Use of Cost and Financing Studies for Early Childhood Care and Education:

Designing a System That Meets Families' Needs, Is Fair to the Workforce, and Is Fiscally Feasible

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Introduction

As of 2023, 69 percent of U.S. children from birth to age six had all residential parents in the labor market (The Annie E. Casey Foundation, 2024). The reality that most parents need to work to meet their families' basic needs even when their children are young underscores the importance of having an early childhood care and education (ECCE) system[2] that would achieve three key objectives: (a) provide families with young children access to high-quality care and early learning environments that are safe, promote children's early development and learning, meet parent's need for care (e.g., location and hours), and that families could afford; (b) fully reimburse providers for the true cost of high-quality ECCE, including competitive compensation for the workforce given their qualifications; and (c) have sufficient funding through parent contributions and public sector subsidies to fully fund the demand for ECCE (National Academies of Sciences, Engineering, and Medicine [NASEM], 2018). These system-level objectives are not new, and they remain unfulfilled (see the text box). Similar goals characterized the system of publicly-subsidized child care centers operating during World War II under the Lantham Act so that women with young children could be employed in support of the war effort (Ferrie, Goldin, & Olivetti, 2025) and in the expansion of child care subsidies starting in the 1970s so that low-income women with young children receiving cash assistance through Aid to Families with Dependent Children (AFDC, and later Temporary Assistance for Needy Families [TANF]) could achieve self-sufficiency through work, net of the cost of child care (Grogger & Karoly, 2005).

[1] The authors wish to thank Kathryn Tout at Child Trends for her role in guiding the development of this brief and providing feedback at key stages.

[2] For the purposes of this brief, we define ECCE as care and early learning programs for children from birth to kindergarten entry, i.e., programs that serve infants, toddlers, and preschoolers. The system perspective and analytic methods could be expanded to include school-age care, as well.

Illustrative indicators of the challenges in the current ECCE system

- As of 2025, 74 percent of families with children under age 6 looking for care reported having difficulty finding a spot in a center- or home-based progam (RAPID Survey, 2025).
- As of May 2025, national data from the Bureau of Labor Statistics showed the median hourly wage was $16.82 for child care workers, reaching as low as $10.60 in Mississippi and as high as $22.76 in Washington, D.C. Nearly half of families with a child care worker relied on food stamps, Medicaid, and other public benefits (McLean et al., 2024).
- Despite efforts to increase funding for Head Start, which provides ECCE for three- to five-year-olds living in poverty, the program remains underfunded, reaching less than half of the children who are eligible to be served (First Five Years Fund, 2024).
- Reimbursement rates for ECCE providers who serve children that qualify for subsidized care are often lower than the true cost of high-quality care (Capito and Workman, 2021).

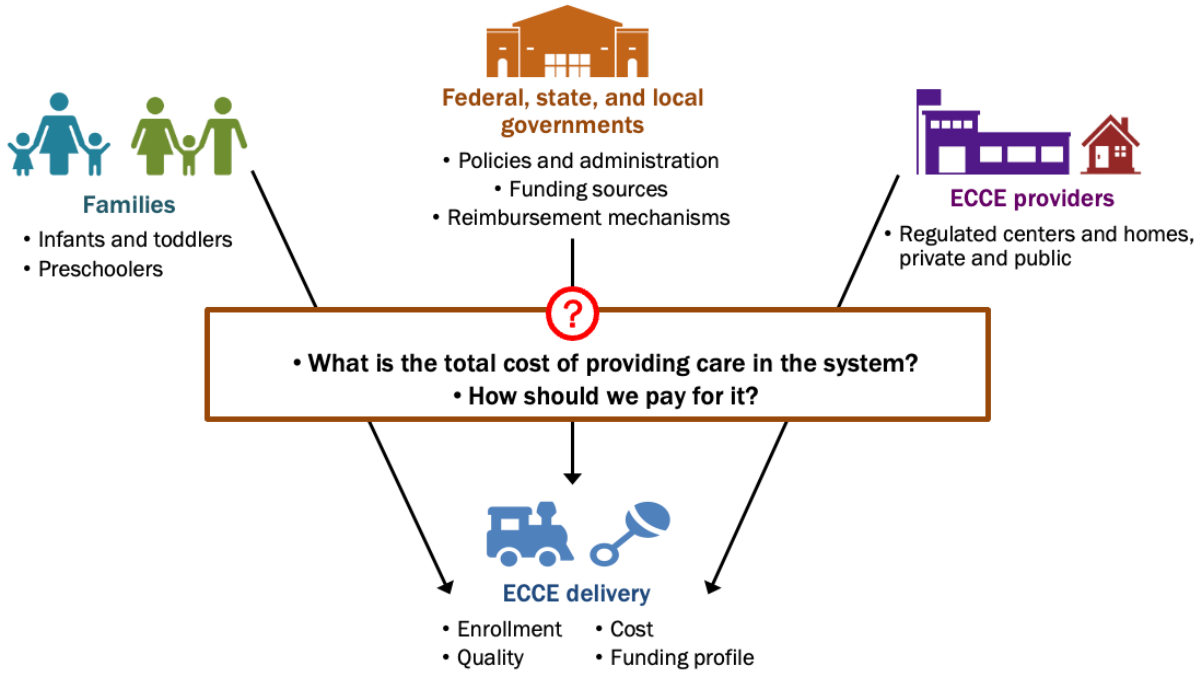
Need for a System Approach

Delivering on these broad goals—ECCE that is high-quality, affordable, and meets families' need for care; a sufficient supply of high-quality providers who provide competitive compensation for their workforce and who are reimbursed for the true cost of the care they provide; and a portfolio of funding that can cover the total system costs—would ideally be achieved by formulating a system-level approach. As illustrated in Figure 1, the ECCE system has both a demand and supply side of the market. The demand side is comprised of families who determine their need for care given the number and ages of their children, their financial circumstances, and their work/school schedules (upper left of the figure), while the supply side consists of ECCE providers in the form of regulated (e.g., licensed) centers and family child care homes (FCCHs) operating privately or as public sector entities (upper right in the figure).[3] The system also contains a group of other stakeholders (middle of the figure) including federal, state, and local governments which set policies and govern the system, provide funding, and administer other system components such as reimbursement mechanisms. The end result of the system is the provision of ECCE (bottom of the figure) which can be characterized by the number of children served, the quality of the care received, the true cost of providing the care (including competitive workforce compensation), and the portfolio of private and public funding streams that cover the true costs. As illustrated, Figure 1 is intended to provide a high-level view of the ECCE system and the stakeholders involved, and as such, does not list all possible components of the system or potential stakeholders involved.[4]

[3] For purposes of this brief, we define the supply side of the ECCE market in terms of licensed (regulated) providers and thus do not include license-exempt providers such as family, friend, and neighbor care. A broader conceptualization of the ECCE system in Figure 1 could incorporate informal care providers as part of the supply side.

[4] For example, education and training institutions that support the ECCE workforce could be included as another stakeholder which has costs associated with their education and training function. Resource and referral agencies which help match ECCE providers on the supply side with families needing care on the demand side are another stakeholder in the system whose costs need to be covered. In the method we discuss in this brief, these stakeholders are incorporated through system-level costs.

Figure 1. System Perspective for Cost and Financing of ECCE



Source: Authors' analysis.

From the system perspective, it is important to recognize that all objectives would ideally be addressed in concert. For example, if the goal is to ensure that the ECCE workforce is well-supported and well-compensated but no additional funding is provided for the system, the result is likely to be higher costs paid by families, many of whom cannot afford to pay more. Alternatively, families might forgo the use of care, if that is an option, or providers might have to lower their costs in other ways that could lead to lower quality. If the goal is to ensure that all low-income families eligible for subsidies can receive them, but no additional subsidy funds are added to the system, the amount of subsidies available to families will decline on a per-family basis, leading to reimbursement rates that are too low to cover the cost of quality services and effectively restrict the supply of high-quality care. Thus, it is important for policymakers and other system stakeholders to have the information needed to understand the system as a whole. Rather than focusing on one component or another at a time, —family demand and affordability, provider supply and financial sustainability, workforce supply and compensation, subsidy eligibility and provider reimbursement rates—the key is to address multiple components simultaneously using a system framework.

A system framework requires addressing two fundamental system-level questions: How much does **it** cost and how should society—both private and public sectors—pay for it. The "**it**" in both cases is a system of high-quality ECCE that:

- is affordable and accessible for families across the income ladder
- is feasible for providers to deliver while covering the true cost of care, including competitive compensation in the form of wages and benefits for the workforce
- has adequate funding from the private sector (i.e., families) and public sector (i.e., taxpayers through the government) to cover the total system cost of care.

The goal in this brief is to describe a methodology for answering the two key questions—cost and financing—and to illustrate the methodology through several studies that have taken this approach. In doing so, we aim to show the assumptions needed for such a study, the challenges in applying the methodology, how the approach has been used in practice to shape evidence-based policy, and future directions for strengthening the approach to achieve even more refined and rigorous results.

Potential Role of ECCE Cost and Financing in ECCE Policymaking

With the recognition of the substantial cost to deliver high-quality ECCE, there has been a growing demand for ECCE cost study or cost modeling to inform federal, state, and local decision-making about the allocation of public sector funding to subsidize the cost of ECCE, whether on a targeted or universal basis.[5] The need for ECCE cost analyses is also a priority, as states are now required by the Office of Child Care (OCC) to account for ECCE cost when setting subsidy reimbursement rates under the Child Care and Development Fund (CCDF). These cost studies typically estimate the cost of care from the provider's perspective, with cost per provider, per child, or per child hour allowed to vary by child age, provider setting (e.g., school, center, Head Start, family child care home - FCCH), or other factors (e.g., provider quality level), based on the cost model assumptions. The provider's revenue profile may also be captured in the model.

According to a compilation by Prenatal to Five Fiscal Strategies (2025a), over 30 states have one or more published ECCE cost studies that have estimated the per-child cost of care in different care settings. The growth in cost studies has been facilitated by the availability of comprehensive publicly available cost models such as the Provider Cost of Quality Calculator (PCQC; Office of Child Care and Office of Head Start) and the 50-State Child Care Cost Model (Prenatal to Five Fiscal Strategies, 2025b). In support of these analyses, an array of documents provides valuable guidance for state administrators and other policymakers in the conduct and use of such cost studies.[6]

Other recent studies have gone beyond estimating the direct (provider-level) cost of care (to inform rate setting under CCDF or for other objectives) to assess the cost of the ECCE system at an aggregate level, and to further consider options for financing the ECCE system. We refer to these extended studies as ECCE cost and financing studies. These efforts generally have an ECCE provider-level cost analysis as the foundation, combined with up to four additional analyses (or in some cases a subset of these analyses):

Analysis A. **Per Child Cost of ECCE**. Estimating the per child cost by child age to deliver high-quality ECCE for children from birth to kindergarten entry in specified settings (e.g., public schools, licensed centers, licensed family child care homes), assuming high-quality ECCE program features delivered by a well-qualified and well-compensated workforce.

Analysis B. **Per Family Demand for ECCE**. Estimating the demand for ECCE on the part of families with children from birth to kindergarten entry. This may be a static estimate based on current patterns of ECCE use or it may be a dynamic estimate that accounts for the increased subsidies families are assumed to receive and thus their expected increase in ECCE use (NASEM, 2018).

Analysis C. **Total System-Level Cost of ECCE**. Estimating the total cost of care for a jurisdiction (e.g., the United States as a whole or a specific state or local jurisdiction), accounting for the direct cost

[5] A cost model may also be referred to as a cost and revenue model or fiscal study (see Prenatal to Five Fiscal Strategies, undated).
[6] Guidance documents regarding ECCE cost studies include Aigner-Treworgy et al. (2022), Capito & Workman (2021), Coffey (2023), Caronongan et al. (2022), Gonzalez et al. (2022), Isaacs et al. (2022), National Center on Subsidy Innovation and Accountability (2023), Workman & Capito (2021), and Workman & Jessen-Howard (2019).

of ECCE provision in a given setting and the system-level cost for administering ECCE, including costs of workforce education and professional development, quality assurance, subsidy administration, data collection and assessment, and other system-level components.

Analysis D. **Total Expected Sources to Pay for ECCE and Funding Gap**. Computing the expected contribution from each of the following sources based on the analysis assumptions:

1. **Family contribution**. At one extreme, the analysis may assume that there is no family contribution and that all ECCE is fully subsidized by the public sector. Alternatively, there may be a sliding scale family contribution, such that families with lower incomes pay a smaller absolute amount or share of their income toward ECCE. At the other extreme, there may be no public subsidies for ECCE and families pay the full cost of the ECCE that they use. Analyses may use the current system for determining the family contribution or assume an alternative schedule of family contributions that may be more or less generous than the status quo.
2. **Total public sector funds currently available to pay for ECCE**. Estimating the combination of federal, state, and local public revenue sources that are already in the ECCE system to cover the aggregate direct and system-level costs of ECCE.
3. **Other potential private sources of revenue**. Assumptions regarding other potential private sources of revenue to cover the cost of ECCE (e.g., through employers or philanthropy).
4. **Residual gap to cover with additional public funds**. Computing the total residual public sector funding that would be needed to fully cover the total cost of the ECCE system (the sum of D1, D2, and D3 less C).

Analysis E. **Potential New Revenue Sources and Their Impacts**. Identifying the feasible sources of new revenues or reallocation of existing revenues and the fiscal and economic consequences of using a given source of revenue or a combination of revenue sources to fill the funding gap.

For example, the National Academies of Sciences, Engineering, and Medicine (NASEM) published a consensus report in 2018 that estimated the cost, at the national level, for the delivery of high-quality ECCE with a well-compensated workforce in center and home settings, both direct care cost and system-level cost. The study concluded that the total system cost for ECCE for the United States would reach $140 billion annually in 2018 dollars. Accounting for a sliding-scale family contribution and the funds already in the system, the study estimated that an additional $53 billion would be needed annually to fully fund the system. Although the study discussed factors to consider for filling that funding gap, it did not conduct the final analysis (Analysis E) and recommend specific funding streams nor did the study calculate the fiscal and economic impacts of any given funding source or combination of sources.

More recently, Karoly, Strong, and Doss (2023) conducted a full ECCE cost and financing analysis, covering all five analyses, for the state of Vermont, estimating a funding gap of $179 million to $279 million per year depending on the generosity of the subsidies available to families to cover the cost of ECCE. The study demonstrated how that funding gap could be covered by a new payroll tax, an increase in the state sales tax, or an extension of the state sales tax to cover a set of services not currently taxed. A combination of revenue sources was also considered. Other recent ECCE cost and fiscal studies have been conducted for New Mexico (Capito, Rodriguez-Duggan, et al., 2021) and Chicago (Hawley & Ritter, 2018), among other jurisdictions. These cost and financing studies have informed policies that more fully fund a high-quality ECCE system so that ECCE is more affordable for families across the income spectrum, the workforce receives competitive compensation given their qualifications, and the system is fully funded.

Purpose of This Brief

With this background in mind, the goal of this brief is to assist policymakers at the federal, state, and local levels in understanding

- how an ECCE cost and financing study is conducted, including the key policy parameters to establish
- how a study can inform policymaking regarding (1) the structure of subsidies to support family affordability; (2) the potential sources of revenue to tap; and (3) the expected fiscal and economic impacts. Those impacts can include the effects on the size of the economy, labor force participation by parents with young children, and any adverse distributional consequences from the required taxes or tax expenditures.[7]

We start in the next section with an overview of the anatomy of an ECCE cost and financing study, demonstrating the analyses involved, key assumptions, and information required, and concluding with an assessment of key challenges. To make these studies even more concrete, we then review nine recent ECCE cost and financing studies conducted for jurisdictions at the federal, state, and local levels. This review serves to illustrate the variation across recent studies in their motivation, execution, and impact. The brief concludes with a discussion of how to further advance the use and usefulness of these studies.

Anatomy of an ECCE Cost and Financing Study

An ECCE cost and financing study involves several analyses, starting with a provider-level cost of ECCE analysis, followed by additional analyses that eventually aggregate the perspectives of families, ECCE providers, the ECCE workforce, and the government (i.e., taxpayers) and other system stakeholders. In this section, we first review the five key analyses, addressing the objective at that stage, data and model requirements, key assumptions, the resulting output, and notable challenges and cautions. We conclude this section with a discussion about additional considerations beyond the core analytic approach.

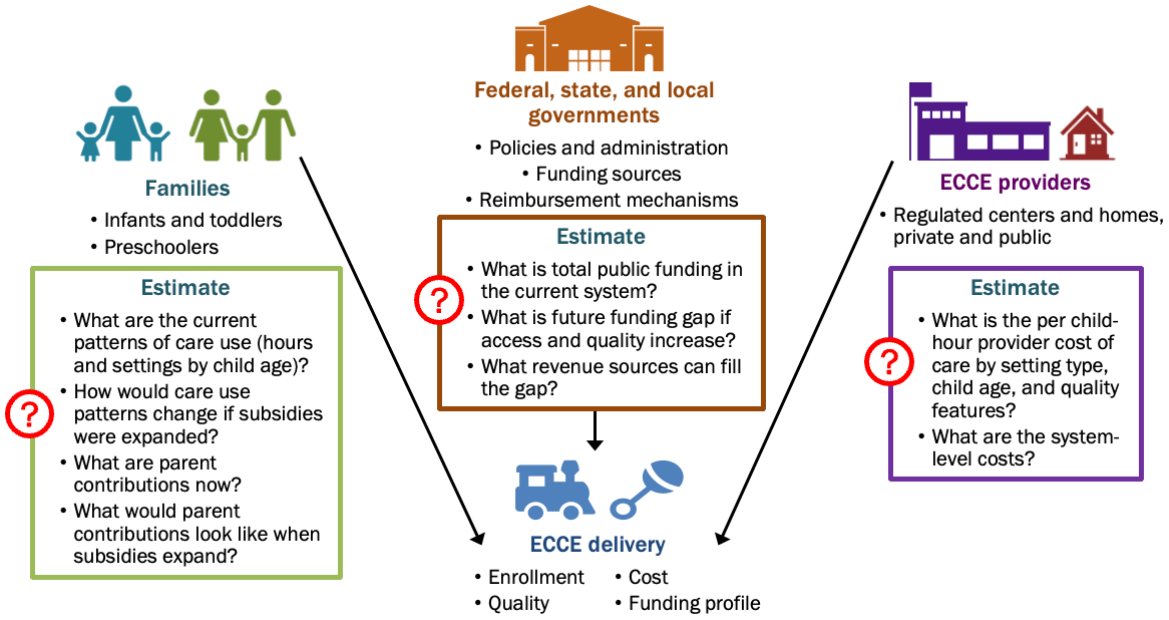
Overview of Method Analyses

Building from the system framework depicted in Figure 1, Figure 2 highlights the key analyses for an ECCE cost and financing study that pertain to families with young children, ECCE providers, and the public sector. The estimation requirements are addressed across Analyses A through E described below. A key starting point for a study is to specify the following features of the ECCE system that will be modeled by the analyses:

- **Jurisdiction**. What is the specific geographic area - the country as a whole, a state, a county, or some other local entity? Any exclusions, such as tribal communities, should be delineated.
- **Age groups**. What age groups is the study designed to cover? Typically, the focus is children from birth to kindergarten entry, often disaggregated as infants, toddlers, and preschoolers. But a study could be extended to include school-age child care as well, or to focus only on school-age care. The age cutoffs that define the age groups of interest should also be specified. How age groups are defined in the jurisdiction's licensing system or quality rating system is often used for consistency.

[7] Although our primary focus in the brief will be cost and financing studies for ECCE, we will reference how this approach can be used to also consider cost and financing for school-age care.

Figure 2. Questions to Address for a Comprehensive ECCE Cost and Financing Study



Source: Authors' analysis.

- **Provider types**. Which types of ECCE will be included in the study? The specific provider settings may vary from study to study depending upon the objective of the analysis. Many studies focus on the licensed or regulated side of the ECCE market, while others may elect to include both licensed and license-exempt settings. Similarly, studies may differ in the extent to which they include school-based ECCE and special education services.
- **Quality features**. The cost and financing study may assume one level of quality labeled as "high-quality" or the system may assume a distribution of quality across providers. Each level of quality needs to be defined; again, the jurisdiction's current or planned quality rating system or any system that distinguishes levels of quality may be assumed. Relevant features that are important cost drivers include assumptions about the group size and staff-child ratio for each child age group, education and training requirements for staff, the staff compensation scale in terms of cash and fringe benefits, and inclusion of comprehensive services such as parent engagement and support.
- **System infrastructure**. What system-level components are at play? Along with the assumed features of the providers, it is also important to specify the nature of the system-level infrastructure. These may be components associated with basic administration of the ECCE system (e.g., provider licensing, a network of resource and referral agencies, data systems for tracking inputs and outputs) to features that support a high-quality system (e.g., provider quality assessment, quality improvement grants for providers, workforce professional development supports). When estimating these system-level costs as part of Analysis C, some studies will include a percentage of the direct service cost as an estimate to cover this component, while others will directly estimate the costs of each system infrastructure component.

Once those features are specified, the analytic components can proceed.

Analysis A: Estimate the Provider-Level per Child Cost of ECCE

Objective of this Stage: The aim is to estimate the per child provider-level cost of care (see Figure 2, far right box). This is effectively an ECCE cost study.

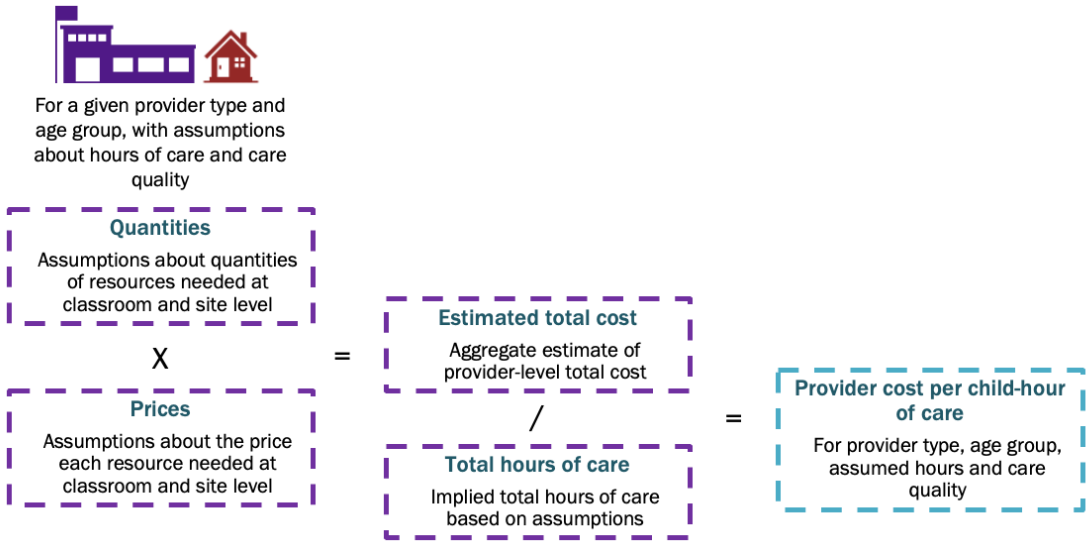
Data and Model Required: Requires inputs into a cost model based on the provider-level types of resources (e.g. classroom, administrative, and support staffing; facilities; services; supplies) required to deliver ECCE, the quantity of each resource, and the price of each resource. The cost model would then estimate the unit cost of care given the jurisdiction, age group, provider type, and quality features.

Additional Assumptions:

- The cost model may also require assumptions about the scale of each provider type (to capture any economies of scale), the annual hours of operation, and any other features that have implications for per child cost.
- The per child cost may also be allowed to vary based on the characteristics of the children being served, such as children with disabilities or English Language learners.

Output of this Stage: The unit for child-level cost estimation will be computed such as cost per child hour, cost per child week, or cost per child month (see Figure 3).

Figure 3. Estimating the Per Child-Hour Cost of ECCE at the Provider Level



Source: Authors' analysis

Notes. Boxes with dashed borders are based on assumptions or estimates.

Challenges and Cautions:

- A system that is operating at full scale will not have every classroom or FCCH fully enrolled. Like public schools, there will be variation year to year (or within a year) in the number of children enrolled and there needs to be some slack in the system to ensure ECCE services are available when families and their children need them. This is usually accounted for in a cost model by assuming a vacancy rate (or enrollment rate).
- It is well established through the collection of provider-level cost data for ECCE cost studies that the cost of ECCE is not uniform across providers in a given jurisdiction (Karoly & Walsh, 2020; Karoly et al., 2024; Capito, Fallin Kenyon, et al., 2022; Kirby, Caronongan, et al., 2022). At this stage, at least some of this variation may be accounted for by allowing unit cost to vary with other provider features, such as whether they are in a more urban versus more rural location and the associated variation in per unit costs to deliver ECCE (e.g., classroom

staff salaries). Ultimately, however, the cost model is intended to capture the average cost for a provider with the assumed characteristics in the jurisdiction. The key is to capture variation across important cost drivers that would be ideally captured in the cost model.

Analysis B: Per Family Demand for ECCE

Objective of this Stage: The aim is to estimate the aggregate demand for ECCE in terms of hours of care a family is expected to use based on child age and care setting (see Figure 2, far left box). Demand may be based on current patterns of ECCE use (referred to as a static estimate in the NASEM, 2018, study). Or the projected use of ECCE may be forecast (a dynamic estimate) based on expected changes in family demand (hours of care and care setting) as the cost of care changes for families.

Data and Model Required: A static estimate requires data on the current patterns of ECCE in the jurisdiction, ideally based on family-level data measuring hours of care use (e.g., the National Survey of Early Care and Education [NSECE]). A dynamic estimate would be based on research literature that documents how family ECCE use varies with the price of care (referred to as elasticity estimates). For example, economic theory predicts, and empirical estimates generally agree, that families will demand more ECCE as the price they face declines, such as through more generous subsidies (see the review in Karoly et al., 2023). There is also evidence that families shift to more formal sources of care as the cost they face for care declines (NASEM, 2018).

Key Assumptions:

- **Will ECCE be subsidized regardless of parents' work status or schedule?** For example, families qualify for Head Start based on their income but there is no requirement that the parent(s) are employed or looking for work. Subsidy funding through TANF or state CCDF child care subsidy programs typically requires that families have a need for care based on being employed, looking for work, or in school. If subsidy eligibility is not tied to a work requirement, we would expect higher take-up of the subsidy.
- **Will there be enhanced, comprehensive services for children in low-income families and/or children with disabilities?** This assumption is tied to Analysis A the estimation of per child cost. If the cost of ECCE is assumed to vary by child disability status or some other characteristic, assumptions about the size of that population need to be factored into the estimate of aggregate demand.
- Another potential variation in demand is whether a family needs care during nonstandard hours such as evenings, weekends, or overnight. Estimating the demand for families needing ECCE during nonstandard hours may be challenging given data limitations, i.e., knowing the size of that population and their aggregate care needs and preferences.

Output of this Stage: Estimation at this stage will produce an aggregate (jurisdiction-wide) estimate of the number of hours demanded by child age and ECCE setting type. The aggregate figure comes from estimating the number of children in the age group in the jurisdiction by the number of hours demanded. The estimate may be based on further disaggregation of the population of children by other characteristics of the children and their families such as family income, the adult and child composition of the family, parental employment status, and other factors that are known to affect demand for ECCE.

Challenges and Cautions:

- There is a need to account for the fact that children are born every day but only become eligible for kindergarten entry once they are aged five by a certain date (e.g., September 1). Thus, aggregate estimates of demand (and later cost) on an annual basis require consideration of the number of cohorts of children in any given year needing ECCE before they enter kindergarten. In effect, ECCE in any given year is needed for 5½

annual birth cohorts, not just 5 cohorts. In addition, birth rates can fluctuate, often significantly, impacting the demand for ECCE when projecting costs over a period of years. Reviewing historical birth rate data for the specific jurisdiction can inform estimated eligible populations in future years.

- There is limited information on ECCE care use for statistically representative samples by child age and other factors. This issue is particularly salient when the estimates are intended for a demographically small jurisdiction. For example, estimates from a nationally representative data set such as the NSECE may be more reliable for New York City compared with a small state such as Delaware. Thus, in a national survey, it is the sample size of the population in the jurisdiction of interest that matters more than the size of the geographic area. Sometimes it is possible to pool data across survey years to increase the sample available for estimates and thereby produce more robust figures for the analysis.
- As noted earlier, elasticities of demand for ECCE (i.e., how demand for ECCE changes as the price changes) are mostly based on estimates using data from earlier cohorts of young children which may not represent current patterns of demand. Further, the available estimates do not necessarily support inferences about how elasticities may vary with family circumstances, the state of the economy, and other policies in place related to care choice (e.g., family leave policy). Thus, it is important to consider sensitivity analyses to the assumptions regarding elasticities if generating dynamic estimates of ECCE demand. For example, the average estimated elasticity from prior studies could be used in a baseline analysis, but lower and higher estimates from prior studies could be used to see how much the dynamic estimates of ECCE demand vary depending on the assumed elasticity.

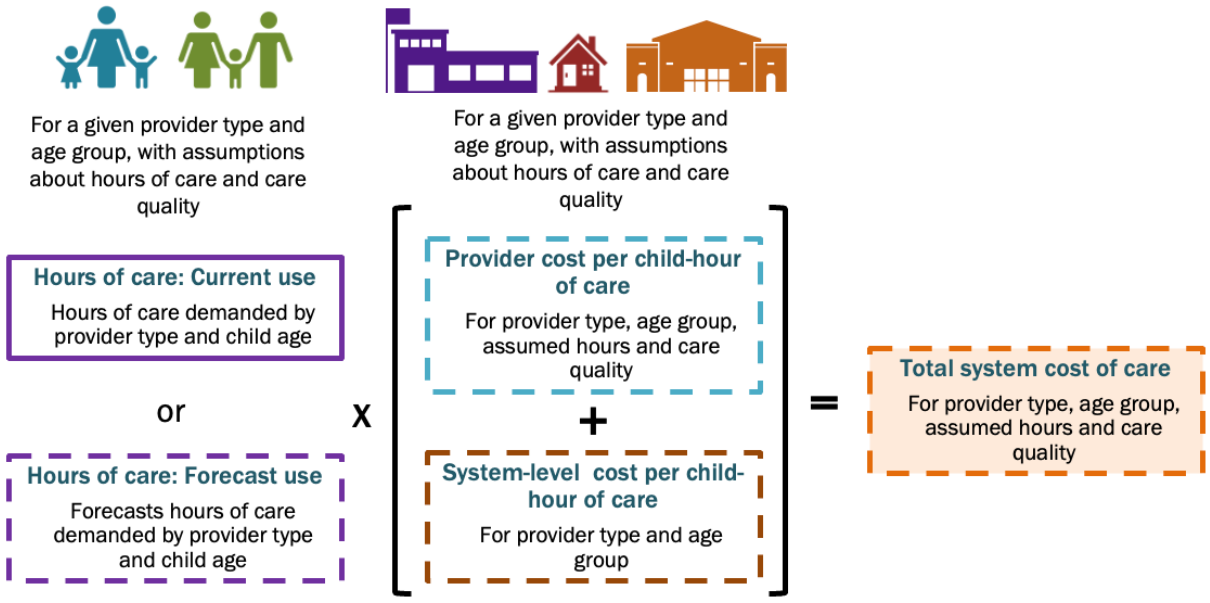
Analysis C: Total System-Level Cost of ECCE

Objective of this Stage: The aim is to estimate the full cost of the ECCE system when operating at the assumed level of quality and accessibility (see Figure 4). The cost should capture both direct costs from provider delivery of ECCE and the system-wide (indirect) costs for other supports.

Data and Model Required: The results of this analysis integrate estimates from Analyses A and B. From the provider side of the ECCE system (far right side of Figure 4), we have the estimates of the cost per hour of care incurred by providers based on assumptions about ECCE features. From the family side of the ECCE system (far left of Figure 4), we have static estimates of the demand for care measured in hours by child age group and provider type, as well as any other subgroups incorporated in Analysis A (e.g., children with special needs).[8] The dynamic estimates would apply the elasticities of demand to the status quo indicators based on expected changes in the price of care families would face given the assumed changes in the subsidy policy.[9] Multiplying the hours estimates by the cost per hour estimates for any given child age, setting types, and other child characteristics provides an estimate of the total direct cost of care (provider costs) in the jurisdiction. A final analysis is to estimate the system-level cost of ECCE (lower middle of Figure 4) for necessary administration of the system (e.g., provider licensing and quality assessment) and data and any other infrastructure components of the system (e.g., resource and referral agencies, workforce development, or quality improvement). That calculation is a per child hour add-on to the direct cost of care, either by assuming a given percentage increment to the direct cost or by estimating the total system-level cost in dollars and dividing that aggregate cost estimate by the annual child hours of care from Analysis B.

[8] As noted earlier, these static results would be based on the estimates of status quo demand as measured in nationally representative surveys such as the NSECE or other data on care use patterns for the relevant jurisdiction. When the preferred level of disaggregation is not available, the limitations should be noted and how the model estimates would be affected.
[9] We noted in the prior section that elasticity estimates may be limited, but the literature includes estimates based on some provider and family characteristics such provider type and child age (see Karoly, Strong, and Doss, 2023). Again, sensitivity analyses may be used to compare across assumed elasticities.

Figure 4. Estimating the Total System Cost of ECCE



Source: Authors' analysis.
Notes. Boxes with dashed borders are based on assumptions or estimates.

Key Assumptions:

- The system-level cost under the status quo or under a future system with higher system-level investments in infrastructure and other supports is typically not well known. Necessary infrastructure investments, such as workforce development and state administrative costs, are not readily tracked or reported. Some studies have explicitly collected data about these system-level resources (see Mitchell et al., 2017 and Karoly, Cannon, et al., 2021). These studies reveal what supports are covered at the system level; how intensively those supports are implemented can vary considerably by jurisdiction. One approach is to itemize the system-level costs and to generate an estimate of each element for the jurisdiction being analyzed. An alternative approach has been to assume that such costs represent a share of the direct provider-level costs, such as eight percent or 10 percent, which can be thought of as a type of overhead rate to operate the system (NASEM, 2018; Karoly et al., 2023).

Output of this Stage: The final result is an estimate of the aggregate cost of ECCE for the jurisdiction (Figure 4, box on the far right).

Challenges and Cautions:

- Systems-level costs can vary considerably depending on the level of support offered and the share of the ECCE system covered by the analysis. For example, if the ECCE study is estimating the cost of universal access to ECCE, the system needs (a) a mechanism to align demand with supply to ensure universal access is possible, (b) infrastructure to support the workforce necessary to deliver that supply, and (c) supports to ensure the supply meets and maintains quality standards. Given that most jurisdictions are not close to providing universal access to high-quality ECCE, simply increasing the investments allocated for the current infrastructure is likely to be insufficient. Rather, the analysis needs to incorporate new infrastructure elements, including potentially new governance structures, to support the system.

- Conversely, if the analysis assumes eligibility criteria related to parental work status or income level or requires a family contribution to the cost of care, the systems infrastructure needs to be sufficient to cover the cost of reviewing eligibility paperwork and making determinations or redeterminations, calculating family contributions, and supporting the collection of expected fees from families.
- Many of the necessary infrastructure supports may not currently exist or may not exist at the scale required for the analysis. As a result, estimating costs in this analytic stage often requires looking outside the current ECCE system for cost estimates that can form the basis of an estimate for the ECCE system being modeled, as well as conducting exploratory interviews with key stakeholders to tease out the potential costs under the expanded system envisioned in the analysis. For example, the current ECCE system may not centralize professional development for the ECCE workforce (i.e., it is implemented at the provider level and providers bear the cost), whereas the system being modeled is assumed to elevate professional development as a system-level responsibility and cost.

Analysis D: Total Expected Sources to Pay for ECCE and Funding Gap

Objective of this Stage: The goal at this stage is to estimate the contribution from the stakeholders in the ECCE system to cover the total cost of ECCE estimated in Analysis C. On the private side of the system, this includes what parents are expected to contribute, which is based on the structure of any assumptions in the system under the status quo or under any assumed future subsidy structure (D1). On the public sector side of the system, this includes current sources of funding for ECCE at all levels of government (D2). Contributions from employers, philanthropy, or other private stakeholders can be accounted for as well (D3).

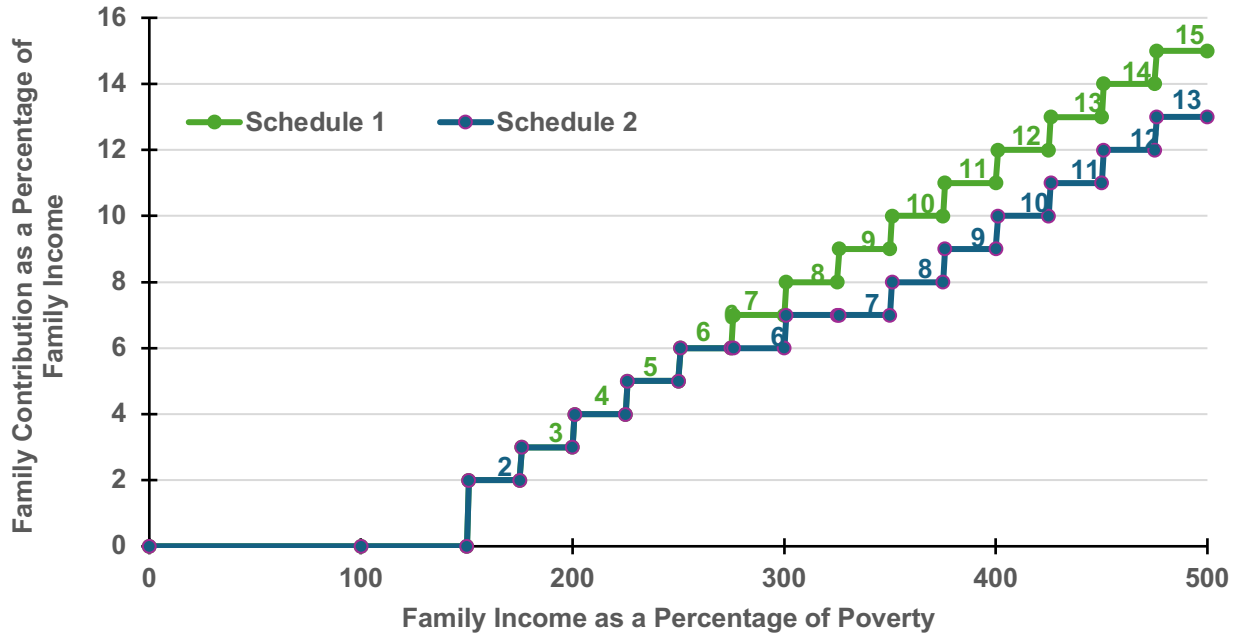
Data and Model Required: Each analytic step of D1 to D3 requires a different data source. The first analytic step is to estimate the contributions that families make, D1. This may be based on the status quo or on assumptions about a modified subsidy schedule (see the discussion that follows). D2 is based on collecting information from existing sources about public sector funds that already contribute to funding ECCE. Contributions from other public sources such as employers or philanthropy (D3) may also be based on current funding or assumptions about future contributions.

Key Assumptions:

- For D1, if a new family subsidy approach is being assessed, the structure of the subsidy schedule needs to be specified. For example, Figure 5 from Karoly et al. (2023) shows two illustrative sliding scale schedules for the maximum share of family income relative to poverty that families are assumed to contribute toward the cost of ECCE. Both Schedule 1 and Schedule 2 assume that families have 0 percent contribution (i.e., 100 percent subsidy) if their income is at or below 150 percent of the poverty line. After that income level, the maximum family contribution increases from two percent of family income to three percent and so on in incremental steps until family income reaches 2.5 times poverty. Beyond that income level, Schedule 1 assumes that the maximum family contribution is a slightly higher share of income at each income level. The higher the family contribution, the smaller the funding gap and the need for additional public funds. For D2, the approach assumes that existing public sector funds in the ECCE system are known or can be reliably estimated.

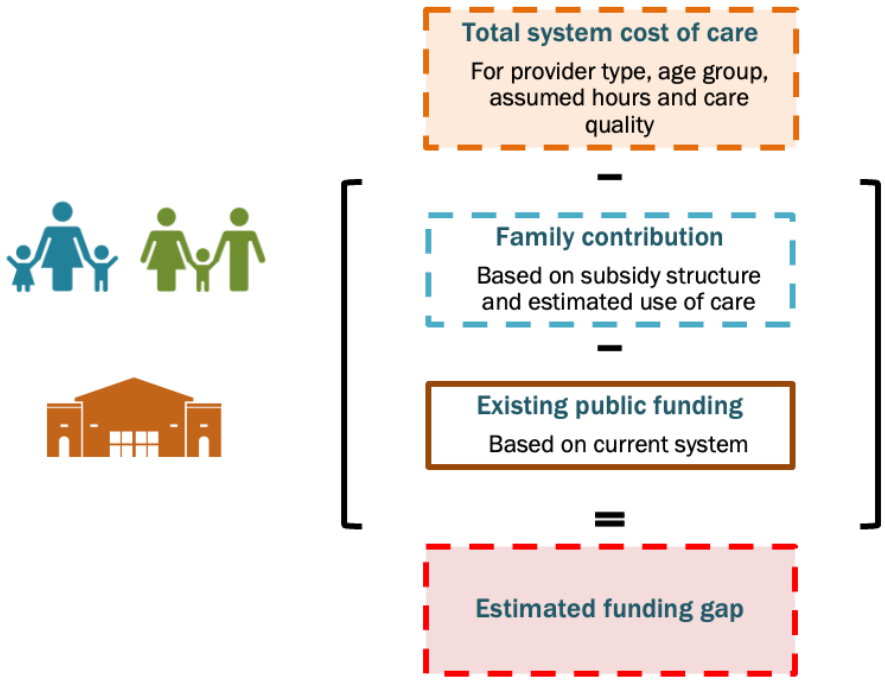
Output of this Stage: The estimated funding gap on an annual basis is the total annual system cost of ECCE (top box in Figure 6), less any known or assumed annual family contribution, less any annual current public sector funding (see bottom box of Figure 6).

Figure 5. Illustrative Maximum Family Contribution Toward the Cost of ECCE by Family Income as a Percentage of Poverty



Source: Karoly et al., (2023), Figure 3.2.

Figure 6. Estimating the Total Funding Gap for ECCE



Source: Authors' analysis.

Notes. Boxes with dashed borders are based on assumptions or estimates.

Challenges and Cautions:

- The subsidy schedule (D1) may apply at the child level (i.e., for each age-eligible child) or at the family level (i.e., the same amount or percent of income applies regardless of the number of children). This implies that estimating the family contribution under a given subsidy scheme requires information on family composition (number and ages of children), as well as family income.
- The family contribution schedule (D1) may vary for different types of ECCE provision. For example, a schedule such as those depicted in Figure 5 might apply for child care, but the jurisdiction might also operate a fully subsidized universal preschool program for four-year-olds. In this case, the different subsidy schedules would be applied to the estimated hours of demand for care outside of the universal preschool program separate from the hours assumed for the four-year-olds in preschool.
- Estimation of the current ECCE funding in the system (D2) is generally straightforward for major public sector sources such as Head Start, CCDF, or state-funded pre-K. Local contributions for ECCE, especially contributions by school districts for ECCE, may not be centrally collected and therefore harder to estimate (Hawley et al., 2024). Thus, existing local funds may be underestimated.
- Some current subsidies cover a broader population than the focus of the study. For example, CCDF funds subsidize children from birth through age 12. However, a study focused on children before kindergarten entry needs to estimate the portion of CCDF funds that apply to that younger population. In some jurisdictions, the division of CCDF funding by age group is not readily available, which affects the D2 estimate.
- Some public sector funds are targeted at specific populations such as IDEA Part B and Part C funding for children with disabilities. If those funds, or other similar targeted funds, will continue to be set aside for that designated purpose, they should not be added to D2 as if they were available to repurpose.

Analysis E: Potential New Revenue Sources and Their Impacts

Objective of this Stage: Given an estimate of the aggregate public-sector funding gap from Analysis D, the aim of this last analytic step is to identify feasible funding options (which may include repurposing existing funds, implementing new revenue sources, or raising the tax rates or scope of existing revenue streams) and estimate the economic and fiscal impacts of one funding stream or a combination of funding sources.[10]

Data and Model Required: This stage requires the use of a macroeconomic model (an input-output model and a computable general equilibrium model in the case of the Karoly et al., 2023 analysis for Vermont)[11] which can trace through the expected effect of a change in taxes on economy-wide economic output, labor force participation, government revenues, and behavioral outcomes.

Key Assumptions:

- A first step is to consider the revenue sources for covering the ECCE funding gap. The sources may be identified based on discussions with system stakeholders (e.g., legislators) about existing revenue streams and where there was scope for new or increased revenue. In the Vermont study, for example, property taxes were not considered nor additional lotteries given the complexities of introducing changes to those revenue streams.

[10] Allen et al. (2019) summarize funding streams used in various jurisdictions to fund ECCE.
[11] The macroeconomic model is a model of how the economy operates in a given jurisdiction and how specific policy changes percolate through the economy. This model captures the size of the private and public sectors in the economy, the relationships across the sectors, and how the labor force contributes to each sector. The model can then capture, at the economywide level, how much revenue a given tax would raise and any changes in the labor force that result from the effects of the taxes. The model can also trace through the dynamics of a policy change on the overall size of the economy and economic growth.

- A second step is to specify the features of the macroeconomic model and the relevance for the jurisdiction and policy question under consideration. Such models embed a set of economic sectors, the relationships across sectors, and other economic parameters that need to be defined.

Output of this Stage: For each potential funding source that is modeled, the tax revenue that can be raised for that funding stream, either alone or in combination with other potential funding streams; and macroeconomic (economywide) indicators such as the growth in economic output (GSP); the degree of progressivity of the revenue stream (i.e., whether the tax burden is lowest for lower-income families and increases progressively as income rises); and the effects on economywide labor force participation.

Challenges and Cautions:

- It is worth mentioning that K–12 enrollment is projected to decline as much as 16 percent by 2031 in some states, while other states will see stable or rising school enrollment (Lieberman, 2024; the nationwide trend is a loss of about 3 million K–12 students between 2013 and 2031). The trends reflect differential migration patterns across states, as well as declining fertility rates overall. Thus, in about 20 states, there may be opportunity to serve a higher proportion of ECCE-age children within existing state and local education resources, including resources specifically designed to support child care for school-age children.

Considerations

This review of the anatomy of an ECCE cost and financing study demonstrates that there are a set of distinct analyses that can help policymakers and other stakeholders in a given jurisdiction understand the true cost of a high-quality ECCE system with a competitively compensated workforce, providers that are reimbursed for their true cost of care, and that is affordable for families to access. Depending on the timing and resources available, Analyses A to E may be executed in one study in sequence to understand how much a modeled ECCE system will cost and who—families, the public sector, etc.—would cover the costs for such a system. Alternatively, it may be preferred to execute a series of studies—a cost of ECCE analysis (Analysis A), a system-level ECCE cost analysis (Analysis C), or an analysis of the public sector funding currently in the ECCE system (Analysis D2), with results that are later combined.

Whether focused on a full cost and financing study or a subset of the analytic components of a study, a number of considerations should be kept in mind.

- **Match the degree of analytic complexity with the study's purpose**. As described, a cost and financing study requires a number of assumptions to execute and gather multiple sources of information. The challenge is to match the degree of complexity of the study with the intended purpose of the study. If estimating the cost of an ECCE system to inform a ballot initiative or to implement the design of a new program, including details such as provider grant/contract reimbursement rates, the study design needs to be aligned with this purpose. However, if the goal is to improve understanding of the true cost of a robust ECCE system to start making progress towards filling the gap in funding between current investments and the needed future investments, a higher-level study can suffice (e.g., using statewide average costs, making simple assumptions with regards to potential uptake, and so on).
- **Promote constituent engagement throughout the study**. Moving beyond estimating what ECCE currently costs to estimating the true cost of ECCE requires input from the ECCE providers on the ground. Simply looking at required regulations or using market price data will not lead to the desired outcomes for the system, as it will produce a cost estimate based on the current underfunded system that fails to meet demand and fails to

retain high-quality providers and their educators. Engaging with ECCE providers can clarify what it actually costs them to provide ECCE that meets the needs of children and families. With such engagement, it is critical that it is responsive to providers' needs (e.g., available in the languages they speak, offered at times that they can participate, and in locations or virtual settings that are accessible by the underserved areas of the community). Further, having a shared definition of quality is inherent to ECCE cost studies. If the community does not have this shared definition, developing it with constituent engagement should be part of the study.

- **Defining high-quality ECCE**. The literature on ECCE quality identifies both structural features and process features of quality, each of which contribute to the overall experience children have in their ECCE setting and ultimately support children's development. However, it is typically the structural features that are most pertinent for a cost model because they are strong drivers of ECCE cost. For example, lowering class sizes and staff-child ratios and increasing qualifications for staff significantly raises costs, while implementing a program with developmentally appropriate materials or child-centered activities has less impact on cost.

- **Determining the contribution from families.** As noted in Analysis D, assumptions are required regarding the expected contribution from families. A contribution schedule shows, at a given level of family income, what absolute amount of income or share of income the family is expected to contribute. The sliding scale may assume families at the lowest level pay the smallest share (even zero) and the contribution amount or share rises thereafter with income. Some schedules assume that the contribution is on a per child basis while others are on a per family basis. The contribution may also reach a cap at a given income level (or percentage of income) or higher. Various schedules and their justification are discussed in NASEM (2018). Stakeholder input can be useful in determining what community members think is a reasonable contribution for families to pay. There is also a need to define a mechanism for collecting the family contributions efficiently and to recognize the administrative cost of doing so (and reimbursing the entity that bears those administrative costs).

- **Measuring the public-sector funds in the current system.** Analysis D2 requires estimating the public sector resources that are already expended to pay for the cost of ECCE. This estimate should include funds at the federal, state, and local levels, unless they are already earmarked for a specific purpose (e.g., covering the extra cost to serve children with disabilities). The inclusion of local contributions may be especially challenging to determine as they are not necessarily aggregated from local school or district budgets.

- **Accounting for the transition from the status quo to the new fully implemented system.** Some cost and financing studies focus only on the status quo and then the new system steady state. However, there may be added cost in a transition for investing in system-level infrastructure, such as new providers and facilities and an expanded ECCE workforce and their associated education or skills upgrades. Alternatively, a transition period may be designated with the transition costs distributed or the transition window, which might be up to eight quarters or more. The transition time may be a function of the degree to which the needed infrastructure is already in place versus a system where extensive upgrading will be needed.

Examples of ECCE Cost and Financing Studies

We now turn to several examples that use a subset or all of the A to E analyses of an ECCE cost and financing study. Tables 1, 2, and 3 summarize the features of nine studies we cover—one at the national level, five at the state level (Illinois, Michigan, New Mexico, New York, and Vermont), and three at the substate level (Adirondacks Region of New York state, Chicago, and Los Angeles County). We begin with a high-level overview of the studies before summarizing each study in turn. This review is not intended to be exhaustive of all cost and financing studies to

date, but the studies illustrate the range of analyses conducted, the purpose for each study and how that in turn affected the study approach, and the role that the study played in influencing policy in the jurisdiction.[12]

Overview of Featured Studies

Table 1 summarizes key features of the nine studies such as the geography, study sponsor, other stakeholders involved in the study, the ages of children modeled for the ECCE system, and the provider types included. Table 2 summarizes key features or assumptions required for a system-level cost analysis (Analyses A, B, and C), while Table 3 provides key details for studies that also include Analysis D and possibly Analysis E.

Overall, the studies were published between 2018 and 2024, with national sponsorship in the case of the NASEM (2018) study or a governmental body or private sector entity in the case of the state and local studies. All of the studies obtained input from relevant stakeholders through interviews, focus groups, or advisory group meetings. Given the differences in the size of each jurisdiction, the population served ranged from about 10,000 children to about 1 million children.

As noted earlier, the foundation for a cost and financing study is the use of a cost model to estimate the provider-level per child cost of care, typically on a per child hour basis (Analysis A, last three columns of Table 1). All nine analyses were designed to focus on an ECCE system serving infants, toddlers, and preschoolers (i.e., children before kindergarten entry).[13] The second to the last column of Table 1 shows that the nine studies based their analyses on somewhat different types of care providers. All studies included center-based ECCE providers. With the exception of the Chicago study, all studies also included family child care homes (FCCHs), typically at least licensed FCCHs (for all relevant license types) and in some cases license-exempt FCCHs as well. Four studies incorporated school-based programs into the provider mix. The Illinois study had the most varied mix of provider types by including school-, center-, and home-based ECCE, along with home visiting and early intervention providers. The provider-level cost modeling was then applied for the relevant provider types assumed for the ECCE system, by child age group, and by region (Illinois and New York only).

Table 2 features several additional assumptions for estimating the provider-level cost of care (Analysis A): assumptions about provider quality, assumptions regarding workforce compensation, and whether the potential additional costs for higher-needs children (e.g., those with disabilities or English-language learners) were accounted for. In terms of quality, a key ECCE cost driver, the studies generally specified a high-level of quality that was assumed to apply to all providers or specified several tiers of quality with an assumed distribution of providers across quality tiers. For the most part, the standards were based on one or more of the tiers in the jurisdiction's current quality rating and improvement system (QRIS). All the studies assumed a higher level of workforce compensation (pay and benefits) than under the status quo. Sometimes the reference was the K-12 compensation structure; other compensation references were used as well (e.g., MIT Living Wage standard). Finally, another cost consideration is whether to account for the cost of caring for children with disabilities or English Language learners, generally assumed to exceed the cost of care for typically developing children or English speakers. Studies were mixed on this front, with two using specific estimates to inflate costs for either or both children with disabilities and ELLs, while two assumed that the high-quality assumption for care provision was sufficient to cover the additional costs for children with special needs (e.g., well-compensated BA-level teachers). The remaining five studies did not assume higher costs for these special needs children.

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[12] Although not explicit, none of the studies featured in Table 1 incorporated an analysis of a system of subsidized ECCE with a paid family leave program, as is common in several European countries (Bipartisan Policy Center, 2020). Indeed, we are not aware of any studies for the U.S. that examine the cost and financing for an integrated system of subsidized ECCE with paid family leave, although such a study would be feasible building from the approach summarized in this brief.

[13] The Michigan study included school-age children to estimate the provider-level cost of care (Analysis A).

Table 1. Key Features of Cost and Financing Studies

Study | Geography	Official Sponsor(s)	Other Stakeholders Consulted with or Involved in Study	Size of Population Under Consideration	Features Relevant for Provider Cost of Care (Analysis A)		
				Care Age Groups Included	Provider Types Included	Provider Cost of Care: Subgroups
a. National						
NASEM (2018)	NASEM and funders (a)	Varied (b)	Not stated	• Infants • Toddlers • Preschoolers	• Center/school based • Home based	• By child age • By provider types
b. State						
Hawley & Ritter (2021) Illinois	Governor's Office	• Illinois Commission on Equitable Early Childhood Education and Care Funding	933,682	• Infants • Toddlers • Preschoolers	• Schools • Centers • Licensed & license-exempt FCCHs • Home visiting • Early intervention	• By child age • By provider types • By region
Capito, McCartney, et al. (2023) Michigan	Think Babies Michigan	• CFA Workgroup • Child care ad-hoc group • Provider Input sessions	230,000 children 0–5 in care; 666,000 children 0–5 total	• Infants • Toddlers • Preschoolers • School-age (c)	• Licensed centers • Licensed FCCHs • Group FCCHs • License-exempt homes	• By child age • By provider types
Capito, Rodriguez-Duggan, et al. (2021) New Mexico	New Mexico Early Childhood Education and Care Department	• Provider survey and interviews • ECECD program staff	290,000 children 0–13	• Infants • Toddlers • Preschoolers	• Centers • Small and group FCC • Registered homes • School-based PreK	• By child age • By provider types
Workman & Capito (2023) New York	Raising New York Coalition	• Provider input sessions • Leadership team	1.1 million children 0-5	• Infants • Toddlers • Preschoolers	• Licensed centers • Licensed FCCHs • Group FCCHs	• By child age • By provider types • By region
Karoly et al. (2023) Vermont	State legislature mandated the study and public report	• Advisors from public agencies, legislature, advocates • External peer review	~29,000	• Infants • Toddlers • Preschoolers	• Licensed centers • Licensed FCCHs	• By child age • By provider types
c. Local						
Capito & Workman (2024) Adirondacks Region (d)	Adirondack Birth to Three Alliance/ Adirondack Foundation	• Adirondack Birth to Three Steering Committee • Interviews with systems leaders • Focus groups with child care providers	10,000 children 0–5	• Infants • Toddlers • Preschoolers	• Licensed centers • Licensed FCCHs	• By child age • By provider types
Hawley & Ritter (2018) Chicago	Mayor's Office, Chicago	• Providers participating in Head Start and/or state preschool and Birth to three education funding	Not stated	• Infants • Toddlers • Preschoolers	• Schools • Centers	• By child age • By provider types
Capito Associates (2019) Los Angeles County	Los Angeles County Office of Child Protection	• Office of Child Protection Prevention Plan ECE Workgroup • Over 100 provider interviews	350,000 children 0–5	• Infants • Toddlers • Preschoolers	• Licensed centers • Licensed FCCHs	• By child age • By provider types

Source: Authors' analysis of sources cited.

Notes: (a) Funded by U.S. Department of Education, U.S. Department of Health and Human Services, several foundations, and advocacy groups.
(b) Expert panel held workshops to obtain input from various stakeholders; external peer review.
(c) School age also included in cost per child estimates (Step A), but not system-level cost estimates (Step C).
(d) Clinton, Essex, Franklin, Hamilton, and Warren counties.

Table 2. Methods to Estimate the Total Cost of a High-Quality ECCE System (Analyses A to C)

Study | Geography	Other Assumptions for Provider-Level Cost of Care (Analysis A)			Assumptions regarding Demand for Care (Analysis B)	Accounts for System-Level Costs (e.g., QRIS, Data Systems)? (Analysis C)	Estimates the Aggregate Annual Cost of Care Based on Assumptions? (Analysis C)
	Assumptions Regarding Provider Quality	Assumptions Regarding Workforce Compensation	Accounts for Additional Costs for Higher-Needs Children?			
a. National						
NASEM (2018)	Based on quality features in NAS (2015, *Transforming* report) including BA-level lead teachers, NAEYC ratios, etc.	Based on high compensation levels (e.g., lead teachers are comparable to public school K teachers)	Yes, children with special needs (10% higher)	Expected care use based on current demand, adjusted using elasticities to account for higher demand given higher subsidies	Yes (estimated as a share of estimated total cost of care)	Yes ($140B in 2016$; equal to 0.75% of GDP)
b. State						
Hawley & Ritter (2021) Illinois	Highest tier of QRIS, plus comprehensive services for low-income children	High compensation levels, based on parity with K-12 and other similar professions	Yes, children with special needs (supplement equal to 11 percent of total system cost) and who are ELLs ($1,200 per child additional costs)	Estimated future use differentiated by age of child, income level and setting.	Yes (estimated as a share of estimated direct cost of care)	Yes ($9.2B for center- and home-based child care, $3.9B for school-based pre-K, all in 2021$; equal to 1.38% of GSP) [also $1.2B for home visiting and Early Intervention]
Capito, McCartney, et al. (2023) Michigan	3 levels of quality, licensing and two higher quality, based on guidance from CFA Workgroup	BLS and MIT Living wage	In cost model, but not part of cost estimate	Estimated demand for care based on all children 0-5 in working families whose incomes are at or below 200% FPL	Yes (estimated as a share of estimated direct cost of care)	Yes ($3.2B in 2022$; equal to 0.51% of GSP)
Capito, Rodriguez-Duggan, et al. (2021) New Mexico	Meeting state QRIS standards (FOCUS) and PreK standards	Lead teachers at $13.19/hour (as of 2021 data)	No	Assumptions over 4 year period to reach 100% of eligible children under 6 and 10% of school age in child care. Plus 61% of 4 year olds and 17% of 3s (based on birth cohort) served by New Mexico PreK	Yes	Yes ($533.5M for child care, $125.6M for NM PreK, all in 2021$; equal to 0.58% of GSP)
Workman & Capito (2023) New York	Aligned with Quality Stars	Current salaries (from Registry) and MIT Living Wage	No	4 scenarios - universal, all available parents in workforce, at or below 85% SMI, current subsidy uptake	Yes (estimated as a share of estimated direct cost of care)	Yes (between $707M and $20.3B in 2022$; equal to 0.34% to 0.99% of GSP)
Karoly et al. (2023) Vermont	Based on state licensing and highest QRIS tier	Based on Washington DC salary and benefits schedule tied to workforce role (exceeds current compensation)	Indirectly, children with special needs (assumes costs are covered by higher quality features and IDEA funds not counted in existing system)	Expected care use based on current demand, adjusted using elasticities to account for higher demand given higher subsidies (i.e., lower cost to families)	Yes (estimated as a share of estimated direct cost of care)	Yes ($645M in 2022$; equal to 1.57% of GSP)

Table 2. Methods to Estimate the Total Cost of a High-Quality ECCE System (Analyses A to C), Continued

c. Local						
Capito & Workman (2024) | Adirondacks Region	Not addressed	Not addressed	Yes ($34.5 million in CCDF, UPK, HS, Special Ed, in 2023$)	Not reported, but data in report could be used to estimate the gap	No	No
Hawley & Ritter (2018) | Chicago	Sliding scale for families over 200% FPL (average $7,500 contribution each)	No except for child care subsidy for extended-day for income-eligible families	Yes	Yes ($183 million in 2018$)	Yes (planned state preschool expansion, child care subsidy)	No
Capito Associates (2019) | Los Angeles County	Not addressed	Not addressed	Yes ($885.8 million direct service, state, federal, in 2019$)	No	No	No

Source: Authors' analysis of sources cited in Table 1.

Analysis B in the cost and financing study methodology requires making assumptions regarding the demand for care on the part of families with children not yet in kindergarten (see column 4 in Table 2). One approach, followed by four studies, was to assume the same demand for care as the status quo in terms of total hours and setting types. The other five analyses relied on elasticity estimates from the literature to forecast how care use would change overall and by setting type as the assumptions regarding expanded subsidies were implemented as part of a new ECCE system.

The last two columns of Table 2 indicate if the study accounted for system-level ECCE costs (e.g., operating a QRIS, maintaining data systems, and so on) and if an estimate was derived of the total ECCE system cost of care based on the assumptions summarized in Tables 1 and 2 (and others not detailed in the tables). All but one study (Los Angeles County) incorporated the ECCE system-level costs, typically by assuming a share of the provider-level direct cost of care. Likewise, all studies, except Los Angeles County, generated a total system-level estimated cost of care (Analysis C). The NASEM (2018) study estimated that the total cost of a high-quality ECCE system would be about 0.75 percent of gross domestic product (GDP), which was close to the average for other OECD countries of 0.8 percent.[14] In other words, if the U.S. were to invest $140 billion annually on ECCE, it would be close to the average level of other high-income countries in the world.

Producing this same estimate for the five state-level studies using gross state product (GSP) as a measure of the size of the economy (see the last column of Table 2) indicates a low of 0.3 percent of GSP for New York (lower bound), a middle range of 0.5 to 0.6 percent of GSP for Michigan and New Mexico, an upper bound of about 1 percent of GSP for New York (upper bound), and the highest values of 1.4 to 1.6 percent of GSP for Illinois and Vermont. The variation across the five state studies likely reflects differences in assumptions about the demographics of young children in the jurisdiction, the demand for care by child age, and the per child cost of care. Nevertheless, the national and state estimates suggest that the cost of a high-quality ECCE system with a competitively paid workforce falls in the range of about 0.5 percent to 1.5 percent of the size of the jurisdiction's economy.

Table 3 summarizes the relevant features for the studies that also undertake Analysis D and Analysis E. At Analysis D, the method requires estimating the expected share (or amount) that families will pay for ECCE based on the assumed subsidy schedule (D1). Four of the studies incorporated this analysis, typically by assuming a sliding scale schedule that determines how much families contribute to the cost of care based on their income. Two of the studies assumed subsidies would not be tied to parental work. One analysis assumed subsidies for child care or extended-day services would require parental employment to qualify. At this stage, the counterpart contribution from the public sector is estimated based on the existing amount of federal, state, and local funding streams in the ECCE system (D2). The six studies that produce this estimate included Head Start, CCDF/TANF subsidies, UPK, and tax credits. Some studies include funds for special education, home visiting, and early intervention. The method also allows for the inclusion of funding from third-party contributions (D3) such as employers or philanthropy, but none of the studies we examined include an estimate of such funding.

[14] GDP is a measure of the value of the goods and services produced by an economy in a given jurisdiction for a given time period. The U.S. Bureau of Economic Analysis (BEA) (https://www.bea.gov/) produces quarterly and annual estimates of GDP at the national level. The BEA also produces estimates of annual GSP which we can use as a measure of the size of the economy for the state-level studies. We do not have an equivalent measure of the size of the economy for the county and city studies we reference.

Table 3. Methods to Estimate the Contribution of the Private and Public Sectors to Pay for a High-Quality ECCE System (Steps D to E)

Study | Geography	Assumptions Regarding Family Contribution (Analysis D1)	Are Subsidies Tied to Requirements for Parental Employment? (Analysis D1)	Accounts for Current ECCE Annual Public Funding? (Analysis D2)	Estimates the Annual Gap Between Aggregate Cost of Care and Current Public Funding? (Analysis D4)	Examines Potential Revenue Sources to Cover the Gap? (Analysis E)	Estimates Macroeconomic Effects of Potential New Revenues? (Step E)
a. National						
NASEM (2018)	Sliding scale ($0 share up to 50% of FPL; maximum family income share is 18% at highest income)	No	Yes ($29B in 2016$ from state/federal tax credits, Head Start, state/federal subsidies for children up to K [CCDF/TANF], UPK)	Yes ($53B in 2016$; equal to 0.28% of GDP)	No	No
b. State						
Hawley & Ritter (2021) Illinois	Sliding scale only for child care ($0 share up to 200% of FPL; maximum family income share is 7% at highest income) Total Parent Contribution estimated at $2 billion	Yes for child care No for Pre-K, Early Intervention, ECSE, and home visiting	No	Not reported, but data in report could be used to estimate the gap	No	No
Capito, McCartney, et al. (2023) Michigan	Not addressed	Not addressed	Yes ($1 billion in total, including HV and early intervention - around $790 million is child care/HS/PreK, all in 2022$)	Not reported, but data in report could be used to estimate the gap	No	No
Capito, Rodriguez-Duggan, et al. (2021) New Mexico	No	Not addressed	Yes ($156.1 M for Child Care, $104 M for PreK + a share of system infrastructure expenses, all in 2021$)	Yes, for whole system. Can be calculated for Child Care + PreK only ($659.1 million, in 2021$; equal to 0.58% to of GSP)	Yes (Trust Fund and Land Grant)	No
Workman & Capito (2023) New York	Not addressed	Not addressed	No	No	No	No
Karoly et al. (2023) Vermont	Sliding scale ($0 share up to 150% of FPL; subsidies end after 350% or 500% of FPL)	No	Yes ($127M in 2022$ from state/federal tax credits, Head Start, state/federal subsidies for children up to K (CCDF/TANF), UPK)	Yes ($193M to $279M in 2022$ depending on sliding scale schedule; equal to 0.47% to 0.68% of GSP)	Yes (increase state sales tax rate, broaden sales tax base, add payroll tax)	Yes (uses macro model to forecast potential revenue, effects on state GDP, effects on labor force participation)

Table 3. Methods to Estimate the Contribution of the Private and Public Sectors to Pay for a High-Quality ECCE System (Steps D to E), Continued

Study | Geography	Assumptions Regarding Family Contribution (Analysis D1)	Are Subsidies Tied to Requirements for Parental Employment? (Analysis D1)	Accounts for Current ECCE Annual Public Funding? (Analysis D2)	Estimates the Annual Gap Between Aggregate Cost of Care and Current Public Funding? (Analysis D4)	Examines Potential Revenue Sources to Cover the Gap? (Analysis E)	Estimates Macroeconomic Effects of Potential New Revenues? (Step E)
c. Local						
Capito & Workman (2024) | Adirondacks Region (d)	Not addressed	Not addressed	Yes ($34.5 million in CCDF, UPK, HS, Special Ed, in 2023$)	Not reported, but data in report could be used to estimate the gap	No	No
Hawley & Ritter (2018) | Chicago	Sliding scale for families over 200% FPL (average $7,500 contribution each)	No except for child care subsidy for extended-day for income-eligible families	Yes	Yes ($183 million in 2018$)	Yes (planned state preschool expansion, child care subsidy)	No
Capito Associates (2019) | Los Angeles County	Not addressed	Not addressed	Yes ($885.8 million direct service, state, federal, in 2019$)	No	No	No

Source: Authors' analysis of sources cited in Table 1.

The final calculation under Analysis D (D4) is to estimate the public sector funding gap, measured as the total cost of ECCE (Analysis 3) less the assumed contributions from families (D1), the public sector (D2), and any other residual sources (D3). Of the nine studies included in our review, four reported the estimated value of the gap. Three other studies do not expressly report the gap amount, but it could be inferred from other estimates in the study documentation. For the national- and state-level studies that estimated the funding gap (D4), the gap represented about 0.3 percent of GDP for the national-level NASEM (2018) study and 0.5 to 0.7 percent of GSP for the two state-level studies (New Mexico and Vermont).

In sum, there is clear variation across the nine studies we feature in the nature of the analyses included, as well as the underlying key assumptions included for each analytic component. As tallied in Table 4, all nine studies used a cost model to estimate the per-child cost of care at the provider level (**Analysis A**). With the exception of Los Angeles County, the other eight studies incorporated **Analysis A** to **C** to provide a system-level cost of ECCE. The incorporation of **Analysis D** to reach an estimate of the ECCE system funding gap is a feature of three of the studies. The same three studies also include **Analysis E** in terms of identifying potential funding sources. Just one study conducts a macroeconomic analysis of the potential funding sources—alone or in combination—and the resulting effects on tax revenues, gross domestic product (GDP), and other economic outcomes.

Table 4. Summary of Illustrative Studies by the Analyses Included

Analyses	Description	Number of Studies
Analysis A	Provider-Level Cost of ECCE	9
Analyses A to C	System-Level Cost of ECCE	8
Analyses A to D	ECCE System Funding Gap	3
Analyses A to E	ECCE System Cost and Financing	3/1

Source: Authors' analysis of sources cited in Table 1.

Illustrative Cases: Their Execution and Impact

In the remainder of this section, we focus on some of the salient features of the studies summarized in Tables 1 to 4. This provides an opportunity to highlight unique aspects not covered in the tables, with insights on how the study was received and contributed to policy debates.

National Study: NASEM Consensus Report

In 2015, the Institute of Medicine (IOM) conducted a consensus study on the need to build a unifying framework for the various members of the workforce engaged in early care and education for children from birth to age eight. The focus was on defining the skills, knowledge, and competencies that were required for these educators of our youngest children. While it was recognized that requiring more formal credentials for this workforce would lead to greater professionalization and higher compensation, the IOM (2015) study did not endeavor to estimate the cost to provide ECCE under this new framework. Instead, a second consensus panel was tasked with developing an economywide estimate of the cost of delivering high-quality ECCE with a well-qualified workforce receiving competitive compensation commensurate with the expected skills and qualifications assumed under the IOM (2015) *Unifying Framework*. As with other IOM studies, a committee of experts was formed to execute the scope of work. The committee effectively conducted **Analyses A** to **D**, delineated earlier, starting with a cost model for the per child cost of care and continuing with economywide estimates of the demand for care, the current system in the funding, and alternative assumptions about the expected contributions from families assuming a sliding-scale

structure. The committee found no clear method for estimating how much parents would be expected to pay based on existing guidance or economic theory. The committee also found that empirical evidence of how the demand for care would change if the prices of ECCE declined (as subsidies became more generous) was limited and based on data collected in the 1970s and 1980s.

Nevertheless, the study produced an estimate of the total cost of high-quality ECE (see the summary in Tables 1 to 3). The estimated annual cost of $140 billion was viewed as unobtainable under current financing, yet it was consistent with what other high-income countries spend on the care of young children before they enter school. Furthermore, without additional federal funding in the system, efforts to devote more resources into ECCE would require state action. For this reason, the NASEM continued to work with a subset of states to generate momentum for using the study estimates to educate state policymakers about the findings and identify feasible options for incremental change in terms of increasing the funding available in the ECCE system.

State Study: Illinois

The Illinois system model was developed as part of the Governor's Commission on Equitable Funding for Early Childhood Education and Care. The analysis built upon an earlier study of costs in the city of Chicago and attempted to model the cost of a full early care and education system as envisioned by the Illinois Early Learning Council. As such, it included costs for the following services:

- Universal preschool for children ages three and four, provided either as a full school-day/school-year program or embedded in full-workday/year-round child care for families needing this care
- High-standards child care for children birth through kindergarten entry, in both centers and licensed family child care homes, for families with all parents working or in school
- Comprehensive services for low-income children, integrated into child care and preschool services (i.e., meeting Head Start standards for health, nutrition and family engagement services)
- Family/Friend/Neighbor care subsidies for low-income families
- Early childhood special education services for ages 3-5 (embedded in full-workday/year-found child care as needed)
- Early Intervention services for ages 0-3
- Universal newborn supports, such as nurse home visits
- High-intensity home visiting services for low-income and at-risk families
- Infrastructure for the overall system, including administration, workforce development, and continuous quality improvement supports

The study estimated uptake for all services using a combination of Census data (including parental work status) and nationally available survey data on parental preferences for early care and education. Final estimates of uptake were developed with input from the Adequacy Subcommittee of the Funding Commission.

The total cost estimate for the system that the model produced was $11.25 billion, of which approximately $2.9 billion would be contributed by parents through a sliding scale copayment for child care for families with incomes over 200% FPL. The $8.35 billion in public funding indicated was approximately five times more than the state and federal governments were paying for early childhood services at the time. Because the state was already facing a very significant structural deficit and was in the midst of the COVID-19 pandemic, no attempt was made to identify how the state could generate sufficient funding to cover the entire public funding gap. Instead, further analyses were completed to identify the cost of implementing specific components of the full system, such as expanding state preschool to ensure all communities had sufficient services for all low-income three- and four-year-olds and

supporting approximately $3 per hour wage increases for ECCE teachers. These analyses supported the development of Governor Pritzker's second-term early childhood agenda called Smart Start Illinois, which has included an increase of over $350 million in annual state funding (FY 2023-25) for ECCE.

State Study: Michigan

Think Babies Michigan engaged in a comprehensive fiscal analysis in 2022 to better understand and address the broken finances of the prenatal to five system. The study, conducted by Prenatal to Five Fiscal Strategies, focused on the multiple services and elements that impact the financing of the system, including available service capacity, current funding, estimates of the true cost of services and infrastructure, and projections of the revenue needed to achieve the vision established for the state's prenatal to five system. The study included fiscal mapping and cost modeling for child care, home visiting, and early intervention and was guided by a workgroup comprised of community members and leaders from across the different sectors of the system. The Think Babies Steering Committee also provided input and recommendations.

The study identified more than $1 billion in public funding annually invested in early learning, early intervention, and family support/home visiting programs in Michigan, with around $790 million related specifically to early learning. Cost modeling completed as part of the study estimated the true cost of licensed child care, including a living wage for educators, ranging from $17,000 for a preschooler in a child care center to $26,000 per year for an infant in a child care center. The analysis included a scenario to provide child care for around 140,000 children under 6 and just over 90,000 school age children in working families at or below 200% of the federal poverty level. The study estimated the annual cost to serve this population to be $2.9 billion, with an additional $292 million in system infrastructure costs estimated, for a total estimate of $3.2 billion annually. Data from the study was used to inform Think Babies Michigan policy priorities, including a call for providers to be reimbursed based on the true cost of care, implementation of a contract model to address the lack of infant and toddler child care, development of a cross-sector wage scale, and the need for a dedicated and sustainable funding stream for the early childhood system.

State Study: New Mexico

As part of the authorizing legislation creating the New Mexico Early Childhood Education and Care Department (ECECD), the New Mexico Legislature required the department to publish a Four-Year Finance Plan including recommendations for financing the prenatal to five system in the state. ECECD went beyond the statutory requirements to conduct a study that included development of fiscal models that could inform data-driven decision making across the department. ECECD engaged Prenatal to Five Fiscal Strategies to lead the finance plan process, which included developing fiscal models for revenue, service planning and expenses, across all elements of the new department, including child care, PreK, home visiting, and early intervention.

The finance plan included multi-year increases in access to services, building to a goal of serving 100 percent of eligible children across child care and PreK by the end of four years. The estimated cost of $659 million annually was offset by $260 million in available revenue, leaving a gap of nearly $400 million annually. The plan identified the Land Grant Permanent Fund and the Early Childhood Trust Fund as sources to fill the gaps in funding and offers a narrative action plan to support improvements to the prenatal to five system aligned with increased funding. Data from the finance plan has been used to justify the dedicated use of the Early Childhood Trust Fund, and the fiscal model built for the four-year finance plan has been updated annually to account for changes in revenue and expense projections and to support data-informed planning and implementation of program expansion.

State Study: New York

The Raising New York Coalition commissioned this study to estimate the cost of universal child care in New York State, aligned with the goals of the advocacy community. Raising NY worked with Prenatal to Five Fiscal Strategies to develop a child care cost model to estimate the true cost of care in the different regions of the state, and to estimate the statewide cost under several different access scenarios. The work built on prior cost modeling conducted for New York State and was supported by a leadership team comprised of public and private entities leading on the administration of child care in the state. P5FS conducted input sessions to gather the perspectives of child care providers on the true cost of care, which drew participation from across more than half of New York counties. As a result, the cost model includes the ability to estimate the cost of care with higher salaries based on a living wage as well as the inclusion of additional quality-related expenses aligned with the state's QRIS.

The study found the true cost of care, inclusive of a living wage, ranged from just under $10,000 annually for a school age child in a center, to just over $30,000 for an infant. Three scenarios for increased child care access for children under 5 were modeled as part of the study:

(1) Universal access (defined as 80 percent of the population);

(2) Children with all available parents in the workforce; and

(3) Children in families at or below 85 percent of the state median income.

In addition, a fourth scenario estimated the cost if access did not change, but the subsidy rates were paid at the true cost of care. The study estimates the cost of universal child care access for children under five (approximately 880,000 children) to be $20.3 billion annually when using the living wage salary option or $14.7 billion if based on current salaries. While state leaders were involved in the workgroup, the study was as an advocacy-focused effort and as a result the state did not use the Raising NY model in their CCDF narrow cost analysis. However, the results of the cost modeling were used by advocates to make the case for increased funding in the governor's budget and to highlight why the true level of investment needed was beyond what was currently being proposed.

State Study: Vermont

Vermont has a long-standing commitment to increasing access to ECCE. In 2022 the state became the first to extend eligibility for ECCE subsidies from 150 percent of the federal poverty guidelines (FPG) to 350 percent of FPG, making it one of the more generous states for access to subsidies. Furthermore, the state introduced a universal four-year-old pre-K program, although funding was for 10 hours per week. As part of Act 45, passed in 2021, the legislature and governor indicated their interest in further exploring options for expanding ECCE subsidies, raising ECCE quality, and increasing compensation for the ECCE workforce. The Act specifically requested a "financing study" to estimate the cost of a high-quality ECCE system with a well-compensated workforce, identify sources of stable long-term funding to cover the added cost of the expanded subsidies, and model the economic and fiscal impacts of the financing changes. RAND conducted the study following a competitive bidding process. Throughout the study, the RAND team engaged with various stakeholders in the public and private sectors. That process helped to define the parameters for the ECCE system such as the expected family contribution, potential workforce compensation schedule, and feasible tax revenue streams for the macroeconomic and fiscal modeling.

Several study limitations included the inability to model provider cost, family demand, and other parameters at the substate level and the limited information about ECCE supply, demand, and cost after the COVID-19 pandemic. The

study did not attempt to model the transition from the status quo to the new system of funding, workforce preparation and compensation, provider supply, and provider reimbursement.

Based on alternative assumptions about the generosity of the subsidies for families in terms of their contribution to the cost of ECCE, the study estimated an annual funding gap up to about $280 million, assuming subsidies for families up to 5.0 times the poverty level. Estimates showed that this gap could be covered through a new payroll tax, an increase in the current sale tax rate, the introduction of new taxes on certain services, or some combination of these taxes. These taxes were estimated to have a small impact on economic well-being, although the payroll tax was progressive whereas the sales tax was regressive. The effect on the labor force was also estimated to be small. There would be an expected increase in gross state product but not enough to cover the cost of the expanded subsidies.

Upon publication of the report, the state legislature and governor agreed to further increase the state's investment in ECCE by $125 million annually. A new payroll tax was instituted, eligibility for receiving subsidies increased over time to 5.75 times poverty, a phased-in workforce compensation schedule was adopted, and high-quality providers were slated to receive an increase in their reimbursement. By considering alternative scenarios, the study demonstrated how much system costs would vary under alternative policy choices and how new revenue sources could be implemented to pay for added cost to the ECCE system.

Local Study: New York Adirondack Region

The Adirondack Foundation's Birth to Three Alliance engaged in a comprehensive fiscal analysis to better understand and address the uncoordinated and insufficient finances of the prenatal to five system in the North Country. The analysis focused on understanding available service capacity, current funding, the true cost of services and infrastructure, and the revenue needed to achieve the shared vision established for the region's young children and families. The Alliance engaged Prenatal to Five Fiscal Analysis to conduct the analysis, which included fiscal mapping and cost modeling for both child care and home visiting services. The work was guided by a steering committee comprised of community members and leaders.

The analysis of current revenue found close to $36.7 million in public funding annually invested in early learning, early intervention, and family support/home visiting programs, with around $34.5 million related specifically to early learning. Cost modeling conducted as part of this study estimated the true cost of child care, inclusive of a living wage, to range from $19,500 per year for a preschooler in a child care center to $31,300 per year for an infant in a child care center.

The analysis estimated the annual cost of providing child care for children 0-5 across the region at three different levels of uptake:

(1) Children 0-5 currently served by subsidy,
(2) Children 0-5 in families at or below 85 percent of SMI, and
(3) All children 0-5, universal access (defined as 80% of population).

The annual cost estimate ranges from $7.8 million to $209 million. Additional infrastructure costs to support the prenatal to five system estimated are also estimated in the report. The Birth to Three Alliance used the analysis to develop an Action Plan identifying local and state action steps and assigning responsibility and a timeline for making progress.

Local Study: City of Chicago

The Chicago study was conducted in 2018 to help the Mayor's Office estimate the cost of implementing universal preschool for four-year-olds citywide and inform its contracting process for the implementation of service expansion. Because the city has long operated a fairly large system of early care and education for low-income children ages birth to five and wanted to preserve access to these services, the cost of serving infants, toddlers, and three-year-olds in high-quality center-based programs was also estimated, as was the potential revenue that could be anticipated for new community-based classrooms from the Child Care Assistance Program (child care subsidy). The study included two primary analyses: estimating the per-classroom cost of services in schools and community-based organizations and estimating the number of classrooms that would be needed to achieve universal access for four-year-olds while maintaining existing service levels for younger children. Per-classroom costs were estimated through extensive provider engagement to build consensus on model program staffing patterns, salary scales, and non-personnel costs. Number of classrooms needed were estimated from Census and kindergarten enrollment data, with careful attention to the reality that classrooms were unlikely to be 100 percent full and families needed to have access to services within their neighborhoods. The study concluded that expansion to universal pre-K for four-year-olds across all Chicago community areas would require an additional $180–$185 million per year in public funding.

The cost study, completed in the final years of the Mayor Rahm Emmanuel administration, informed the implementation of a significant expansion of ECCE in Chicago. It was uncertain whether the results—and indeed, the plan for preschool expansion—would be taken up by the new Lightfoot administration. A full re-competition of community-based preschool and Head Start "slots" (which the city largely controlled) was completed in 2019, and the cost model informed the allocation of funding to subgrant recipients. However, the final allocation model did not effectively account for the fact that some programs were combining state/city pre-k funds with Head Start while others were not. In 2021, the city's Head Start grant was recompeted by the federal government, introducing much more significant variation in funding amounts for Head Start slots across six different grantees. Universal preschool expansion in the public schools paused somewhat during the COVID-19 pandemic but resumed in 2021 and is now fully implemented. The city initially relied on COVID relief funds to implement the expansion but was able to partially backfill these resources with state funds as the state implemented its five-year plan to expand access to preschool for all low-income three- and four-year-olds.

Local Study: Los Angeles County

In 2019, the Los Angeles County Office of Child Protection and First 5 Los Angeles embarked on a comprehensive fiscal analysis of the early childhood system in LA County in furtherance of one of the county's seven strategies outlined in its 2017 Prevention Plan for Los Angeles County. A team of national experts led by Capito Associates was engaged to conduct this analysis, threading fiscal and programmatic information together in a way that could support LA County in answering questions related to the policies and regulations of funding streams, levels of investment, and opportunities for various investments in early care and education. The study included research and investigation of funding streams and county/community approaches, creation of revenue and expense models for center-based child care and family child care, and development of recommendations informed by the analysis and key stakeholders. The work was guided by the Prevention Plan Early Care and Education Workgroup and benefited from interviews with hundreds of child care providers across LA County.

The study identified around $886 million in current public investments supporting child care access in the county. Cost modeling estimated the true cost of care based on three levels of quality, and at three different salary levels, as determined by a compensation subgroup of the prevention plan workgroup. At the highest level of quality and

salary point, the true cost of care is estimated to range from $22,000 per year for a preschooler in a child care center to $42,600 per year for an infant. The study found significant gaps between tuition prices and public voucher and contract amounts and the estimated cost of care, with larger gaps for the youngest children and those in family child care. Recommendations from the fiscal analysis supported planning activities of the LA County Office for the Advancement of Early Care and Education and cost modeling developed as part of this study was used by the county to understand the fiscal impact of pandemic-related changes to child care operations.

Summary and Strategies for Advancing the Field

The use of ECCE provider cost studies has proliferated in support of efforts to understand the provider-level cost of ECCE by child age, in varied settings, at different levels of quality, and for other varied cost drivers. These types of studies have also been used in setting reimbursement rates for public subsidies.

An ECCE cost model provides a foundation for ECCE cost and financing studies, offering a tool to run multiple estimates based on the needs of the jurisdiction. Beyond their cost model foundation, ECCE cost and financing studies generally follow similar analytic steps:

- Such studies—building from an understanding of ECCE costs at the provider level and the demand for ECCE at the family level—estimate the aggregate direct cost of ECCE (provider level) and the indirect infrastructure cost (system level).
- With assumptions about how much families are expected to contribute to the cost of the ECCE they use and estimates of existing public funds in the system, the method estimates the aggregate funding gap to deliver the desired ECCE system.
- The studies consider the revenue that can be raised through alternative tax mechanisms which is then used to optimally fill the gap and fully fund the ECCE system.
- A macroeconomic model can trace through the economywide consequences of alternative funding sources to determine the most appropriate mix of new funding.

Our review of nine recent ECCE cost and financing studies at the national, state, and local levels illustrates how such studies have been implemented and how they have shaped ongoing investments in an ECCE system that meets the needs of families, is fair to providers and their workforce, and is fiscally feasible.

Future studies have the opportunity to further inform policymakers and other stakeholders in their understanding of how much the desired ECCE system costs and how it can be paid for. The potential to influence policy may occur through the execution of a series of incremental ECCE cost and financing analyses or through an integrated cost and financing study that includes all of the analyses featured in this brief.

As demand for these cost and financing studies increases, there is an opportunity to continue to advance the quality and usefulness of the studies from the present state of the art. This includes:

- Further data collection to understand the current use of ECCE by families, elasticity estimates of how families' demand for care and care setting types responds to a change in the cost of ECCE, and the value of the resources from the public sector that are used to pay for the current cost of care.
- Guidance documents that feature best practices for parameters and assumptions for implementing and standardizing ECCE cost and financing studies.
- A catalogue of cost and financing studies, their assumptions, and their eventual impact.
- Resources for training the producers and users of cost and financing studies.

- Strategies for dissemination of new methods and their implications.
- Planning for and executing future data needs to support ECCE cost and financing studies.
- Research to extend the use of ECCE cost and financing studies to better understand variation in how current resources for ECCE are allocated across geographic areas and population subgroups and any unintended differences in outcomes across places or people.

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