve quality standards, and parent education.

Regression: A form of statistical modeling that attempts to evaluate the relationship between one variable (termed the dependent variable) and one or more other variables (termed the independent variables).

Social Services Block Grant (SSBG): Funds made available to each state to furnish social services to meet the needs of those residing within the state.

State Capacity Grants: Grants funded by the Child Care Bureau for states to develop their child care data and research capacity either internally or through contract to study the impact, implementation, and benefits of child care policy programs and strategies.

Subsidy take-up: All aspects of the subsidy process, including subsidy application, receipt, re-application, and re-certification.

Temporary Assistance for Needy Families (TANF): A comprehensive welfare reform program with time-limited assistance that focuses on moving recipients into work and supporting family formation. TANF replaced the former federal welfare program, Aid to Families with Dependent Children (AFDC).