



“Forging a Brighter Future

for Children and Families”

**Orchestrating Access to Affordable,
High-Quality Early Care and Education
for All Young Children**

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Acknowledgements

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Summary

Over the past six years, the Human Services Policy Center (HSPC) has developed and applied a Policy Simulation Model that enables policy makers to explore a variety of options for making high-quality Early Care and Education (ECE) affordable to all children from birth through 5 years of age. Working with policy leaders in four diverse states, we customized financing solutions to reflect each state’s unique preferences. Including the costs of all elements of a high-quality ECE system, we estimated the hourly costs of high-quality ECE, the budgetary costs of financial assistance to families, the affordability for families at different incomes, and the share of funds allocated to the most vulnerable children. Conducting a household demand survey in each state enabled us to incorporate parental choices among all types of ECE – centers (including Head Start and pre-kindergarten); formal family care; and family, friend, and neighbor care.

Each state team explored and specified choices about staffing, infrastructure, and financing policies, basing these choices on expert recommendations and the experiences of other states. An iterative process of analysis and feedback allowed state teams to end up with financing plans that could make high-quality ECE affordable for all while targeting the majority of public funds to the most vulnerable children and families. The policy simulation approach enables teams to consider further policy refinements, as we are doing with two of the states.

Achieving ECE with highly qualified and adequately compensated teachers and desirable child-to-adult ratios will require significant provider cost increases, plus increased assistance to families. The hourly direct service costs of high-quality ECE varied greatly across states (from \$4 to \$8 an hour for infants; \$3 to \$7 for toddlers; \$3 to \$5 for preschoolers), depending on staff qualifications and on whether

compensation was pegged to the salaries of elementary school teachers (higher costs) or the salaries of social services professionals (lower costs). Quality promotion through professional development, regulation, and governance contributed between 8 and 10 percent to total costs.

See Glossary on page 20 for definitions of:

Affordability

Budgetary Costs

CCDF Vouchers

Co-payment

ECE

Hybrid System

Income Levels

Income-Related Voucher

Policy Specifications

Provider

Subsidy

75th Percentile Market Rate

Boosting the quality of ECE would drive market prices beyond what middle-income parents can afford without some form of financial assistance. As hourly costs go up, so does the share of the population needing assistance. Our analysis compared policy choices by considering their impacts on competing objectives – improving quality, maintaining affordability for families, helping the most vulnerable children, and controlling budgetary costs. We found many feasible approaches, at higher or lower costs – but no single right answer.

Although each state’s policy specifications differed, all ultimately chose variants of a “hybrid” form of financial assistance that combined non-income-related subsidies (to providers) with an income-related voucher (with parental co-payments) to help parents afford the market price of improved quality. This Parent and Provider Assistance Package (PPAP) preserved parental choice, met the needs of low-, moderate-, and middle-income families, and targeted the majority of funds to the most vulnerable children – all while moderating public budget costs.

State teams can design voluntary, partially subsidized Early Care and Education systems that provide high quality at prices parents can afford. The impact on state and local budgets, phased in over at least five years, would be a small fraction of what is currently spent on elementary and secondary education. The annual subsidy costs of using such a hybrid system to provide financial access for all children age birth through 5 years old would range from about 6 to 20 percent of current public education spending, although not all children would participate.

Developing and Applying a Policy Simulation Model of ECE Finance

Over the past century, thinking about the settings where young children spend time away from their parents has evolved from an emphasis on *caretaking* to recognition that the years from birth to age 5 represent a unique and critical period for children’s *education*. In tandem with this evolution, the scope of educational impact has broadened beyond cognitive advancement to include the development of social, emotional, and self-regulatory behaviors. Initially, public financing of Early Care and Education (ECE) enabled low-income mothers to work (Blau, 2001). More recently, the policy focus has shifted to goals concerning school readiness and child development (Adams & Rohacek, 2002; Vandell & Wolfe, 2000). New research has shown significant long-term benefits of high-quality ECE services, especially for low-income children, fueling the call for investments in quality and expanded financing (Barnett, 1995, 2002). While *welfare policy* tends to be dominated by the federal government, *education policy and funding* are dominated by the states. The Human Services Policy Center (HSPC) has focused on the different policy options that states might use to assure access to early learning opportunities for all children, but we recognize that states still struggle with the dual functions of ECE.

Unfortunately, the quality of most early care and education services in the United States is not high (Helburn, 1995; Kontos, Howes, Shinn, & Galinsky, 1995; Marshall et al., 2001), and making high-quality programs accessible to families at all income levels can be expensive. Believing that no child should be denied access to the benefits of high-quality early education, we have developed a model that allows policy makers to experiment with a flexible array of policies that vary specifications of

(1) the parameters affecting the cost of providing ECE and (2) strategies to help parents afford the costs of quality improvements. Underlying this approach is the proposition that public support for educating children from birth to age 5 – years of rapid cognitive, social, and neurological development – is at least as important as our investments in elementary, secondary, and post-secondary education.

Working closely with broad-based teams of policy makers and stakeholders in four states, we developed and applied a computerized Policy Simulation Model to estimate the costs and impacts of customized solutions that reflect each state’s unique quality and financing choices. The process involved an ongoing dialogue between each team’s specifications for quality and benefit eligibility (How much will we pay teachers? At what income levels will families qualify for benefits?) and the model’s cost and affordability computations (What will it cost the taxpayers? How much will parents have to pay?). When the budgetary costs of one set of specifications seemed too high, or shifted too great a share of benefits to middle- and upper-income families, state teams refined their specifications until they arrived at a satisfactory balance among objectives.

HSPC used the model to calculate reliable cost estimates for a broad range of policy choices. Traditionally, the policy literature has focused on specific program interventions for low-income children. Our approach focuses on policies that affect *the structure of the entire early learning market*, serving children in all income groups while preserving parental choice among programs and settings.

In this report, we describe our work with state teams to arrive at tailored financing plans that, for moderate budgetary costs, achieve high-quality early education that is affordable for parents at the same time that most public funds are targeted to the most vulnerable children. We focus on children from birth through 5 years of age, comparing a free-ECE-for-all approach to various kinds of income-related assistance to parents and providers. The challenge is to find a solution that balances the high degree of access provided by a no-fee system with the cost savings that would accrue if families made copayments affordable at their income levels.

Preserving parental choice – rather than moving to a uniform delivery system – is a cornerstone of this modeling effort. By incorporating data on parental choice, our approach projects changes in demand for ECE and associated changes in maternal employment – both critical to estimating the overall fiscal consequences of alternative policy scenarios.

Balancing High-Quality, Affordability for Families, Public Funding Targeted to the Neediest Children, and Acceptable Budgetary Costs

The Importance of High Quality

Children who enter kindergarten behind are likely to remain behind. Nevertheless, most child care settings do not provide the high-quality environment and stimulation that promote learning and development (Helburn, 1995). Numerous studies have demonstrated the link between the quality of early care and children’s social, emotional, cognitive, and self-regulatory outcomes (NICHD Early Child Care Research Network, 2003; Shonkoff & Phillips, 2000; Vandell & Wolfe, 2000). Longitudinal studies have tracked children for as long as 27 years and found that individuals who participated in higher-quality ECE programs have more advanced cognitive skills, more successful social interactions, higher graduation and employment rates, and lower rates of violence and delinquency than individuals who did not participate in such programs (Barnett, 1995; Gomby, Lerner, Stevenson, Lewit, & Behrman, 1995; Karoly et al., 1998). Taxpayers

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benefit too – from lower costs for special education services, Medicaid, welfare, and criminal justice; and from increases in tax revenues due to parental employment.

The long-term benefits of high-quality ECE for low-income children can greatly exceed the costs of these programs (Aos, Lieb, Mayfield, Miller, & Pennucci, 2004; Barnett, 1995; Karoly et al., 1998). Some analysts suggest that investments in early learning show greater returns than investments in higher education (Heckman & Lochner, 2000). And disadvantaged children may gain the most from these investments: while all children benefit from quality early learning experiences, research indicates that the greatest advances accrue to minority, low-, and moderate-income children (Gormley & Phillips, 2003). Striking the right chord – by balancing the needs of all children against differential benefits for children with the fewest advantages – is a major challenge for policy makers with limited budgets.

What characterizes “high-quality” early learning experiences? Early childhood experts agree that while child-to-adult ratios and group size are important, the most significant factor affecting quality is the direct interaction between caregiver and child: “Each achievement – language and learning, social development, the emergence of self-regulation – occurs in the context of close relationships with others” (Shonkoff & Phillips, 2000, p. 225). High-quality early learning experiences are more likely to occur when teachers have attained higher levels of general education and acquired specific education and training about early childhood (Ackerman, 2003; Raikes, 2003). As a group, the adults who are paid to care for our young children when they are away from their parents often lack the education and early childhood skills that have been demonstrated to improve child development. Experiences in elementary and secondary education offer a relevant lesson: to recruit and retain a well-qualified ECE workforce requires a combination of appropriate standards and adequate compensation (Whitebook, Sakai, Gerber, & Howes, 2001). To maintain quality, a supportive infrastructure – for professional development, assessment, regulation, and governance – must also be in place, especially in a market system where incentives to minimize costs could compromise quality.

Although experts agree on the *components* of high quality, consensus is lacking about the *precise levels of staff qualifications or compensation* that would ensure high-quality early learning experiences. And the qualification/compensation equation will vary with labor market conditions and the capacity of the higher education system in each state. In the face of such uncertainty, policymakers have some flexibility when trying to balance quality and costs. Even with this flexibility, the cost of recruiting and retaining a sufficient number of highly qualified teachers would significantly exceed what most families now pay for early care and education.

Assuring That Middle Income Families Can Afford Quality, While Targeting Limited Public Resources to the Most Vulnerable Children

Estimated hourly costs were substantially higher than those currently paid either by states on behalf of low-income children, or by middle-income parents paying privately.

How do we determine what level of cost is “affordable” for families? Two concepts seem to offer reasonable starting points. One is that families should be able to pay for high-quality ECE while still meeting other basic needs such as food, shelter, health care, transportation, and a reasonable level of leisure. While no clear economic guidelines specify the level of household income that would satisfy these needs, many analysts have determined that income close to twice the federal poverty level (FPL) is necessary for a family to meet basic needs without external support (2 FPL for a family of four is \$36,800.). This recognition is reflected in eligibility policies for many federal programs (Medicaid; reduced-price school lunches; the Earned Income Tax Credit). Helburn and Bergmann (2002) have proposed only charging families a fee for ECE if their income exceeds twice the poverty level. They would charge families 20 percent of income in excess of 2 FPL, extending the prevalent concept, incorporated in federal Child Care and

Development Fund (CCDF) guidelines, of limiting families' ECE costs to 10 percent of income (U.S. Department of Health and Human Services, 1998).

An alternative approach is to look at current family payments as a gauge of market acceptability. The 75th percentile market rate provides us with an approximation of what upper-middle income families are currently willing and able to pay. Substantial net increases in their current payment levels might not be sustainable.

In our work with states, we have considered all these factors in judging the “affordability” of different policy scenarios. We have also considered the fact that approximately one third of all children birth to 5 years of age have a sibling in the same age range, potentially doubling the total cost of ECE for many families.

Currently, high-quality ECE in centers is most affordable either for upper-income children whose parents can pay for high-priced learning opportunities or for low-income children who qualify for deep subsidies through Head Start, state pre-kindergarten, or CCDF vouchers. *Children from moderate- and middle-income families end up with limited options for affordable, top-quality early learning experiences.* One consequence of this may be that kindergarteners from middle-income families start school with significantly fewer social and academic skills than their more affluent classmates (Barnett, Brown, & Shore, 2004). Our analyses found that raising standards to a level where staff qualifications and child-to-adult ratios conformed to “high-quality” criteria could cost as much as a third of average take-home pay per child, pricing most middle-class families out of the market.

In contrast with K-12 and post-secondary education, which are heavily subsidized, *families* pay most of the cost of ECE. If only a small percentage of families receive assistance, and non-subsidized families cannot afford high-quality ECE, providers will not be able to raise prices to cover their increased costs and pay for better-qualified teachers. High-quality ECE simply will not be achieved. Policies to improve quality thus cannot be implemented without also implementing policies to help parents afford the quality improvements.

Just as the precise specifications of “high quality” are open to debate, different strategies for providing financial access to all children merit careful consideration. One solution would be to offer 100 percent state or local funding for “universal” early education, with no charge to parents, for children in certain age or income groups. Realistically, however, the costs of no-fee, high-quality early education (comparable in principle to public kindergarten) would swamp state and local budgets. Some states are pursuing such an approach for 4- and 5-year-old children. Others have proposed income-related approaches, but based them on uniform national specifications and federal funding (Helburn & Bergmann, 2002).

States want to offer all children the opportunities necessary to succeed in school and life, but struggle to resolve the issue of how to allocate limited funds. Equal access and distribution of benefits to target the neediest are issues that every policy maker who works with early learning must face: Should public support be extended to all children or only the most vulnerable? Or is there a middle way?

Budgetary Costs: The Bottom Line for Policy Makers

Clearly, policy makers care a great deal about the price tag of high-quality early learning. However, limited analysis has been available to help them evaluate key choices that affect costs.

- ❑ To achieve high quality, what level of compensation is necessary to attract and retain an appropriate mix of qualified and dedicated ECE staff?
- ❑ What benefit structures will provide the best balance of high-quality, affordability for all parents, assistance targeted to those who need it most, and costs that won't cripple state budgets?

Budgetary costs will differ in each state, and will depend on policy-makers' choices concerning such features as child:adult ratios, qualifications and compensation for staff, and the structure of financial assistance to help providers and parents afford the cost of high quality. We already know that low child:adult ratios are beneficial, and that staff qualifications and compensation need to be upgraded. However, the research literature is not yet clear on the precise levels of staff qualifications and compensation necessary for high quality.

Policies and costs will also vary to reflect different states' economic conditions and salary levels, the capacity of the states' higher education systems to prepare large numbers of qualified ECE staff, and parents' preferences about work and non-parental child care. While we recognize the importance of other comprehensive services for preschool and school-age children¹, the current project addresses only basic early education for children from birth to age 5.

In some cases, estimated hourly costs for infants were twice as high as for older children. Costs greatly exceed what middle-income families could afford without assistance.

Parental Choice Drives a Market-Based Approach

Currently, all parents make choices about ECE for their children. At one end of the spectrum, a parent may stay home full-time with young children. At the other extreme, some parents arrange for full-day ECE as soon as they know a baby is on the way. Most people are somewhere in the middle, balancing work, education, family responsibilities, and early learning for their children. Parents often experiment with different mixes of full- or part-time licensed center care; family child care (FCC); and family, friend, and neighbor (FFN) care; and frequently make different choices depending on the ages of their children.

Our model reflects the realities of an early learning marketplace where parental choices – about whether to use ECE services at all, and about the types of early learning experiences they desire – help determine the quality, cost, and distribution of ECE services. We consider all types of ECE, and incorporate data on the diversity of parental choices concerning both how much and what kind of ECE they want for their children. Our market-based approach also tries to avoid an under- or over-estimation of budgetary costs by taking into account probable shifts in maternal employment and demand for ECE under various financing scenarios.

Applying the Policy Simulation Model in Four States

Our model can be applied in any jurisdiction – federal, state, or local – for which data are available. In this report we summarize our findings from its application in four diverse states: Ohio, South Carolina, Illinois, and Mississippi². In each state, we worked with a team of policy makers and stakeholders to determine the mix of quality improvements and financing mechanisms that best suited the state's goals for enhancing ECE quality and distributing benefits effectively among low-, moderate-, and middle-income families. Policy teams included public and private ECE providers; representatives from state and city education, human services, and budget agencies; plus representatives from higher education, child advocacy and civic organizations, and private (non-profit) human services agencies.

¹ Comprehensive social and health services for preschool-age children and out-of-school-time care for school-age children are critical pieces of the overall picture for both child development and policy. However, these issues require addressing concepts beyond the scope of the present analysis.

² Reports on the policies considered and favored by each state are available at www.hspc.org.

State Specifications of Policies Affecting Quality and Financial Access

Teams generally accepted the proposition that high-quality ECE requires a career lattice in which salaries increase with staff qualifications and responsibilities. They also accepted the propositions that, over time, (1) most teachers would need college degrees and (2) a high school degree would become a mandatory minimum for entry-level workers. However, teams felt strongly that requiring high levels of formal education as a condition of employment would be detrimental, driving out many dedicated teachers and shifting away from the current rough equivalence of the cultural backgrounds of teachers and children. Unfortunate experiences in public schools have taught us to avoid creating situations in which a disproportionately white teacher corps is matched with a disproportionately non-white child population. Findings from elementary and secondary education research that teachers have lower expectations for children of color (Ferguson, 1998), and that these expectations may negatively affect student achievement, might well apply to early education. If so, achieving more highly educated teachers at the expense of cultural diversity could reduce the expected gains.

After defining the age groups of children and the types of ECE settings eligible for public financing, state teams specified detailed matrices of staff qualifications (including level of formal education, years of experience, and specific ECE training) necessary to achieve high-quality early learning services for each age group and setting. Guided by the recommendations of a panel of national experts convened as part of this project (Kagan, Brandon, Ripple, Maher, & Joesch, 2002), teams accepted or modified these recommendations to suit their local circumstances.

Policies deemed essential for promoting high-quality early learning included boosting staff qualifications and compensation; reducing the number of children for which each adult is responsible; investing in professional development and monitoring; and investing in structures for regulation and governance. Because opinion is divided on optimal staff qualifications for high-quality early learning, teams were able to consider a wide range of staff mixes at various levels of education. Some experts (Bowman, Donovan & Burns, 2001) maintain that ECE teachers should have a Bachelor of Arts (BA) degree – a level of general education and certification similar to K-12 teachers. Other research (Phillips, 2000) suggests that quality depends more on *specific knowledge of child development and caregiving skills* than on education level. Analysis of pre-K education in Georgia by Henry, Gordon, Henderson, and Ponder (2003) suggests that teacher education and certification may not be critical factors in student outcomes. In a thorough literature review, Zaslow, Tout, Maxwell, and Clifford (2004) concluded that while higher levels of education tend to be associated with better quality teaching, the research does not suggest a definitive threshold of caregiver education necessary for effective early learning. Therefore, high quality may be achievable with staff who have an Associate of Arts (AA) degree with specialized training in early childhood development and caregiving techniques. When specifying the mix of BA- and AA-level staff, each state team considered these divergent research findings in light of their own higher education system's capacity to produce adequate numbers of qualified teachers. In addition to qualifications, teams contemplated a wide range of potential salaries: BA-level elementary school teachers are paid, on average, about \$28 an hour, while BA-level social workers are paid about \$18 an hour, and BA-level health educators are paid around \$19 an hour (Bureau of Labor Statistics, 2003). Other salaries in the career lattice were set relative to those of BA-level staff. Benefits were set as a standard percentage of salary for all staff, at the levels used for either public school teachers or state employees. Benefits ranged from 20 to 30 percent of salaries, commensurate with public school teacher benefits in each state.

When specifying the mix of BA- and AA-level staff, state teams considered research findings in light of their own higher education systems' capacities.

For center-based care, state teams specified that between 33 and 55 percent of staff should have at least a BA degree, with specialization in early childhood. The range of specifications reflected both the degree to which state teams accepted the necessity of more highly qualified staff, and the capacity of the states' higher education systems to produce large numbers of teachers with AA or BA degrees. State teams showed little variation in their specifications for optimal child:adult ratios, with most staying close to the expert recommendations of 4:1 for infants, 7:1 for toddlers, and about 10:1 for preschoolers. Currently, however, some states are considerably further than others from attaining these ratios.

All state teams specified robust and flexible professional development allotments about equal to the cost of one college course per staff member per year. Additional costs for release time and substitute teachers, plus allowances for books, child care, and transportation were included.

State specifications for regulation mostly followed the recommendations of the national panel and included the number of regulators per center; the number of regulatory visits per year; size and composition of supervisory, support, legal, and policy staff; and overhead. Specifications for governance and administration – again following the national panel of experts' recommendations – included implementation and ongoing budgets (adjusted for state size) for governance, accreditation, management, and information systems. Costs for Resource and Referral services were adapted from Helburn and Bergmann (2002)³.

State teams accepted the proposition that family child care (FCC) providers should receive compensation equivalent to that of center teachers of the same qualifications (Kagan et al., 2002), but decided that a smaller percentage of FCC providers would need to have BA-level degrees. Consequently, in each state the hourly costs of FCC and center care were about the same. Such a boost in FCC compensation would represent a major shift from current market circumstances, where lower costs contribute to the appeal of FCC. Under a universal financing system, the net cost of all forms of ECE would be equally affordable for families, so the choice between center care and FCC would be based on non-financial reasons. Payment levels for family, friend, or neighbor care are currently set on a non-market basis, and state reimbursement rates are usually a fixed percentage (from 50 to 75 percent) of FCC rates. For the purposes of exploring universal ECE finance, state teams specified FFN rates as a percentage of the newly derived FCC rates. The teams' specifications reflected their policy preferences about the appropriate role of FFN in a high-quality ECE system.

Teams also considered a variety of financing mechanisms designed to make early education more affordable for all parents. To find viable options, we looked to other near-universal social benefits (Brandon, Kagan, & Joesch, 2000). Potential financing mechanisms included income-related assistance that families could spend for any ECE provider, subsidies to providers that offset the costs of high quality regardless of the income of families served, and tax credits to parents. Teams also considered offering stipends to enable parents to stay home with their infants, not as a separate mechanism, but as a policy feature that could be incorporated into any financing mechanism.

With state policy teams, we identified two of these mechanisms as potentially promising, and then combined those two to create what turned out to be a highly viable “hybrid” mechanism. One of the original mechanisms was considered too administratively complex and marginal in its benefit to families.

The preferred approaches were:

- ❑ *Income-related assistance in the form of a voucher to parents.* This would extend the form of assistance currently used most frequently under the federal Child Care and Development Fund, with a mixture of public subsidies and parental payments that vary according to family income.

³ Thanks to Suzanne W. Helburn for providing us with unpublished details of her R&R network cost estimates and permitting us to incorporate them in this report.

- ❑ *Non-income-related subsidies to providers.* This would offer early education to eligible children without any parental payment. Existing models include Head Start and public kindergarten.
- ❑ *A hybrid “Parent and Provider Assistance Package” (PPAP) approach,* where part of the cost (10 to 55 percent) would be covered by non-income-related provider subsidies and the remainder would be covered by income-related vouchers to parents. This is roughly analogous to the way higher education is financed, with about 40 percent of total costs for all students covered by state appropriations or other institutional subsidies, and the balance paid by individual students who tap an income-related mix of grants, scholarships, subsidized loans, and personal or parental payments.

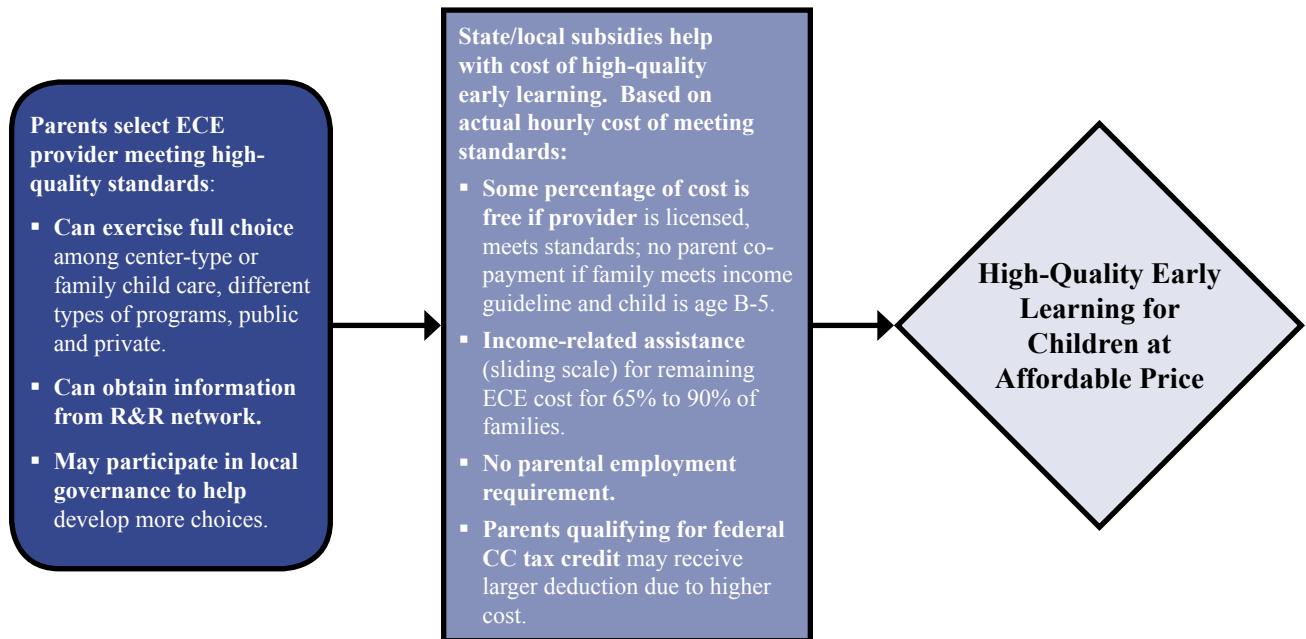
The approach deemed less desirable was:

- ❑ *Tax credits to parents.* While offering subsidies through the tax side of the budget had some political appeal, several feasibility issues made it unattractive. First, to be useful for low- to moderate-income families, the tax credit would have to be refundable in excess of liabilities, which would add a new level of complexity to many state tax systems. Second, ECE costs are incurred on a weekly or monthly basis, and most parents could not reasonably be expected to wait for an annual refund. Monthly refunds would also be administratively complex.

To see how the hybrid PPAP approach would work in the real world, we describe it from the perspectives of (1) parents and children who might participate in the program and (2) program administrators.

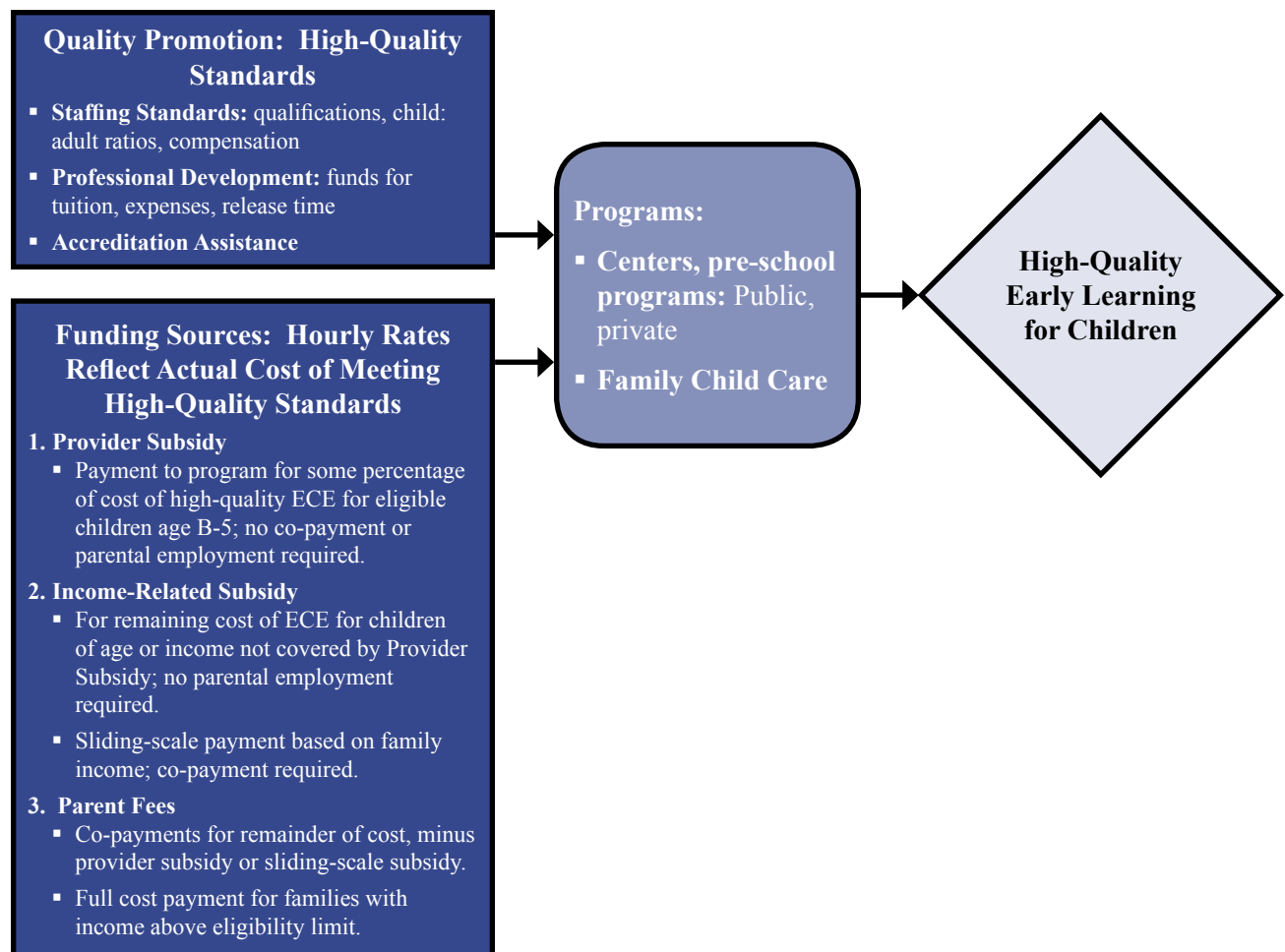
(1) *PPAP from the Perspective of Parents.* Parents would experience greatly increased access to many more choices in the ECE marketplace. They would be eligible for assistance to help them defray the costs of ECE from any provider who meets the quality standards, whether in a center or preschool setting, a formal family child care provider, or a family-friend-or-neighbor caregiver. Some of the cost would be paid to the caregiver on behalf of eligible and participating children on a flat, per-child basis. The remainder would be paid by the family at a rate that would increase as a function of family income. The exact specification of the relationship of income to public and family payments was a key policy that varied among the states.

Figure 1: PPAP Financing of High-quality ECE: Parent/Child Perspective



(2) *PPAP from the Perspective of Programs.* For ECE providers, improving quality and funding those quality improvements must go hand-in-hand (see Figure 2). As staffing standards are raised, revenues must go up as well. To pay for higher salaries and benefits, better staffing ratios, and ongoing professional development, providers would receive a combination of non-income-related fixed subsidies (for 65 to 90 percent of children in the state) and increased payments from parents (most of whom would be receiving help in the form of income-related vouchers from state/local sources). Providers would also receive assistance with quality promotion, including professional development allowances for all staff, Resource and Referral network support, assistance to obtain accreditation, and support from family child care networks.

Figure 2: PPAP Financing of High-quality Early Learning: Program Perspective



State teams considered our estimates of the impacts both of “pure forms” and of various combinations of these different approaches. We tailored our computer model to reflect the teams’ creative designs. After several rounds of policy specifications, analyses, and feedback, each state team ended up with a unique combination of income-related assistance to families and non-income-related subsidies to providers. These combinations melded promotion of parental choice and equity, assurance that providers would have sufficient cash flow to improve quality, and financial accountability through a direct relationship with the state. To channel the majority of funds to the neediest children and families, teams tried using different levels of household income as criteria to determine eligibility and co-payment levels. Teams also evaluated the pros and cons of including parental employment requirements in their programs.

Household Survey Data on Child Care Use Patterns

A distinctive feature of our model is its capacity to reflect *actual parental ECE choices*, rather than assume that all parents will choose to put their children in full-time, center-based or classroom ECE. Nationally, center-based ECE accounts for 44 percent of non-parental care for children birth to 5 (Human Services Policy Center, 2004). Prior research has shown that parental choices vary among states (Capizzano & Adams, 2000; Maher et al., 2003), so assumptions about blanket preferences for center care are not justified. Telephone interviews with representative samples of families in each state provided us with information on the types and amounts of child care used, the cost of care, parental values concerning child care, family demographics, and employment. This information reflected the unique child care use patterns among a diverse array of households within each state,⁴ and was used to predict how the demand for early learning (driven by parental choices) would respond to changes in ECE policy. Modeling policy impacts from this database of individual children and families also enabled us to examine how benefits would be distributed by age of children, family income, type of ECE setting, and other characteristics.

Administrative Data from Each State

To compare current state expenditures to the projected costs of financing high-quality early learning, we relied on several kinds of administrative data, including the annual cost of existing subsidy programs, the number and percent of eligible children age birth to 5 receiving subsidies, the current reimbursement rates for subsidies by age of child and type of care, and the ratio of administrative expenses to service costs. In each state, we combined administrative and survey data to estimate subsidy participation rates for families at different income levels.

Applying the Policy Simulation Model

To put the policies specified by state teams in context, we used the Policy Simulation Model to compare the cost of current state subsidy systems to the cost of universal access, ranging from the cost of each state's lower and higher cost options to the cost of no-fee public financing of high-quality ECE. To estimate participation rates for use in the model, we relied on the administrative data and on analyses of the household survey. These two data sources enabled us to determine the percent of currently eligible families at different income levels that were participating in each state's subsidy program. We used the same estimates of subsidy participation rates for all policy scenarios except the free-ECE-for-all option, for which we assumed a 100 percent participation rate, since income would not affect participation. Holding subsidy participation rates constant across all scenarios enabled us to isolate the costs and impacts of the states' staffing and financial assistance choices.

After each state's policy specifications for ECE services and quality promotion were entered, the Policy Simulation Model calculated an average hourly cost of high-quality early learning for children in each age group and for each type of care. We estimated the costs and impacts of policies by making several calculations for each child in the representative population database.

First, we applied the hourly costs of high-quality ECE to the number of hours spent in various types of ECE settings by children of different ages. Next, we calculated the amount of financial assistance to parents and providers available to cover each household's use of ECE. This calculation – based on household income, number of children in the household, and maternal employment status – determined the share of early learning costs that would be subsidized and the share that would be paid by each child's parents. To infer which families would participate, we applied the estimated participation rates to families in each of the modeled scenarios. Then we adjusted demand estimates to reflect changes in the

⁴ For descriptive summaries of child care use patterns in each state see *Financing Universal Early Care and Education for America's Children: ECE Survey Highlights for Illinois; Mississippi; Ohio; South Carolina* at www.hspsc.org.

types and amounts of ECE that would be used as high-quality early learning became more financially accessible. Finally, we totaled the costs of subsidies for children of each age and income group and type of ECE, and estimated the average cost to families for each of these groups.

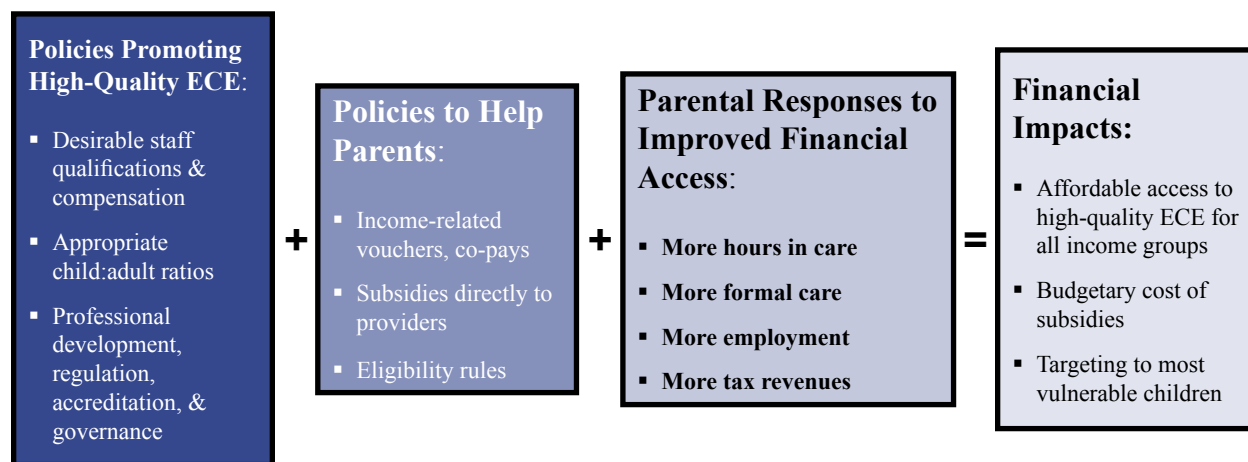
We also estimated the degree to which such changes would lead to increases in maternal employment (Blau & Hagy, 1998). First we estimated changes in demand for ECE. Then, assuming a corresponding change in women’s employment, we estimated the expected state and federal tax revenue increases, which offset some of the budgetary costs for ECE quality improvements.

Once estimated changes in demand were taken into account, the Policy Simulation Model computed the total cost to government of each financing approach. We also calculated the distribution of benefits among families with different incomes, enabling teams to evaluate the extent to which a state’s various policy options targeted benefits to low-income families.

After HSPC’s initial round of analyses of comparative costs, family affordability, and targeting of benefits under multiple initial policy options, state teams went back to the drawing board and modified their specifications to reflect their budgetary constraints. We conducted at least two rounds of analysis and policy modifications for each state.

This process helped state policy makers and stakeholders understand alternative costs, potential cost savings, and the impacts of financing a system of high-quality early learning with different mixes of policies concerning quality and structure of benefits. Through this collaborative, back-and-forth effort, policy teams considered difficult tradeoffs and arrived at what they deemed the most harmonious balance to assure access to high-quality early learning for all children. Figure 3 shows a conceptual overview of the simulation process.

Figure 3: Flow from Policies to Impact



Our Findings

Hourly Costs of High-Quality ECE

(a) Total Hourly Costs

Hourly costs provide the foundation of our understanding of the necessary outlay for a system that can offer universally accessible, high-quality ECE. Our computations included the hourly costs of ECE that would meet the specifications of well-qualified and appropriately compensated staff, with desirable child:adult ratios and group sizes, plus the investments in professional development, regulation, local governance, and administration that can promote and assure quality.

Table 1 shows the wide range of hourly costs we estimated from the policy specifications provided by the four state teams (based on their adaptations of national experts’ recommendations). These variations reflect differences in the children’s ages, average state wages, and the salary standard selected. The lower salary standard, and lower hourly cost estimates, reflects judgments of states with lower income and wage levels. These states had a lower percentage of residents with college degrees and tended to specify less ambitious staffing standards and wage levels for ECE staff. They set BA-level salaries closer to those of social workers. The higher income states specified a greater percentage of teachers with BA degrees, resulting in higher hourly cost estimates. They also set BA-level ECE salary standards close to salaries for elementary school teachers, resulting in higher pay across the career lattice.

Table 1. Estimated Hourly Costs of Center-Type ECE High-Quality Specifications

	Lower Salary Standards	Higher Salary Standards
Infants	\$4 to \$6	\$5 to \$8
Toddlers	\$3 to \$5	\$4 to \$7
Pre-Kindergarten	\$3 to \$4	\$3.50 to \$5

Estimated hourly costs were highest for infants and decreased as children got older. Although most state teams chose an infant/toddler staff mix with fewer staff at the highest qualification and compensation levels, this did not offset the increased costs of substantially lower child:adult ratios for these age groups. In some cases, costs for infants were twice as high as for older children. This difference is not fully reflected in current market rates, because to make infant care affordable for parents, costs are often cross-subsidized, with providers charging parents less than actual costs for younger children and more than actual costs for older children (Witte, Queralt, Witt, & Griesinger, 2002).⁵

By how much would these high-quality hourly costs exceed costs in the current market, and by how much would they exceed what is currently spent on behalf of low-income children? To answer these questions, we compared our estimated hourly costs to two benchmarks. First, we compared them to the current 75th percentile market rates (paid by upper-middle income families). This comparison allowed us to see if the move to high-quality early learning would require shifting the entire private market upward and either asking affluent parents to pay more or offering them some form of assistance. Second, we compared our estimated high-quality costs to public reimbursement rates for child care subsidies paid on behalf of children from low-income families in our partner states. This comparison gave us an initial sense of the extent to which public programs would have to change.

If we used the lower salary standard (social worker comparability) in states with higher median incomes, cost estimates increased by a relatively modest 5 to 20 percent over current market rates. If we used the higher salary standard (elementary teacher comparability) in states with lower median incomes, estimates of the cost of high-quality ECE increased more dramatically, reaching more than twice current market rates. In states where current subsidy reimbursement rates are substantially below the 75th percentile market rate, the costs of helping low-income families pay for ECE would increase considerably.

⁵ The costs we estimate are not strictly equivalent to the prices or rates currently charged to parents or paid by state agencies. Current prices are often below costs due to such “hidden subsidies” as free rent or charitable contributions (Helburn, 1995). Our estimates assume that all costs are made explicit and incorporated in prices; if subsidies from charitable institutions, employers, or others are available they could somewhat reduce the cost estimates.

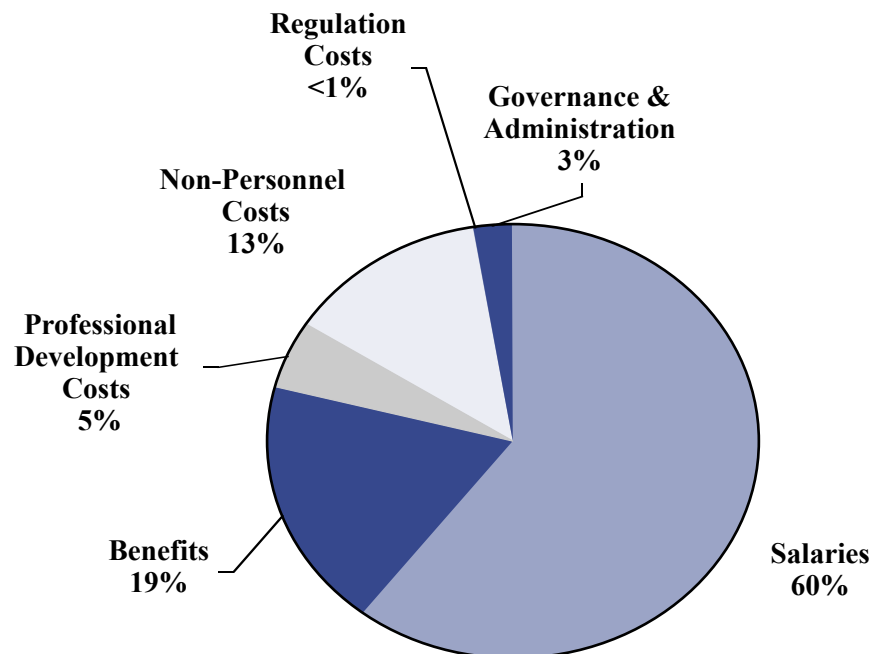
Clearly, both parents and taxpayers would be asked to pay substantially more if these policies to improve quality were adopted. Could they afford to do so? For parents, we can answer this question simply. We looked at what full-time, full-year ECE would cost and compared it to the incomes of average families in each state. The results were dramatic – average families would have to pay anywhere from one quarter to one half of their after-tax take-home pay, per child, for high-quality ECE. This would clearly not be affordable for families unless they were offered assistance. The degree to which offering assistance to families would be affordable to taxpayers requires much more complex analysis, which is discussed in the following sections.

(b) Component Costs of High-Quality ECE

By far the most expensive component of high-quality ECE is adequately compensated personnel (see Figure 4). We found that salaries and benefits account for between 70 and 80 percent of costs for center care. Non-personnel costs such as rent, equipment, food, learning materials, and insurance account for about another 13 to 19 percent. Quality promotion expenditures – professional development, regulation, and governance – account for the remaining 8 to 10 percent. An important finding of our study is that quality promotion investments, necessary to assure that increased costs actually achieve the desired results for children, contribute relatively little to costs.

Because experts have not determined the threshold levels of staff qualifications and compensation necessary to provide children with high-quality learning experiences, most states tested different combinations of salary levels and qualifications. As a result, teams were able to manipulate budgetary costs by adjusting their specifications. If state teams were not able to afford their optimal specifications, the model could estimate the costs of phasing in higher staff qualifications or compensation over time.

**Figure 4: Components of Total Hourly High-Quality ECE, Age Birth to 5
(Average of Four States, Center-Type ECE)**



Major Financial Assistance Policies That Affect Costs

As discussed above, state policy teams identified three financial assistance mechanisms as most promising. They were:

- (1) Income-related assistance in the form of a voucher to parents. This mechanism mixes public subsidies with parental payments that vary according to family income.
- (2) Non-income-related subsidies to providers (similar to Head Start and public kindergarten). This would offer ECE to eligible children without requiring any parental payment.
- (3) A hybrid Parent Provider Assistance Package (PPAP). Part of the cost would be covered by non-income-related provider subsidies and the remainder would be covered by income-related vouchers to parents.

In making their decisions, state teams evaluated these mechanisms while varying the following policy parameters:

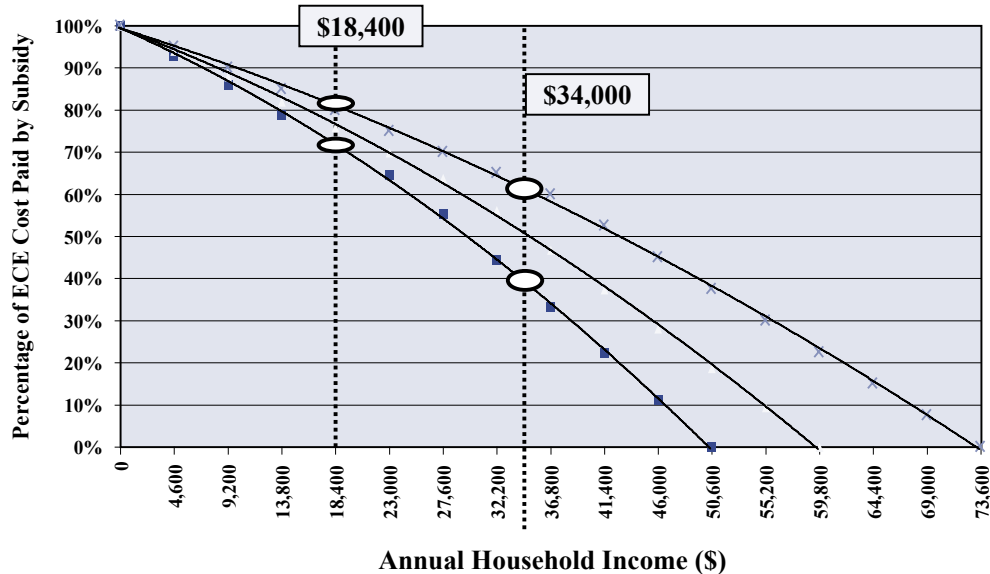
- ❑ *The degree to which benefits depended on family income.* Specifications for the amount of non-income-related (provider subsidy) financial assistance ranged from 10 to 55 percent of provider costs. State teams also varied the shape of the co-payment curve, charging low-income families either nothing or a modest fee that increased steadily with income.
- ❑ *Maximum income eligibility levels.* The higher the salary standard and the hourly costs of ECE, the greater the percentage of families who would need help for high-quality early learning to be affordable. Figure 5 shows one state’s estimates of the percentage of ECE costs that would be subsidized, by family income, in three scenarios – extending partial benefits (with co-payments covering the balance) to families with incomes of \$50,600, \$59,800, and \$73,600, respectively.
- ❑ *Hours per week covered.* State teams were able to specify limits on the hours of ECE that could be reimbursed. Some set a limit based on a 40-hour workweek, plus transportation time; others allowed many more hours.
- ❑ *Maternal employment requirements.* State teams determined that making benefits contingent on maternal employment was incompatible with an educational framework, although some offered an incentive of more generous assistance if the mother was employed. States continue to walk the line between ECE’s dual functions and funding sources – education and welfare-to-work. Our analysis showed that eliminating the maternal work requirement increased budgetary costs by as much as 30 percent.
- ❑ *Parent stipends for care of infants.* Some state teams decided to offer parents the financial option of staying home to care for their own infants rather than using other types of ECE while employed. They set a variety of conditions for the receipt of such stipends and chose different rates of payment.

By testing different income eligibility criteria, the teams learned that increasing income eligibility limits for income-related benefits did *not* necessarily mean that most of the additional benefits went to the highest income groups. In Figure 5, the percentage below each curve represents the proportion of early learning costs covered by subsidy at each income level; the percentage above the curve represents the family’s share of costs (co-payment). For families with the very lowest

Raising eligibility limits for income-related benefits did not necessarily mean that most of the additional benefits went to the higher income groups.

incomes, increasing the maximum income eligibility does not make much difference, since virtually all of their costs are subsidized in any case. However, for a low-income family of four at the Federal Poverty Level of \$18,400, increasing the maximum income eligibility from \$50,600 to \$73,600 *decreased* the share paid by the family (co-payment) from 30 to 20 percent of costs. For a moderate-income family at \$34,000 income, the family share of costs decreased from 60 to 40 percent as the maximum income eligibility limit was extended out to \$73,600. In these scenarios, upper-middle income families would receive assistance, but that assistance would cover a much smaller share of costs than in the lower- and middle-income families.

Figure 5: Co-Payment Curves: Alternative Maximum Eligibility



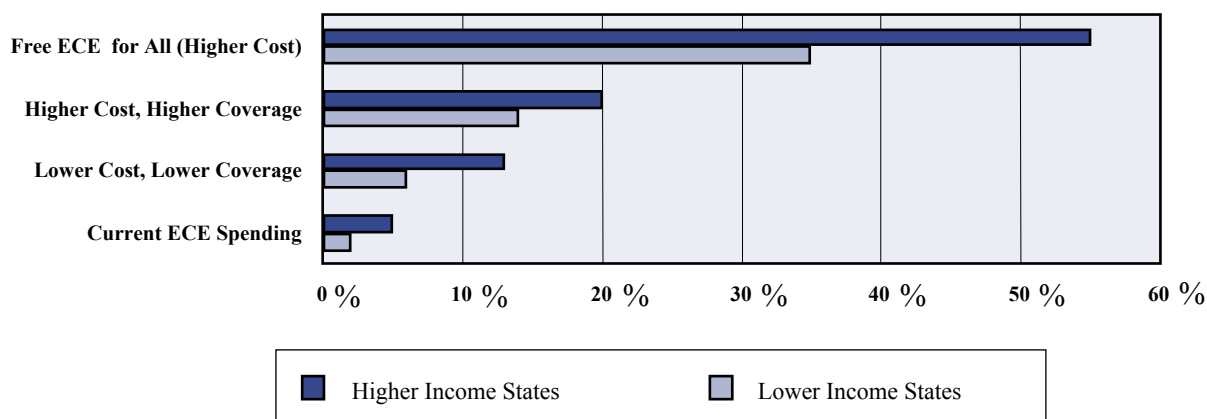
Choosing an Optimal Policy Mix

Although each state’s priorities differed, all ultimately chose customized variants of the “hybrid” Parent-Provider Assistance Package (PPAP), combining fixed subsidies to providers with a sliding-scale, income-related voucher to help parents afford the costs of improved quality. Most state teams proposed eliminating parental employment requirements as prerequisites for at least some children’s participation in subsidized, high-quality ECE programs. Depending on the cost of high-quality ECE specified by the state team and the level of income eligibility needed to make care affordable for all families, between 65 and 90 percent of families would be eligible for partial to full assistance. This approach seems to successfully balance the objectives of improving quality, maintaining parental choice, meeting the needs of all families, and directing the majority of funding to the children who are most vulnerable – all while moderating total budget costs.

Broadening Our Perspective on the Cost of High-Quality ECE

Improving the quality of ECE necessarily increases total costs, but it is useful to view those cost increases in a broader context. Figure 6 shows projected ECE subsidy costs as a percentage of current K-12 public education spending in the states with higher and lower average incomes. Current ECE subsidies are equivalent to only about 3 to 5 percent of total elementary and secondary school expenditures in our partner states, with the higher-income states making greater current investments at all levels of education. This is proportionately a minuscule investment, since the population of children age birth through 5 is about 47 percent as large as the population of children in kindergarten through 12th grade.

Figure 6: ECE Subsidies as Percent of Current K-12 Spending



At 3 to 5 percent of K-12 expenditures, current spending defines the lower end of the range, while providing free ECE for all children would raise subsidies to between 35 and 55 percent of K-12 expenditures. In comparison, the costs of the hybrid plans chosen by the four states would be equivalent to a more modest 6 to 20 percent of current K-12 costs. These estimates represent annual costs after at least a five-year phase-in period. Both early learning and K-12 public costs include federal, state, and local contributions. Costs of the hybrid approach could be handled by modest adjustments to current public budgets and revenue sources. Adopting a free-ECE-for all approach would require a major social commitment and new revenue source.

The five-year (or longer) phase-in sequence would start by raising qualification standards for ECE teachers. Then a substantial number of current and new teachers would be trained to meet the new standards. At that point, compensation could be increased. As teacher costs rise, assistance to help families afford higher-quality early learning would be expanded. Policy specifications could be refined during this phase-in period in response to changing conditions and experience.

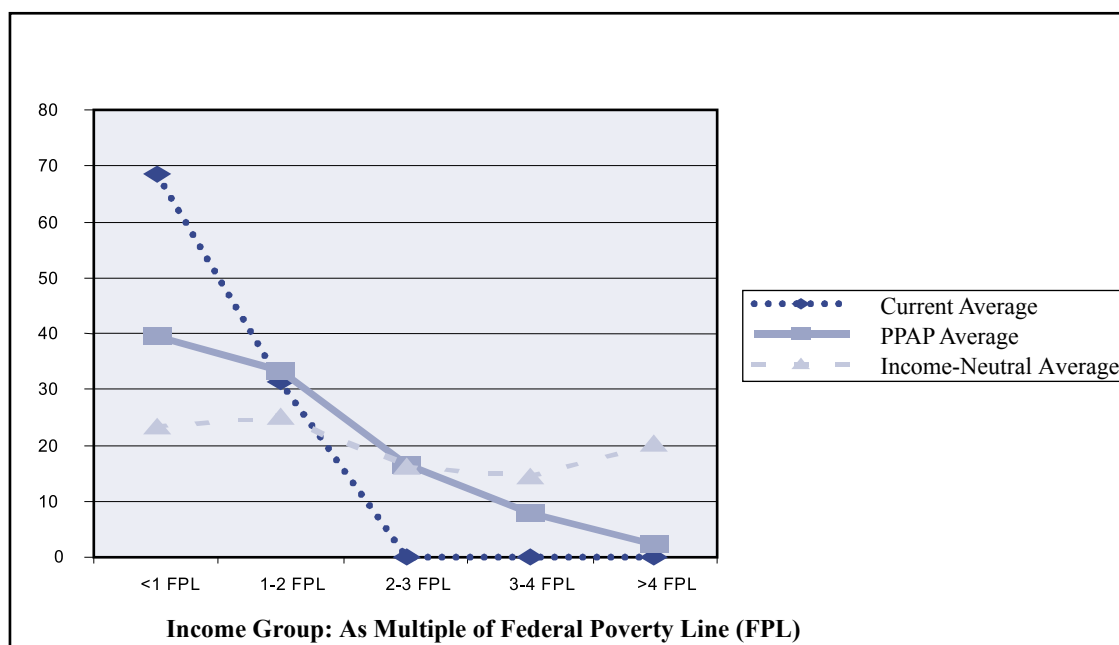
Affordability of High-Quality Early Learning for All Families

Just as we must consider whether a particular financing approach is affordable for a state budget, we must also determine if the financing policy enables *families at all income levels* to afford high-quality early learning. If middle-income families cannot afford quality improvements, providers will not be able to increase rates enough to pay higher salaries and reduce child-to-adult ratios. As part of our iterative process, we estimated the impact of each policy option on affordability for families. When a state team set relatively high staff compensation levels, subsidy eligibility had to be extended to more of the population to prevent middle-income families from being priced out of the market. We found that by carefully balancing provider cost policies and subsidy levels, all the partner states came up with solutions that met the family affordability criterion. If maximum income eligibility was set to cover about two thirds of all children, the cost of high-quality early learning would total about 4 to 5 percent of family income for each child – the top end of the affordable range for a family with two children in care. By extending coverage to 75 to 85 percent of children, states would be able to keep the cost of high-quality early learning down to about 1.5 to 3 percent of income per child for all income groups. Thus, extending coverage for income related benefits reduces costs for most families.

Targeting Funds to the Most Vulnerable Children

We found that extending income-related subsidy eligibility to upper-middle-income families could significantly benefit moderate- and middle-income families. We now consider specifically what share of total benefits would be shifted away from the most vulnerable, low-income children by increasing eligibility limits to assure middle-income affordability. Figure 7 compares three approaches.⁶ The broken line depicts an income-neutral approach, such as “Free ECE for All,” where each income group receives a share of benefits roughly equal to its share of the population. The dotted line depicts the current system, where virtually all benefits go to the lowest two income groups. The bold line depicts the average distribution of benefits under the partially income-related PPAP approach recommended by the four state teams (they did not differ substantially with respect to income distribution). The PPAP approach keeps almost three fourths (73%) of total subsidy funding targeted to the 49 percent of children in the two lowest income groups, allocates about 25 percent to the 31 percent of children in the middle- and upper-middle income groups, and gives only 2 percent to the 21 percent of children in the highest income group. Remember that these are shares of a total benefit level that greatly surpasses the status quo. Therefore, while the *percent* of total benefits going to the lowest two income groups is less than the current baseline, the *total amount* low-income families receive would increase substantially.

Figure 7: Percent of Total Benefits for Each Income Group



Conclusions

Achieving access to a high-quality ECE system will require significant increases in hourly costs to assure that teachers are qualified and adequately compensated. Paying the full cost of high-quality early care and education, plus investments in quality promotion and assurance, would drive costs beyond what middle-income parents can afford without some form of financial assistance. We can solve this problem by simultaneously phasing in quality improvements and changes in the distribution of benefits. Our policy simulation approach enables state teams to test different policy choices to achieve the best balance among the relevant variables: one size does not fit all.

⁶ We have excluded the costs of the federal Child and Dependent Care Tax Credit (CDCTC) from the current distribution of benefits. This is because (1) none of the state teams included a tax credit in the policies being considered, (2) states cannot change the federal tax credit, and (3) it is not clear economically whether the CDCTC functions as a child care subsidy or an income supplement.

The four state teams that we worked with chose different mixes of financing policies that combined subsidies to providers with income-related vouchers to help parents afford the costs of improved quality. Depending on the levels of income eligibility specified by the state, between 65 and 90 percent of families would be eligible for at least partial assistance. This approach improves quality, preserves parental choice, meets the needs of low- and middle-income families, and ensures coverage of children who are most vulnerable – all while moderating total budget costs.

This project demonstrates that states can design voluntary, partially subsidized, early learning systems that provide high quality at prices parents can afford. And the impacts on state and local budgets would be a small fraction of what is currently spent on K-12 education.

States will consider many tradeoffs when crafting policy for universal access, and the choices they make can result in higher or lower levels of budgetary cost. Striving to harmonize ECE policies yields a financing approach that allows universal access at modest costs, something that would not be possible with “Free ECE for All.” Following the lead of public financing for elementary and secondary education, state and local jurisdictions could share non-federal costs, giving citizens a sense of local control and investment in the system.

We have discovered that this process allows considerable room for experimentation, with wide-ranging cost implications. Because the relevant parameters in each state can differ substantially, we conclude that it makes more sense to proceed with a state-by-state approach, with federal financial participation, than to impose standard uniform federal policies.

The major changes in ECE staff qualifications necessary to meet the high-quality guidelines (increasing BA-level certification from about a quarter to more than half of ECE staff) will require significant investments and adjustments in the higher education system. We have included the costs of higher education in our projections, but state policy makers will have to address the organizational changes required to upgrade 2.4 million paid ECE workers (Center for the Child Care Workforce & The Human Services Policy Center, 2002).

States found they could offer access to high-quality ECE for all young children at costs equal to between 6 and 20 percent of current K-12 expenditures. These costs could be shared by state and local entities.

Investments in quality promotion and assurance are necessary to assure that substantial increases in funding for subsidies actually lead to (1) improvements in ECE quality and (2) maintenance of public support for the system. These investments will comprise a modest share of costs. Embedding the costs of quality promotion and assurance in prices charged for service can assure that these costs keep pace with the growth of subsidies.

Working with our Policy Simulation Model, several state teams have designed policies that produce a harmonious balancing of objectives to make the benefits of early learning financially accessible to all young children.

Glossary

Affordability: The extent to which the price parents pay for early care and education is within a family's financial means. The unit of measurement is the net cost to parents, after assistance, as a percentage of net family income after taxes.

Budgetary Costs: The aggregate (or total) cost to the state (or other jurisdiction) of a given financing approach to early care and education. The total budgetary cost is primarily contingent on the total cost of care and the proportion of care that is publicly subsidized at each family income level.

CCDF Vouchers: The Child Care and Development Fund (CCDF) is a federal block grant program that distributes money to states to provide child care assistance to low-income families. States give the vouchers to eligible and participating parents to subsidize all or a portion of child care costs.

Co-payment: The portion of the total cost of Early Care and Education (ECE) paid by parents when that ECE is partially subsidized by state and/or federal governments. Co-payment amounts are set by states and typically vary by household income, increasing as family income increases. States vary greatly in the level of co-payments and in the relationship of co-payments to income.

ECE: Early care and education services for children age birth through 5. Does not include health and social services or transportation costs.

Hybrid System: A financing approach that includes two or more financing mechanisms, such as income-related assistance to parents and a fixed subsidy (does not vary by parent's income) paid directly to child care providers.

Income Levels: We set five income levels for our analysis, each containing roughly equal shares of the population nationally, although the percent of children in each group varies by state. We specified each income level as a multiple of the Federal Poverty Level (FPL), since the FPL takes into account family size as well as income.

- *Low Income:* Below 1 FPL (less than \$18,500 for a family of four). This is the income limit for federal Head Start.
- *Moderate Income:* 1-2 FPL (\$18,500 - \$37,000 for a family of four). Requires some assistance to meet the basic financial needs of supporting a family; eligible for many federal benefits, such as Medicaid for children, the Earned Income Tax Credit, and Free or Reduced-Price School Lunches.
- *Middle Income:* 2-3 FPL (\$37,000 - \$55,500 for a family of four). Centered on the national median family income. Able to meet the basic financial needs of a family without assistance, but not able to afford high-quality ECE without some assistance.
- *Upper-Middle Income:* 3-4 FPL (\$55,500 - \$74,000 for a family of four). Able to afford relatively high-quality ECE offered in the current market. May require some assistance to afford high-quality ECE if high compensation standards are established.
- *Upper Income:* Greater than 4 FPL (more than \$74,000 for a family of four). Able to afford high-quality ECE without assistance under most policy scenarios.

Income-Related Voucher: A financing mechanism that provides public funds (or a child care subsidy) directly to or on behalf of eligible parents to cover a specified portion of the total cost of ECE. The amount of assistance varies by parental income. Vouchers may be used for ECE offered by any type of provider as specified by the state: center-type; formal family child care; family, friend or neighbor care; or stipends to parents to care for their own children.

Policy Specifications: The set of policy choices concerning high-quality early care and education and public financing. Includes policies affecting (1) the costs to providers of high-quality ECE, (2) quality promotion and assurance, and (3) assistance to parents and providers.

Provider: An organization engaged in offering child care services to the public (licensed or not, for-profit or not-for-profit). May consist of a single individual (proprietor) and/or other staff.

Subsidy: Payment to a family, or to a provider on behalf of a family, to offset some or all of the cost of ECE. The source of the funding may be federal, state, or local government; employers; or charitable institutions.

75th Percentile Market Rate: Based on a market survey of child care center costs, the 75th percentile market rate reflects the child care cost at which only 25 percent of providers charge more. The CCDF regulations recommend that states set child care reimbursement rates at the 75th percentile of the market so that low-income families can access the same high-quality ECE experienced by children from more affluent families. However, states vary considerably in the extent to which they comply with this guideline.

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