



Financing Early Educator Teacher Quality

A Closer Look at Assumptions That Drive Variations in Estimating the Cost of Services

By Lea J.E. Austin, Marcy Whitebook, and Harriet Dichter

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Center for the Study of Child Care Employment
Institute for Research on Labor and Employment
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The Center for the Study of Child Care Employment (CSCCE) was founded in 1999 to focus on achieving comprehensive public investments that enable and reward the early childhood workforce to deliver high-quality care and education for all children. To achieve this goal, CSCCE conducts cutting-edge research and proposes policy solutions aimed at improving how our nation prepares, supports, and rewards the early care and education workforce to ensure young children's optimal development.

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Introduction

The skills, knowledge, and well-being of early educators are inextricably linked to the quality of children’s early learning and development. Yet, in the United States our system for preparing, supporting, and compensating early educators remains ineffective, inefficient, and inequitable. Today, most early educators are paid less than \$15 per hour, and many of them report high levels of economic insecurity evidenced by their worry about meeting monthly family expenses or paying for bare necessities such as food and housing. Coupled with low wages, few early educators can expect to work in settings that provide basic professional supports including paid planning time, which is essential to effective teaching practices (Whitebook, McLean, Austin, & Edwards, 2018). Inadequate levels of public financing and a heavy reliance on families to pay the costs of early care and education (ECE) services has allowed these conditions to persist for decades with only limited improvement, despite the growing understanding of the impact that early educators have on the children in their charge (NASEM, 2018).

Policies to appropriately prepare, support, and compensate the workforce require system reform and sufficient dedicated funding. Both reform and resources are necessary to ensure that the well-being of the early childhood workforce does not come at the expense of the equally urgent economic needs of families already overburdened by the high cost of ECE services. In a consensus report by the National Academies of Science, Engineering, and Medicine, [*Transforming the Financing of Early Care and Education*](#), the case for reform is clearly stated: “The deficiencies in the current system are hurtful to all children and families in need of ECE options and the adults who are ECE practitioners and educators — who are themselves often in extreme economic distress” (NASEM, 2018, p. 239). The report acknowledges that “for too long the nation has been making do with ECE policies and systems that were known to be broken” and calls for a new national financing structure and increased public investment for early care and education.

The United States is not investing enough to consistently secure quality in early childhood services; in fact, our nation is lagging behind other countries. While there is variability — France, New Zealand, and the Nordic countries spend one percent or more of gross domestic product (GDP) on ECE — on average, Organisation for Economic Co-operation and Development (OECD) countries spend about 0.7 percent of GDP on ECE. The United States joins countries that spend below this average, such as Estonia, Japan, Portugal, and Turkey, putting less than 0.5 percent of GDP toward early care and education (OECD, 2016).

Transforming the Financing of Early Care and Education represents a sea change in public discourse about the costs involved in creating an equitable, high-quality ECE system, as it makes clear that substantial new sources and levels of funding are a requirement for reform. However,

notwithstanding this recognition and recent increases in some publicly funded programs — such as the infusion of an additional \$2 billion annually in the Child Care and Development Block Grant program — federal funding has historically been and remains insufficient to make broad changes to the ECE system. Likewise, states have been reluctant to assume the costs of quality early education, particularly as it extends beyond certain groups of three- or four-year-olds in pre-K programs (NASEM, 2018).

To date, most efforts to improve both access and quality have only scratched the surface in addressing the inequities and inadequacies of the system. Efforts to envision better workforce policies and adequate funding have been constrained in part by an assumption that change must fit within the confines of the existing infrastructure and funding streams. Such constraints have undermined a comprehensive approach to quality improvement and workforce policies and have allowed proposals that raise qualifications for the workforce to move forward without linking them to resources that simultaneously address teachers' earnings and economic well-being (Whitebook et al., 2018).

The amount of funding available for the workforce is the linchpin of the ECE system — without well-qualified and fairly compensated early educators and supportive working conditions, programs will not be able to provide and sustain a high standard of quality for the children in their care. It is well known that personnel costs are the major determinant of the cost of services (IOM & NRC, 2015; Whitebook, Philips, & Howes, 2014). Accounting for the elements necessary to support quality teaching practices — particularly in terms of qualifications, compensation, and adequate staffing levels and supports — is critical to articulating the realistic costs of a high-quality early care and education system. As estimates are used to inform policy and revenue strategies, it is necessary for policymakers and the public to understand the distance between the current system and the system that is needed and to be able to design short- and long-term goals to close the gap.

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While the NASEM report provides an illustrative example of the costs involved in reforming the ECE system at a national scale, it is not the only approach or vision for financing ECE that has been articulated or utilized. A wide array of approaches at the national, state, and local levels have been crafted in the service of improving policy and resources available for financing early care and education. Each of these approaches, including *Transforming the Financing of Early Care and Education*, is built upon the respective authors' assumptions regarding the costs involved in

delivering high-quality services and include varying degrees of attention to salaries, benefits, and workplace supports. The variations in these workforce assumptions explain — to a significant degree — the level of detail and final price tag for each approach. Taken as a group, these estimates are critical for underscoring the tremendous disparity between currently available resources and what is needed to support early care and education. For that reason alone, each of these cost models adds critical value to current policy discussions about financing. At the same time, the differences help highlight the varying ways that stakeholders conceptualize what constitutes quality and, specifically, what constitutes appropriate employment conditions for those who care for and educate young children.

Estimating the costs for a reformed revision of what ECE should and can look like is important for establishing short- and long-term policy and resource goals. In this paper, we examine a set of cost models and their decisions about resources for teachers and their working environments that drive the per child or total system estimates produced. In this assessment, rather than critique whether a specific model is “good” or “bad,” we present the assumptions each model makes about staff (staffing levels, qualifications, compensation, and professional supports like paid planning time and professional development) to demonstrate how such decisions impact the estimated cost of the reforms. These estimates are looked to by advocates, policymakers, and the public at large to inform short- and long-term decisions about early care and education services (e.g., voters deciding on tax levies to fund services, universal preschool initiatives, raising reimbursement rates to adequately fund services). Therefore, it is critical that we understand what drives these estimates and the extent to which they reflect the cost of ensuring that early education teaching jobs are good jobs.

Exploring Approaches to Estimating Workforce Costs

After a review of nearly a dozen local, state, and national approaches to estimating the cost for ECE services, five approaches were selected for review. We chose models based on our assessment of their relevance to current public policy discussions and for their attempt to estimate costs for a system (see **Table 1**). We did not consider models that focused only on a restricted set or type of programs — for example, we do not include an estimate of preschool services using the Preschool Quality and Revenue Calculator (CEELO, 2018) — nor did we consider models that are not published for public consumption or generic cost-modeling templates.

This brief highlights key features of the five models with particular attention to both the scope of services, workforce qualifications, and compensation as these are the major drivers of cost. Three of the selected models estimate national costs of services for children from birth to kindergarten entry, each with varying configurations, and the two selected state/regional models each represent different scopes of services and age of children, as well.

For each model, to the extent possible, we include in our review key drivers of workforce costs: information on the population of children the model addresses; assumptions about ratios and staffing levels; wages and benefits for teaching staff; and the inclusion of additional personnel. We relied on a document review of published material about each model, which varied with regard to the level of detail available, and thus, our ability to assess each assumption with the same level of depth varied. Throughout this assessment, we routinely use the term “teacher” to capture all staff employed in center and home-based programs whose primary role is working directly with children, which can include the owner/provider in home-based settings. We use the term “provider” or “family child care provider” when specifically discussing this group of educators. Further distinctions between roles and settings are noted as applicable.

| Table 1. Cost Models Included in Review | |
|---|--|
| Model | Summary Description |
| National Models | |
| Building the Caring Economy: Workforce Investments to Expand Access to Affordable, High-Quality Early and Long-Term Care (hereafter referred to as Building the Caring Economy) Publication year: 2017 | This report proposes a framework for public investment in early care and education and long-term care for older adults. The proposed ECE framework is intended to support two key components of program quality: staff qualifications and staff compensation. The report provides cost estimates for two policies: 1) a wage pass-through for center-based and family child care teachers receiving federal funds; and 2) subsidies for center-based ECE (IOM & NRC, 2015). These estimates draw on national data sources, including the National Survey of Early Care and Education, the U.S. Census Bureau's Survey of Income and Program Participation, and the U.S. Department of Health and Human Services' reporting on the Child Care Development Fund. |
| Cradle to Kindergarten Publication year: 2017 | The authors focus their analysis and recommendations on restructuring the current care and education system. Their proposal for early care and education consists of five integrated components: paid parental leave; an expanded child care subsidy; an expanded child care tax credit; universal preschool; and a revised Head Start program. |
| Transforming the Financing of Early Care and Education (hereafter referred to as Transforming the Financing) Publication year: 2018 | This study outlines a framework for financing high-quality early care and education nationally. The proposed framework was intended to align with recommendations made in the Institute of Medicine and National Research Council's earlier report <i>Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation</i> (2015). To develop the cost estimates, the authors first adapted a cost calculator from previous studies to determine the center-based cost per child hour for various age groups. Then, they estimated the home-based cost per child hour, adjusting the center-based figure by the ratio of home-based prices to center-based prices. Finally, they multiplied these figures by the total hours of care utilized by each age group to develop a national aggregate cost estimate. Estimates are presented in four phases that assume a gradual increase from the current system to one that aligns with the illustrative example. |
| State/Local Models | |
| The Cost of Preparing Students for Kindergarten in Southwest Florida (hereafter referred to as Preparing SW Florida) Publication year: 2017 | This report examines the resources needed to prepare three- and four-year-olds in southwest Florida for kindergarten. It focuses on the gap between current funding levels and the funds needed to ensure kindergarten readiness. The estimate was informed by the Provider Cost of Quality Calculator but developed a distinct approach. The main methodological approach in this study was what the authors' term a "professional judgement approach," in which panels of experts were asked to identify the type and quantity of resources necessary to ensure kindergarten readiness. In making their recommendations, panelists were asked to assume that programs could recruit and retain qualified staff, that there would be sufficient space, and that programs would be effectively and efficiently implemented. In addition, panelists were not asked to consider the source of revenue needed to provide the resources they identified. |
| Blue Ribbon Commission on Financing High Quality, Affordable Child Care (hereafter referred to as Vermont) Publication year: 2018 | The report was commissioned by the state legislature through the Act Relating to Making Appropriations for the Support of Government No. 58 § C.101 (2015). This Act established the Commission to review recent reports on child care, to identify the elements of quality child care, and to make relevant funding recommendations to the legislature and governor. Accordingly, this report intended to define and estimate the cost of providing high-quality child care statewide to children from birth through age five. Based on a series of input strategies, the Commission drafted a line-item annual budget for both a center- and a home-based program and used these program budgets to develop a statewide cost estimate. |

What Assumptions Are Made About Children?

Scope of Services

Numerous variables function as multipliers of the per child costs that inform an overall estimate. These variables include the ages and number of children served, the duration of time they spend in ECE, and a description of the ECE setting.

For example, student-teacher ratios vary by the age of the child, with infants requiring more adults and smaller ratios. Thus, it costs more to provide services to infants and toddlers than preschool-age children. Similarly, a model based on universal access, as is the case in both *Transforming the Financing* and *Cradle to Kindergarten*, will cost more than a model that assumes services will be targeted to certain populations (e.g., setting income eligibility thresholds), see **Table 2**. Identifying the assumptions made about the number of children in each age cohort expected to participate is important as it impacts the overall cost, specifically, how many teachers will be required.

Personnel costs are also driven by the total number of days and hours that services are provided and must be staffed. A program that is open for five days a week from 7 a.m. to 6 p.m. (11 hours per day, 55 hours per week) requires a different level of staffing than a part-day or part-year program or a program that considers “full day” to be six hours or eight hours.

Lastly, while each of the models we reviewed assume services will be provided in center- as well as home-based setting, variations of assumed utilization rates based on age of child by setting factor into the overall estimates.

| Table 2. Assumptions About Child Population, Participation, and Hours of Operation | | | |
|--|---|--|--|
| National Models | | | |
| | Ages of Children Included in Model | Participation Rates | Hours of Operation |
| Building the Caring Economy | Children from birth to kindergarten entry | Offers multiple scenarios of participation levels driven by expansion of public subsidies | Full day, full year; however, the specific number of hours used in estimate not available in report |
| Cradle to Kindergarten | Children from birth to kindergarten entry | Varies by program, assumes greatest participation by 3-year-olds using child care subsidies and greatest participation by 4-year-olds in universal preschool | Varies by program, assumes 9-month school year for full-day preschool but allows child care subsidy to cover extended-year costs |
| Transforming the Financing | Children from birth to kindergarten entry | Uses current patterns of utilization for phase 1 and adjusts participation upwards until phase 4 is reached | Some variation as static and dynamic estimates produced; for the hourly cost calculation, 40 hours per week, 52 weeks a year was assumed |
| State/Local Models | | | |
| Preparing SW Florida | All 3- and 4-year-olds | Utilizes existing enrollment levels in the existing Voluntary Pre-K program | 6 hours per day |
| Vermont | Children from birth to kindergarten entry | Provides three different scenarios that reflect different levels of utilization: 24.7%, 70%, and 100% | 8 hours per day |

What Assumptions Are Made About Teaching Staff?

Ratios

While there are national recommendations about the appropriate ratios of children to adults as well as group sizes, these recommendations are not requirements. States take the lead role in regulating both the children-teacher ratios as well as group size, and these regulations vary from state to state.

Two models — *Building the Caring Economy* and *Transforming the Financing* (at its final phase) — assume the same ratios in center- and home-based programs, which range from 3:1 to 10:1, depending on the ages of the children and total group size. *Preparing SW Florida* adjusts ratio size based on children’s ages and poverty-level rates among children, increasing the number of staff to children for those living in poverty. *Vermont* assumes a ratio of 6:1 to 10:1, depending on the ages of the children. *Cradle to Kindergarten* does not address children-teacher ratios.

Teaching Roles

The models profiled in this brief assume a variety of staffing arrangements. Four of the five models provide explicit information about the roles included for those working directly with children in a teaching capacity. *Cradle to Kindergarten* differentiates between program models of “early care and education” for infants and toddlers and “preschool” for children beginning at age three, yet while reference is made to teachers and assistant teachers in preschool settings, varied teaching roles are not delineated for those working with infants and toddlers. The remaining models provide explicit information about the roles included for those working directly with children in a teaching capacity.

Among the four models that identify teaching staff roles, each assumes at least one lead teacher and an assistant teacher per group in center-based programs, with additional variations by model. Job titles for roles with the same responsibilities vary in the models, just as they do across the early care and education system. In our analysis, however, we use the term “assistant teacher” to refer to someone who assists a teacher or lead teacher in a classroom and “lead teacher” to refer to someone in a classroom with primary responsibility for a group of children, planning lessons, and who may also oversee other teachers.

The four models that identify teaching staff roles do have some differences. *Transforming the Financing* assumes a second assistant teacher, and *Building the Caring Economy* assumes an additional entry-level aide position. *Preparing SW Florida* and *Vermont* also include both floaters and substitute teachers. For family child care, *Transforming the Financing* assumes one teacher and one assistant, while *Preparing SW Florida* accounts for one teacher but no assistants. *Vermont* adds an assistant when the number of children exceeds six, and we can infer from the report that *Building the Caring Economy* assumes an assistant teacher when ratio requirements warrant an additional person.

Teaching Staff Qualifications

Nearly all states have established a set of core knowledge and competencies that identify what early childhood teachers should know and be able to do. Nonetheless, these qualifications have not translated into minimum education requirements that are applied to early educators working

with children prior to kindergarten, regardless of setting or age of child. As noted in the [Early Childhood Workforce Index](#) (Whitebook et al., 2018), the 50 states and the District of Columbia each set their own qualification standards for teachers, and those requirements vary widely not

“Cost models can be visionary examples and practical planning tools; they provide an opportunity to establish new assumptions about teacher qualifications and, depending on the scope of the model, to apply expectations evenly across settings and ages of children.”

only across states, but within states according to setting and source of funding. States typically require one set of qualifications for teaching staff and site administrators in center-based child care, another for those in regulated home-based programs, and yet another for public preschool. Other qualifications set by the federal government for military child care, Early Head Start, and Head Start programs add further complexity to the array of requirements that can be found in a given community. Cost models can be visionary examples and practical planning tools; they provide an opportunity to establish new assumptions about teacher qualifications and, depending on the scope of the model, to

apply expectations evenly across settings and ages of children.

Assistant Teachers

Transforming the Financing of Early Care and Education assumes that assistant teachers in any setting will have either a Child Development Associate (CDA) credential, some college credits, or an associate degree in the field of early childhood education. Similarly, *Building the Caring Economy* assumes assistants will have at least some college or an associate degree, whereas *Cradle to Kindergarten* proposes that only assistant teachers in preschool settings have at least a CDA and does not further articulate expectations for assistants in other settings. The *Preparing SW Florida* report indicates broad agreement from their input panels that the associate degree is the appropriate level for assistant teachers, however, it is unclear whether salaries associated with this degree level were used in the estimate.

Lead Teachers and Family Child Care Providers

Three models — *Transforming the Financing*, *Building the Caring Economy*, and *Preparing SW Florida* — assume a bachelor’s degree for lead teachers in center-based programs in their models, as *Cradle to Kindergarten* does for preschool teachers. Notably, *Building the Caring Economy* assumes that the lead teacher is only in the classroom part time. The *Vermont* report does not explicitly state qualifications of center- or home-based staff, but does make reference to including resources to support the workforce towards move to licensure. Only *Transforming the Financing* assumed the same qualifications for lead teachers in both center- and home-based settings.

Preparing SW Florida notes that family child care providers face barriers to participating in degree programs, given they are often the only staff person on site, however, the authors ultimately

recommend that family child care providers have a bachelor's degree like center-based lead teachers. *Building the Caring Economy* makes reference to providing resources to support family child care providers to meet the standards outlined in *Transforming the Workforce for Children Birth Through Age 8* (IOM & NRC, 2015), which assumes a bachelor's degree, though this level of education is not clearly identified as an expected requirement in the *Building the Caring Economy* model.

Teaching Staff Compensation

The work of caring for and teaching young children remains one of the lowest-paid occupations in the United States. The persistently low wages of early educators has been documented since these data were first collected on the workforce more than a century ago (McGee, 1918; Snyder, 1972). In 2017, median wages for early educators ranged from \$10.72 per hour (or \$22,290 full time per year) to \$13.94 per hour (or \$28,990 full time per year). As noted by McLean, Whitebook, and Roh (2019), these wages hover near poverty levels. Growing evidence about how poor compensation and associated working conditions undermine the well-being of educators and efforts to improve quality lends urgency to the search for strategies to disrupt the status quo (Whitebook, Hankey, Schlieber, Austin, & Philipp, 2018; Whitebook, Schlieber, Hankey, Austin, & Philipp, 2018a, 2018b). However, progress toward improved compensation remains uneven, and little consensus exists on the reasons for compensation reform (e.g., setting a higher wage floor, economic justice for the workforce, parity with K-12, quality improvement strategy; McLean et al., 2019).

The compensation of early educators drives the cost of services, consuming by most estimates anywhere from about 60 to 80 percent of a program's budget (Center for the Study of Child Care Employment & Child Care Aware, 2018; Dastur et al., 2017). Thus, when building or reviewing models for financing ECE, it is imperative to consider the assumptions embedded into compensation levels, including whether compensation estimates fold in wages and benefits and whether wages are benchmarked to external salaries and/or regional measures, such as regionally based living wages, public school teacher salaries, or other occupations with similar qualification requirements.

“The compensation of early educators drives the cost of services.”

To this end, this review takes a close look at the assumptions built into the cost models about compensation, meaning salary and benefits. Given the varied approaches and assumptions included in the models, we sought to identify: 1) how wage levels compare to current median wages of early educators and across occupations; and 2) the degree of salary parity included in the estimates. See **Box 1** for a description of the Compensation Parity Framework utilized for this assessment.

Box 1. About Compensation Parity

Compensation parity is defined as parity with K-3 teachers for salary and benefits for equivalent levels of education and experience, adjusted to reflect differences in hours where applicable (e.g., early educators typically work year round, whereas K-3 teachers are more likely to work 10 months), and includes payment for professional responsibilities during non-child contact hours (e.g., paid time for planning; Whitebook & McLean, 2017). **Table 3** defines varying levels of parity based on whether components available for early educators are the same when compared to elementary teachers or not present at all.

Table 3. Compensation Parity & Related Forms of Compensation Improvement: A Framework

| Type of Compensation Improvement | Components of Compensation | | | |
|--|---|--|---|--|
| | Salary | | Benefits | Payment for Professional Responsibilities ⁴ |
| | Starting Salary | Salary Schedule | | |
| Parity (defined as equivalent) | Same, prorated for day length and number | Same, prorated for day length and number | Same package, same options for coverage for health, retirement, and vacation/holiday/sick leave | Same menu of supports and dosage for non-child contact responsibilities (e.g., planning time, professional development days) |
| Partial Parity (defined as equivalent for select components) | Same, prorated for day length and number | Not same or absent | Equivalent options for some benefits, but not full package of benefits | Equivalent options for some supports, but not full menu of supports |
| Sub-Parity (defined as similar but not equivalent) | Same, not prorated | Same, not prorated or not same/absent | Same package of benefits, not equivalent value | Same menu of supports, not equivalent value |
| Alternative Forms of Compensation Improvement | Strategies that improve pre-K compensation in order to close the gap with teachers of older children but fall well short of parity. In theory, compensation improvement strategies could also set goals higher than earnings of K-12 teachers in public schools, though in practice this is rare. | | | |

Source: Whitebook, M. & McLean, C. (2017). In Pursuit of Pre-K Parity: A Proposed Framework for Understanding and Advancing Policy and Practice. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley and New Brunswick, NJ: The National Institute for Early Education Research.

Salaries

Assistant Teachers

Four of the models articulated salary assumptions for assistant teachers (see **Table 4** and **Table 5**). *Transforming the Financing, Building the Caring Economy* and *Vermont* provided a range based on qualification levels and/or range of assistant roles, while *Preparing SW Florida* provided one estimate for teachers who are assumed to hold an associate degree. The minimum estimates included in *Building the Caring Economy* and *Vermont* would ensure that assistant teachers who work full time, year round, earn at least \$15 an hour. This salary assumption is echoed in the first

phase of the *Transforming the Financing* model for assistant teachers with an associate degree, and for assistant teachers with a CDA, wages would extend above \$15 an hour at a later stage. The *Preparing SW Florida* estimate would provide full-time assistant teachers about \$12.70 an hour. *Cradle to Kindergarten* does not address assistant teacher salaries.

For the purposes of comparison to state and national median wages, the proposed wage amounts of each model in **Tables 4** and **5** have been adjusted to 2018 dollars.

Table 4.

Relationship of Assistant Teacher Qualification Assumptions and Salary Levels to Compensation Parity Among National Models

| National Models | Qualification | Salary Parity (see Framework, Box 1 and Table 3) | Proposed Wage Level* | | National ECE Median Wage (2018)** | | National Median Wage, All Occupations (2018) | |
|-----------------------------|--|---|---------------------------------------|----------------------|-----------------------------------|--------------------|--|---------|
| | | | Annual | Hourly | Annual | Hourly | Annual | Hourly |
| Building the Caring Economy | Aide: High school diploma or less | Alternative benchmark; \$15/hr for aides; assistants with an associate degree would be paid 18% more than aides, reflecting the percentage of the wage premium for those with this degree compared to those with a high school diploma across occupations | Aide: \$31,200 | Aide: \$15 | \$23,240 to \$29,782 | \$11.17 to \$14.32 | \$38.64 | \$18.58 |
| | Assistant: \$37,731 | | Assistant: \$18.14 | | | | | |
| Cradle to Kindergarten | Not addressed for children birth to age 3; CDA recommended for preschool | Sub-parity: For preschool teachers, suggest equivalent pay with K-12 if education levels are equivalent; no mention of proration or salary schedule | Specific wage not identified in model | | | | | |
| Transforming the Financing | CDA or some college | Sub-parity: Does not adjust for length of year worked | CDA or some college: | CDA or some college: | | | | |
| | Associate degree | | Phase 1 \$25,965 | Phase 1 \$12.48 | | | | |
| | | | Phase 4 \$33,692 | Phase 4 \$16.20 | | | | |
| | | | Associate Degree: | Associate Degree: | | | | |
| | | | Phase 1 \$32,069 | Phase 1 \$15.43 | | | | |
| | | | Phase 4 \$41,595 | Phase 4 \$20.00 | | | | |

*Note: Adjusted to 2018 dollars for comparison.

Source: Median wages for ECE and all occupations retrieved from the Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, <https://www.bls.gov/ooh/> on May 19, 2019.

**The range reflects separate Bureau of Labor Statistics classifications of child care worker and preschool teacher; the source does not further distinguish by job role.

Table 5.

Relationship of Assistant Teacher Qualification Assumptions and Salary Levels to Compensation Parity Among State/Local Models

| State/Local Models | Qualification | Salary Parity (see Framework, Box 1 and Table 3) | Proposed Wage Level* | | State ECE Median Wage (2018)** | | State Median Wage, All Occupations (2018) | |
|----------------------|--|---|----------------------|--------------------|--------------------------------|--------------------|---|---------|
| | | | Annual | Hourly | Annual | Hourly | Annual | Hourly |
| Preparing SW Florida | Associate degree | Unclear from the report if wages were benchmarked to another occupation | \$27,048 | \$13.01 | \$21,860 to \$24,731 | \$10.51 to \$11.89 | \$34,570 | \$16.62 |
| Vermont | Varies across aide and assistant roles | Unclear if the education levels are expected to be the same and whether public school aides are full or part-time | \$34,850 to \$43,562 | \$16.76 to \$21.00 | \$27,602 to 32,531 | \$13.27 to \$15.64 | \$39,728 | \$19.10 |

*Note: Adjusted to 2018 dollars for comparison.

Source: Median wages for ECE and all occupations retrieved from the Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, <https://www.bls.gov/ooh/> on May 19, 2019.

**The range reflects separate Bureau of Labor Statistics classifications of child care worker and preschool teacher; the source does not further distinguish by job role.

Lead Teachers

As seen above with assistant teachers, assumptions of levels at which to set lead teacher salaries vary across the models (see **Table 6** and **Table 7**). *Transforming the Financing* calls for a phase-in for lead teacher compensation, with a benchmark of aligning with kindergarten teachers salaries in the fourth and final phase. This benchmark to kindergarten teachers' salaries, however, fails to account for the reality that most early educators work year round while elementary school teachers work an average of 10 months per year. Of note, while the *Transforming the Financing* report does call out the implications for the cost model if the illustrative estimate had adjusted salaries to account for the difference, the estimate ultimately presents a salary for lead teachers in ECE settings that is substantially less than that of kindergarten teachers. The report notes, for example, that teacher salaries would be \$18,540 greater per year if salary levels in the final phase "were set equivalent to 12 months at the monthly rate of the contract amount for kindergarten educators' salaries" (NASEM, 2018, p. 183).

Building the Caring Economy and *Preparing SW Florida* are both clear that ECE lead teachers should have the same starting salary as kindergarten teachers, but the models are less explicit about whether proration has been applied in the calculation. In *Cradle to Kindergarten*, no reference to compensation standards for those working with infants and toddlers is made; the

authors do, however, state that preschool teachers who hold the same education as K-12 teachers “should be paid equally” but with flexibility allowed for local implementation (Chaudry, Morrissey, Weiland, & Yoshikawa, 2017, p. 99).

In short, while the models generally address starting salary, more often than not linking it to K-12 teachers, our review found that none of the models addressed a salary schedule. In other words, the models failed to account for an increase in compensation level over time for teachers who have gained further experience and or advanced their education. Most of the models also do not make it clear whether their estimates adjust salary benchmarks for the length of the year early educators typically work. *Transforming the Financing* is the exception, acknowledging the discrepancy but ultimately deciding not to account for it in the final estimate.

Specific annual salaries are identified in the models, allowing us to assess how they compare to other occupations. *Transforming the Financing* identifies wages that increase over a four-phase period, going from \$42,759 to \$55,460. *Building the Caring Economy* marked \$51,640 as the annual teacher salary, while *Preparing SW Florida* set the salary at \$41,705 and *Vermont* at \$56,160. In *Cradle to Kindergarten*, though suggestions are made about salary levels for preschool teachers, it is not clear from the proposal that an actual salary amount was figured into the estimate for any role, but rather that estimates for the proposal were built upon assumptions about the current costs of early care and education services.

For the purposes of comparison to state and national median wages, the proposed wage amounts of each model in **Tables 6** and **7** have been adjusted to 2018 dollars.

Table 6. Relationship of Lead Teacher Qualification Assumptions and Salary Levels to Compensation Parity Among National Models

| National Models | Qualification | Salary Parity (see Framework, Box 1 and Table 3) | Proposed Wage Level* | | National ECE Median Wage** | | National Median Wage, Kindergarten Teachers | |
|-----------------------------|--|---|---------------------------------------|----------------------------------|----------------------------|--------------------|---|---------|
| | | | Annual | Hourly | Annual | Hourly | Annual | Hourly |
| Building the Caring Economy | Bachelor's degree | Sub-parity for salary; proration not clear; salary schedule not addressed | \$52,922 | \$25.44 | \$23,240 to \$29,782 | \$11.17 to \$14.32 | \$55,470 | \$26.68 |
| Cradle to Kindergarten | Not addressed for children birth to age 3; bachelor's degree for preschool | Sub-parity for preschool teacher salary suggested with K-12 if education levels are equivalent, proration and salary schedule not addressed | Specific wage not identified in model | | | | | |
| Transforming the Financing | Bachelor's degree | Sub-parity for salary; no proration; salary schedule not addressed | \$42,759 up to \$55,460 by Phase 4 | \$20.56 up to \$26.67 by Phase 4 | | | | |

*Note: Adjusted to 2018 dollars for comparison.
 Source: Median wages for ECE and kindergarten teachers retrieved from the Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, <https://www.bls.gov/ooh/> on May 19, 2019.
 **The range reflects separate Bureau of Labor Statistics classifications of child care worker and preschool teacher; the source does not further distinguish by job role.

| Table 7. Relationship of Lead Teacher Qualification Assumptions and Salary Levels to Compensation Parity Among State/Local Models | | | | | | | | |
|---|-------------------|---|----------------------|---------|-------------------------|--------------------|--|---------|
| State/Local Models | Qualification | Salary Parity See Framework, Box 1 | Proposed Wage Level* | | State ECE Median Wage** | | State Median Wage, Kindergarten Teachers | |
| | | | Annual | Hourly | Annual | Hourly | Annual | Hourly |
| Preparing SW Florida | Bachelor's degree | Sub-parity for salary; proration not clear; salary schedule not addressed | \$42,732 | \$20.54 | \$20,977 to \$24,324 | \$10.09 to \$11.69 | \$56,258 | \$27.05 |
| Vermont | Bachelor's degree | Sub-parity for salary; proration not clear; salary schedule not addressed | \$58,809 | \$28.27 | \$26,424 to \$30,391 | \$12.70 to \$14.61 | \$65,884 | \$31.68 |

*Note: Adjusted to 2018 dollars for comparison.

Source: Median wages for ECE and kindergarten teachers retrieved from the Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, <https://www.bls.gov/ooh/> on May 19, 2019.

**The range reflects separate Bureau of Labor Statistics classifications of child care worker and preschool teacher; the source does not further distinguish by job role.

Benefits

The provision of health and retirement benefits and paid time off contribute to teacher well-being and can influence the ability to attract and retain staff. Yet, these benefits are often not available to early educators. Decisions about benefits for teachers have implications for cost as well as for how supports for teachers are articulated in the reformed systems that each model envisions.

For the most part, the models either do not specify what is reserved for benefits, or they calculate benefits as a share of the compensation with minimal, if any, specification of what is included (see **Table 8**). *Preparing SW Florida* sets the benefit rate by position, basing the rates on information collected via surveys of 10 administrators and owners of child care centers in the region. Notably, only *Transforming the Financing* specifically articulates that paid time off is included in the estimate. *Vermont* is the only model that explicitly addresses reduced tuition for the children of employees and provides for a 25-percent tuition reduction.

“The provision of health and retirement benefits and paid time off contribute to teacher well-being and can influence the ability to attract and retain staff. Yet, these benefits are often not available to early educators.”

| Table 8. Benefits Provided to Teaching Staff | | | | | |
|---|---|---|--|--|---|
| | Benefit Rate | Health Benefits Included | Retirement Benefits Included | Paid Time-Off Included | Reduced Tuition for Employee Children |
| National Models | | | | | |
| Building the Caring Economy | Included as 25% supplement to salary costs, but no other details specified | Not addressed | Not addressed | Not addressed | Not addressed |
| Cradle to Kindergarten | Benefits amounts and package not specified | Not addressed | Not addressed | Not addressed | Not addressed |
| Transforming the Financing | 31.5% added to all salaries to cover health care, retirement, paid leave, and payroll taxes | Included as part of composite benefit rate | Included as part of composite benefit rate | Included as part of composite benefit rate | Not addressed |
| State/Local Models | | | | | |
| Preparing SW Florida | Benefit rate varies by position and is applied to center- and home-based positions; benefits may include health care and payroll taxes | May be included in composite rate, but not specifically identified | Not addressed | Not addressed | Not addressed |
| Vermont | Center-based: Benefit amount set to 29.7% of salary for center-based providers Home-based: Benefit rate not specified for home-based providers | Center-based: 80% of monthly premium for full-time employees and 60% of monthly premium for part-time employees; model assumes 60% of staff use health benefits Home-based: Health care costs are for the owner, not staff | Center-based: Percent or amount not specified, but "for center model, the models assume employer matching contribution" Home-based: Percent or amount not specified, but the model notes that retirement costs included for all staff | Not addressed | 25% tuition reduction for children of employees |

What Assumptions Are Made About Administrators and Other Personnel?

Administrators

Center administrators have a large responsibility for the educational, financial, and all other operational duties of a center. While it is often assumed that they have sufficient resources and time to fulfill this wide variety of responsibilities, how cost models define, compensate, and support these roles is important, particularly given the critical role of administrators to program quality (Whitebook & Sakai, 2004; Whitebook, King, Philipp, & Sakai, 2016).

The *Vermont* and *Preparing SW Florida* models articulate an anticipated salary for administrators, but none of the national models make this salary level evident in their reports. Even though *Transforming the Financing* does explain that time and salaries for administrators and other support personnel are included in the estimate, we could not ascertain the benchmarks for these salaries, as was the case for teaching staff roles. *Vermont* assumes the same salary for center administrators and home-based provider/owners and sets this amount just shy of the salary for a Vermont public school teacher (\$56,160 for ECE administrators, whereas Vermont public school teacher salary was identified as \$56,504). Of note, the *Vermont* model assumes that family child care provider/owners will work a 10.5 hour day. The *Preparing SW Florida* model relied primarily on surveys that were administered to programs operators and administrators to inform salary levels used in the estimate. For center-based administrators, the model assumes a salary of \$61,219 and for home-based administrator/owners, a salary of \$41,705.

Support Personnel

Similarly, support staff are essential to the functioning of early care and education programs, and they provide critical services. For example, food preparation and janitorial staff enable teachers to focus their time on teaching and learning. Daily floaters can provide relief time for teaching staff to take breaks and engage in planning and preparation activities. Programs that utilize family support staff are able to more directly support children and their families, helping to identify issues and concerns and building connections to other important resources, such as health and behavioral health services. Often decisions about these positions and supports rest entirely with each center and are largely informed or limited by available financial resources.

Our examination of the five models as it relates to other personnel found that, with the exception of the *Preparing SW Florida* and *Vermont* models, the inclusion of specific roles in the models are

much less defined than for teaching staff (see **Table 9**). It should be noted that, while we focus on specific support roles that may be more common, the *Preparing SW Florida* model identifies eight additional support staff roles that are special education positions.

For the purposes of comparison to other wages identified in this report, the proposed wage amounts of each model in **Table 9** have been adjusted to 2018 dollars.

| | Family Support Staff | Admin Assistant | Janitorial/Maintenance Staff | Cook | Substitute | Daily Floater |
|----------------------|--|----------------------|------------------------------|---|---|---|
| Preparing SW Florida | Center- and home-based: \$55,794 annually | \$29,377.60 annually | \$23,019.07 annually | \$23,177.75 annually | \$26,763.96 annually | \$26,763.96 annually |
| Vermont | Center-based, at 40 hours a week: \$43,810.49 annually (\$21.07/hr) Home-based, at 10 hours a week: \$10,951.84 annually (\$21.07/hr) | Not addressed | Not addressed | Center-based, at 20 hours a week: \$17,273.81 annually (\$16.62/hr) | Center- and home-based, at 8 hours a week: \$6,909.52 annually (16.61/hr) | Center-based, at 40 hours a week: \$34,547.62 annually (\$16.62/hr) |

Note: Only the state and local models provided enough detail about support personnel to be included in this assessment. Furthermore, within the two models, this information was only available for center-based programs.

Sufficient support for administrators and the availability of support staff are vital to the overall quality of the services available, and as with teaching staff, the well-being and stability of this staff impacts their overall stability and productivity and the quality of ECE services. Additionally, in the case of family child care, the roles and responsibilities covered by the administrator and other support personnel appear to be subsumed in the role of the family child care provider/owner.

Estimating the Costs Across Five Models

Each of the five models we examined produces a different estimate of the costs of delivering what the authors define as quality early care and education services. We have focused our review of the models on staffing, as this factor is the primary driver of costs and quality, but we also wanted to understand how early educators are treated in visions of reform, given the historic and persistent levels of poor compensation that this workforce has endured. Additionally, we limited our discussion to the estimates produced, rather than assumptions about closing the gap between

“The elements that inform an estimate and the estimate itself can have long-lasting effects, assuming that an estimate is indeed looked to by advocates, policymakers, and the public at large to inform decisions about early care and education services.”

the current system and the estimates presented in the models or about who would pay for what share of the costs. Among the models reviewed here, *Cradle to Kindergarten* offers the most detailed proposal for funding the proposed model. Additional information on each of the models is summarized in the **Appendix**.

Estimating the costs for a reformed revision of what early care and education should and can look like is important for establishing short- and long-term policy and resource goals. As an examination of the

models included here demonstrates, decisions about resources for teachers and their working environments produce wide-ranging estimates (see **Table 10**).

| | Average per Child Cost Across Settings and Age | Center-Based: Infant/Toddler | Center-Based: Preschool | Home-Based: Infant/Toddler | Home-Based: Preschool |
|--|--|------------------------------|-------------------------|----------------------------|-----------------------|
| Transforming the Financing (phase 4 estimates) | \$18,275 | \$31,778 | \$13,655 | \$17,722 | \$10,378 |
| Vermont | \$25,247 | \$37,211 | \$16,532 | \$32,703 | \$14,535 |
| Preparing SW Florida | | All ages, center-based | | All ages, home-based | |
| | \$11,954 | \$11,415 | | \$12,493 | |

Notes: Per child estimates are averaged within age category (for example, if a model provides a per child cost for infants 0-12 months and another for toddlers 12-36 months, they have been averaged here into one category of infant/toddler); all estimates have been adjusted to 2018 dollars.

Building the Caring Economy and Cradle to Kindergarten both model multiple program expansions and components and make a variety of assumptions about subsidy levels and family income to arrive at a total system cost rather than per child costs; Building the Caring Economy also makes a set of assumptions about wages and job creation that drive the model. Rather than generating per child costs per se, the models focus their estimates on developing overall costs of the proposed programs. See Appendix for these totals.

The elements that inform an estimate and the estimate itself can have long-lasting effects, assuming that an estimate is indeed looked to by advocates, policymakers, and the public at large to inform decisions about early care and education services. For these reasons, attention to the assumptions about staff (staffing levels, qualifications, compensation, and professional supports like paid planning time and professional development) and the estimates that are produced must be treated as more than an academic exercise. Estimates have the very real potential to be drivers of policies and resources for decades to come.

Appendix

Background Descriptions of Cost Models

NATIONAL MODELS

Building the Caring Economy: Workforce Investments to Expand Access to Affordable High-Quality Early and Long-Term Care

Authors: Nina Dastur, Indivar Dutta-Gupta, Laura Tatum, Peter Edelman, Kali Grant, and Casey Goldvale

Citation: Dastur, N., Dutta-Gupta, I., Tatum, L., Edelman, P., Grant, K., & Goldvale, C. (2017). *Building the Caring Economy: Workforce Investments to Expand Access to Affordable High-Quality Early and Long-Term Care*. Washington, DC: Georgetown Center on Poverty and Inequality. Retrieved from http://www.georgetownpoverty.org/wp-content/uploads/2017/05/Building-the-caring-economy_exec-summary_hi-res.pdf.

Background

Building the Caring Economy: Workforce Investments to Expand Access to Affordable High-Quality Early and Long-Term Care (referred to in the present report as *Building the Caring Economy*) proposes a framework for public investment in early care and education and long-term care for older adults. The authors argue that this framework would relieve the financial stress that families face when caring for younger and older family member and respond to the increasing calls to create good jobs that contribute to family and economic stability.

The proposed ECE framework is intended to support two key components of program quality: staff qualifications and staff compensation. Specific recommendations include funding a wage pass-through to increase compensation, subsidizing the expansion of center-based programs, and investing further in training and professional development for the workforce.

What population of children did the cost study address?

The ECE framework focuses on programs that serve children from birth to age five, nationwide.

What is the proposed delivery system?

The report proposes a mixed delivery system. The authors argue that many parents prefer center-based care when it is available and affordable, and they emphasize investments in this setting. Nonetheless, they believe parents should have the option to choose high-quality family child care.

How were the proposed estimates arrived at?

The report provides cost estimates for two policies: 1) a wage pass-through for center-based and family child care providers receiving federal funds; and 2) subsidies for center-based ECE. These estimates draw on national data sources, including the National Survey of Early Care and Education, the U.S. Census Bureau’s Survey of Income and Program Participation, and U.S. Department of Health and Human Services reporting on the Child Care Development Fund.

In addition to cost estimates, the report projects the stimulative fiscal impact of both policies, including their effect on tax revenue, public assistance usage, productivity, and consumption. The report also suggests that these policies will result in indirect job creation, though it does not attempt to measure this effect.

What is the proposed price tag?

| Table A1. Building the Caring Economy Model | Total Cost |
|--|---|
| Wage Pass-Through | \$12.2-13.8 billion (center-based) \$196 million (family child care) |
| ECE Subsidy | \$62 billion (center-based) |

The report envisions that federal and state governments would cover the cost of these initiatives. With regards to the subsidy, the federal government would fund staffing costs (which account for approximately 80 percent of program costs), while state governments would fund other expenses.

The authors argue that these costs would be offset and possibly reversed by the benefits associated with expanding high-quality ECE. They estimate that the wage pass-through would generate a fiscal impact of \$8 billion to \$16 billion, while the direct subsidy would generate an impact of \$71 billion.

How is compensation addressed by the model?

The framework proposes an hourly wage of \$15 for staff with a high school degree to reflect the national movement for a \$15 minimum wage. In addition, it proposes an hourly wage of \$17.70 for staff with an associate degree to preserve the current wage premium for this level of education attainment. Finally, it proposes an hourly wage of \$24.82 for staff with a bachelor's degree, and this figure is intended to match the earnings of kindergarten teachers.

The cost estimates account for benefits valued at 25 percent of staff salary, though the report does not specify which benefits would be covered. It also does not specify whether staff would be compensated for professional responsibilities (e.g., professional development, planning time, child assessment).

Cradle to Kindergarten

Authors: Ajay Chaudry, Taryn Morrissey, Christina Weiland, and Hirokazu Yoshikawa

Citation: Chaudry, A., Morrissey, T., Weiland, C., & Yoshikawa, H. (2017). *Cradle to Kindergarten: A New Plan to Combat Inequality*. New York: Russell Sage Foundation. Retrieved from <http://www.jstor.org/stable/10.7758/9781610448666>.

Background

The authors of *Cradle to Kindergarten* focus their analysis and recommendations on restructuring the current care and education system. Their approach is informed by the large and growing disparities in access to and quality of early care and education, as well as the impact of these disparities on the developmental outcomes of children and the economic sustainability of families.

For the authors, answering the challenges of quality and access requires a systemic response. Their proposal for ECE consists of five integrated components: paid parental leave; an expanded child care subsidy; an expanded child care tax credit; universal early education; and an expanded Head Start.

What population of children did the cost study address?

The components of their proposal target children from birth to age five, nationwide.

How were the proposed estimates arrived at?

The authors draw on various national data sources and existing studies to estimate the costs of each program component. For example, to calculate the cost of child care subsidies, they use Current Population Survey data to determine the number of children eligible based on age and

income level. As noted in the text, to calculate the cost of child care tax credits, they adjust existing cost estimates of similar proposals from the Tax Policy Center.

The authors note that they have estimated the maximum likely cost for each program, based on the assumptions of full implementation and high participation. If these assumptions do not hold, then actual costs may be lower than estimated costs.

What is the proposed price tag?

| Table A2. Cradle to Kinderdarten Model | Total Cost |
|--|----------------|
| Paid Parental Leave | \$19.0 billion |
| Expanded Child Care Subsidy | \$22.2 billion |
| Expanded Child Care Tax Credit | \$8.0 billion |
| Universal Early Education | \$33.0 billion |
| Expanded Head Start | \$17.2 billion |

The study envisions that federal, state, and local governments would cover the costs of the proposed program components. It also notes that these costs may be offset by other changes in government revenues or expenditures (e.g., increased tax revenue from increased labor force participation), though it does not estimate the size of this broader fiscal impact.

How is compensation addressed by the model?

The study does not address compensation (wages, benefits, or professional responsibility) for the ECE workforce in detail.

Transforming the Financing of Early Care and Education

Contributors: Committee on Financing Early Care and Education with a Highly Qualified Workforce; Board on Education, Youth, and Families; Division of Behavioral and Social Science and Education; Health and Medicine Division; National Academies of Sciences, Engineering, and Medicine.

Citation: National Academies of Sciences, Engineering, and Medicine. (2018). *Transforming the Financing of Early Care and Education*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/24984>.

Background

Transforming the Financing of Early Care and Education (referred to in the present report as *Transforming the Financing*) outlines a framework for financing high-quality early care and education nationally. The proposed framework was intended to align with recommendations made in the Institute of Medicine and National Research Council's earlier report *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation* (IOM & NRC, 2015). The U.S. Department of Education, the U.S. Department of Health, and several foundations provided funding for this study.

The study responds to shortcomings in the current financing structure. Despite the wealth of research around the importance of ECE for child development, parental workforce participation, and overall economic growth, many families continue to lack access to care. At a system-wide level, this shortfall perpetuates inequality for the families the system is meant to serve and the workforce that makes such a system possible.

The study defines high-quality ECE according to six principles summarized below:

1. A "diverse, competent, effective, well-compensated, and professionally supported" workforce;
2. Equitable and affordable access across demographic groups;
3. An adequate and transparent financing system;
4. A variety of delivery options;
5. Adequate resources for facilities; and
6. Ongoing accountability and evaluation systems.

What population of children did the cost study address?

The study is concerned with children nationwide, from birth to kindergarten entry.

What is the proposed delivery system?

The study proposes a mixed delivery system, and it provides cost estimates for both center-based and home-based care.

How were the proposed estimates arrived at?

To establish a foundational understanding of ECE financing, the Committee on Financing Early Care and Education with a Highly Qualified Workforce reviewed academic literature related to early childhood, fiscal management, economics, and public policy; legislation and governmental budgets; and related reports and articles. The committee also gathered information on ECE financing models outside the United States to explore alternative structures. In addition, the

committee gathered information from stakeholders (e.g., government agencies, employers, researchers, advocates) and policy experts through meetings, teleconferences, and electronic means.

To develop the cost estimates, the authors first adapted a cost calculator from previous studies to determine the center-based cost per child hour for various age groups. Then, they estimated the home-based cost per child hour by adjusting the center-based figure by the ratio of home-based prices to center-based prices. Finally, they multiplied these figures by the total hours of care utilized by each age group to develop a national aggregate cost estimate. The report does not explicitly discuss the limitations of this methodology.

What is the proposed price tag?

The committee estimates the total cost and cost per child of their proposed model across four implementation phases. The report presents two types of total costs: a static cost based on current utilization and a dynamic cost that takes into account predicted changes in utilization as the quality and affordability of ECE increase. In addition, it presents cost per child estimates by setting and age group.

| Table A3. Transforming the Financing Model | Total Cost (Static Cost/Dynamic Cost) |
|---|--|
| Center-Based | |
| Phase 1 | \$42.8 billion/\$49.8 billion |
| Phase 2 | \$49.3 billion/\$62.5 billion |
| Phase 3 | \$59.9 billion/\$82.9 billion |
| Phase 4 | \$70 billion/\$105.2 billion |
| Home-Based | |
| Phase 1 | \$22.9 billion/\$24.8 billion |
| Phase 2 | \$26.8 billion/\$26.4 billion |
| Phase 3 | \$33.2 billion/\$31.4 billion |
| Phase 4 | \$39.6 billion/\$34.7 billion |
| | Cost per Child |
| Center-Based Infants, <12 months | |
| Phase 1 | \$16,045 |
| Phase 2 | \$21,389 |
| Phase 3 | \$23,654 |
| Phase 4 | \$35,354 |
| Center-Based Toddlers, 12-36 months | |
| Phase 1 | \$16,382 |
| Phase 2 | \$18,806 |
| Phase 3 | \$24,715 |
| Phase 4 | \$28,203 |
| Center-Based Pre-K, 3-5 years | |
| Phase 1 | \$9,416 |
| Phase 2 | \$10,538 |
| Phase 3 | \$12,271 |
| Phase 4 | \$13,655 |
| Home-Based Infants, <12 months | |
| Phase 1 | \$8,023 |
| Phase 2 | \$10,695 |
| Phase 3 | \$11,827 |
| Phase 4 | \$17,677 |
| Home-Based Toddlers, 12-36 months | |
| Phase 1 | \$10,321 |
| Phase 2 | \$11,848 |
| Phase 3 | \$15,570 |
| Phase 4 | \$17,768 |
| Home-Based Pre-K, 3-5 years | |
| Phase 1 | \$7,156 |
| Phase 2 | \$8,009 |
| Phase 3 | \$9,326 |
| Phase 4 | \$10,378 |

By the final phase, the total cost for center-based and home-based care reaches about \$140 billion annually. The report proposes a progressive scale for family contributions, with higher-income families paying a greater share of their household income for ECE. Under this proposal, families would contribute about \$58 billion of the total cost, and the government would contribute the remaining \$82 billion.

This report does not aim to quantify the broader economic or fiscal impact of the model, though it briefly examines existing evidence suggesting that subsidizing early care and education will generate social benefits.

How is compensation addressed by the model?

The model proposes gradually increasing the salary of lead teachers (who are required to have a bachelor's degree) to \$55,460 by the final phase of implementation, which matches the salary of a kindergarten teacher across a nine-month period. In addition, it proposes gradually increasing the salary of assistant teachers (who must have a CDA, some college, or an associate's degree) to a range of \$33,692 to \$41,595, depending on their educational attainment.

The model incorporates benefits — including health insurance, retirement benefits, and paid time off — as a share of total compensation. In addition, it adjusts staffing needs to account for the following professional responsibilities: professional development, planning, child assessment, staff meetings, professional sharing, and parental conferences.

The Cost of Preparing Students for Kindergarten in Southwest Florida

Contributors: Augenblick, Palaich and Associates; Kathryn Rooney, Bob Palaich, Justin Silverstein, and Jennifer Piscatelli

Citation: Augenblick, Palaich & Associates (2017). *The Cost of Preparing Students for Kindergarten in Southwest Florida*. Fort Myers, FL: Florida SouthWestern State College. Retrieved from <http://futurereadycollier.org/wp-content/uploads/Florida-ECE-Costing-Out-Study-Report-Final-with-Cover.pdf>.

Background

The Cost of Preparing Students for Kindergarten in Southwest Florida (referred to in the present report as *Preparing SW Florida*) examines the resources needed to prepare three- and four-year-olds for kindergarten in southwest Florida. It focuses on the gap between current funding levels and the funding needed to ensure kindergarten readiness.

This study was partly inspired by a 2014 Florida House of Representatives report stating that more than 38,000 children across the state were not kindergarten-ready as well as a 2015 National Institute for Early Education Research report that had ranked Florida 40th in the nation in terms of public spending on early childhood education for four-year-olds. The authors took these as indicators that Florida required a systematic approach to improving kindergarten readiness, thus opening the door to the question of financing.

The focus on financing is a response to a struggle many states face — bridging a critical gap in infrastructure and financing to meet the needs of students in early childhood education, compared to students in the K-12 and higher education systems. Furthermore, Florida SouthWestern State College, a partner in the study, understood the critical role of addressing workforce needs because graduates of their early childhood education programs faced low compensation and challenging work environments.

Study contributors consider the following standards when identifying the resources needed to provide high-quality early childhood education:

| | | |
|-----------------------------|--|--|
| Child Development Standards | Approaches to learning | Language and communication |
| | Cognitive development and general knowledge | Physical development |
| | | Social and emotional development |
| Input Standards | Teachers (e.g., education, compensation, working conditions) | Learning environment (e.g., materials, technology, health, and safety) |
| | Family engagement and supports | |

What population of children did the cost study address?

The study specifically addresses three- and four-year-olds in the following counties of southwest Florida: Charlotte, Collier, Hendry, Glades, and Lee. Because children from birth to age two require different types and levels of resources, the authors argue that this population merits its own separate study.

What is the proposed delivery system?

The report proposes a mixed delivery system, and it provides cost estimates for both center- and home-based providers.

How were the proposed estimates arrived at?

The main methodological approach in this study was what the authors term a “professional judgement approach,” in which panels of experts were asked to identify the type and quantity of resources necessary to ensure kindergarten readiness. Four in-person panels were used in total; three of these panels consisted of preschool center educators, while the fourth panel consisted of home-based preschool providers. Each panel included seven to 11 ECE staff (i.e., directors, coordinators, specialists, and lead teachers), who each represented one or more counties included in the study. Additional webinar panels focused on non-personnel resources and special education needs.

In making their recommendations, panelists were asked to assume that providers could recruit and retain qualified staff, that providers have sufficient space, and that programs would be

effectively and efficiently implemented. In addition, panelists were not asked to consider the source of revenue needed to provide the resources they identified.

The authors acknowledge two main limitations of this approach. First, because panelists may not have had experience working with the resource levels they recommended (or perhaps under the conditions they were asked to adopt as assumptions), these resource levels are not guaranteed to yield the desired result. Second, given that the panelists are acting as county representatives, they may have an incentive to overstate the resources their preschools need.

What is the proposed price tag?

The report provides a base cost for each setting. This base cost carries certain assumptions about ratios, wages, and other facility and resources expenses. The report, however, also provides weighted per child costs that assume additional resources are needed to support special education and to provide services in communities with varying poverty rates.

| Table A5. SW Florida Model | Cost per Child (base level) |
|--------------------------------------|------------------------------------|
| District-Operated/Head Start Centers | \$11,366 |
| Private Centers | \$10,983 |
| Rural Centers (District or Private) | \$11,075 |
| Home-Based Providers | \$12,192 |

The study estimates a funding gap of \$1,812 per child between current government/parental contributions and the resources needed to ensure kindergarten readiness. Acknowledging the steep burden this would place on parents, the authors propose that the state double its Voluntary Pre-Kindergarten (VPK) funding per child or raise funds through local property and sales taxes that the state could match.

How is compensation addressed by the model?

The study uses an online survey of local ECE administrators to estimate the adequate compensation needed to recruit and retain qualified staff. In doing so, the study assumes that lead teachers have at least a bachelor's degree and assistant teachers have at least an associate degree.

Compensation includes salary and benefits, such as health insurance. Cost of living assumptions are not factored into the suggested salary. In addition, the model does not explicitly address payment for professional responsibilities (e.g., professional development, planning time, staff meeting time).

Blue Ribbon Commission on Financing High Quality, Affordable Child Care

Contributors: Vermont Blue Ribbon Commission on Financing High Quality, Affordable Child Care, Jess Gingras, Jessica Blackman, and Public Consulting Group, Inc.

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Background

Blue Ribbon Commission on Financing High Quality Affordable Child Care (referred to in the present report as *Vermont*) was commissioned by the state legislature through the Act Relating to Making Appropriations for the Support of Government No. 58 § C.101 (2015). This Act established the Commission to review recent reports on child care, to identify the elements of quality child care, and to make relevant funding recommendations to the legislature and governor. Accordingly, this report intends to define and estimate the cost of providing high-quality child care statewide to children birth through age five.

The authors frame this report as part of a recent trend in Vermont toward making strategic investments in early care and education. The report follows other statewide accomplishments such as the Early Childhood Framework and Action Plan, the Vermont STARS Quality Rating and Improvement System (QRIS), a Race to the Top Early Learning Challenge Grant, and the implementation of universal pre-K.

While Vermont has celebrated many accomplishments, the Commission believed it could do more to expand access to high-quality ECE statewide. For example, less than one-third of ECE programs had a “4” or “5” STAR rating, and less than one-quarter of families seeking care were receiving subsidies from the Child Care Financial Assistance Program. Furthermore, to keep programs

affordable, providers were offering financial support that limited their own ability to adequately compensate staff and improve program quality.

The definition of high-quality ECE used in this report draws on the state’s QRIS, Vermont STARS. It also reflects national standards from Head Start, the National Association for the Education of Young Children (NAEYC), and the National Association for Family Child Care (NAFCC). The definition includes four domains: 1) child health and safety; 2) early care, education, and child development; 3) family and community engagement; and 4) leadership and management systems.

| Table A6. Four Domains of High-Quality ECE as Defined by Vermont STARS | | |
|---|--------------------------------------|--|
| Child Health and Safety | Screening and referrals | Healthy practices and routines |
| | Environment health and safety | Appropriate group sizes, ratios, and supervision |
| | Food and nutrition | Safe transportation |
| | Access to health and dental care | |
| Early Care, Education, and Child Development | Relationships and teaching practices | Services for children with special needs |
| | Curriculum and assessment | Cultural and linguistic responsiveness |
| | Individualization | Transitions and school readiness |
| Family and Community Engagement | Family stability and well-being | Parents as the child’s educators of their children |
| | Partnerships with families | Community partnerships |
| | Parent-child relationships | |
| Leadership and Management System | Governance, mission, and vision | Facilities, materials, and equipment |
| | Fiscal stability and integrity | Equity, access, and inclusionary practices |
| | Human resources | Enrollment systems and practices |

What population of children did the cost study address?

The study focuses on children birth to age five in Vermont, following the vision outlined in the state’s Early Childhood Framework and Action Plan.

What is the proposed delivery system?

The study proposes a mixed delivery system. Specifically, the cost estimates assume that center-based providers meet half of the total demand, while home-based providers meet the other half.

How were the proposed estimates arrived at?

The Commission gathered stakeholder feedback on the accessibility, affordability, and quality of child care in Vermont through five community forums and a survey for stakeholders who could not attend the forums. To gather additional public input, members of the public were also able to attend monthly Commission meetings, email the Commission, and send postcards to the statewide public awareness campaign Let's Grow Kids.

The Commission hosted presentations from experts in the ECE field to help craft the definition of high-quality child care. Based on this definition, it drafted a line-item annual budget for a center-based program and a home-based program. Finally, it used these program budgets to develop a statewide cost estimate. The report does not discuss limitations of this methodology.

What is the proposed price tag?

| Table A7. Vermont Model | Cost per Child |
|-------------------------------|----------------|
| Center-Based (Infant/Toddler) | \$35,535 |
| Center-Based (Preschool) | \$15,793 |
| Home-Based (Infant) | \$41,640 |
| Home-Based (Toddler) | \$20,820 |
| Home-Based (Preschool) | \$13,880 |

The report estimates that providing high-quality child care to 100 percent of children birth through age five would cost \$849 million. The Commission proposes a sliding-fee scale that provides free child care to families earning up to \$60,000 and subsidized child care to families earning up to \$160,000. Under this scale, the total parental contribution would be approximately \$372 million. The state currently invests \$130 million in early care and education, leaving a \$347 million gap between current government/parental contributions and the resources needed to provide high-quality care to all children.

The Commission recommends several investments in ECE, including adjustments to the Vermont Child Care Financial Assistance Program (at an estimated cost of \$43.5 million) and the creation of a facilities fund maintained by the Vermont Community Loan Fund. Proposed financing mechanisms include license plates with early care and learning themes, public-private

partnerships, reallocation of savings across state agencies, endowment funds, and a global commitment waiver for Medicaid.

How is compensation addressed by the model?

The model sets an annual salary of \$56,160 for program directors and licensed teachers, which is comparable to the annual salary of a public school teacher in Vermont. In addition, it sets an annual salary of \$33,280 to \$37,440 for teaching assistants and classroom aides, and this range compares favorably to the annual salary of a public school teacher aide.

Benefits are estimated at 29.7 percent of the total salary for center-based providers. These benefits include health insurance, retirement benefits, and reduced tuition for children of employees. The model also sets aside funding for training and professional development, but it does not specify whether these or other professional responsibilities are compensated.

References

- Augenblick, Palaich & Associates (2017). *The Cost of Preparing Students for Kindergarten in Southwest Florida*. Fort Myers, FL: Florida SouthWestern State College. Retrieved from <http://futurereadycollier.org/wp-content/uploads/Florida-ECE-Costing-Out-Study-Report-Final-with-Cover.pdf>.
- Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*. Retrieved from <https://www.bls.gov/ooh/> on May 19, 2019.
- Center for the Study of Child Care Employment & Child Care Aware (2018). *Why Do Parents Spend So Much On Child Care, Yet Early Childhood Educators Earn So Little?* Retrieved from <https://www.youtube.com/watch?v=NfK8BTX24sQ&t=119s>.
- Center on Enhancing Early Learning Outcomes (CEELO) (2018). Revised Cost of Preschool Quality & Revenue (CPQ&R) Tool. Retrieved from http://ceelo.org/wp-content/uploads/2018/02/CPQR_Overview_02.12.2018.pdf.
- Chaudry, A., Morrissey, T., Weiland, C., & Yoshikawa, H. (2017). *Cradle to Kindergarten: A New Plan to Combat Inequality*. New York: Russell Sage Foundation. Retrieved from <http://www.jstor.org/stable/10.7758/9781610448666>.
- Dastur, N., Dutta-Gupta, I., Tatum, L., Edelman, P., Grant, K., & Goldvale, C. (2017). *Building the Caring Economy*. Washington, DC: Georgetown Center on Poverty and Inequality. Retrieved from http://www.georgetownpoverty.org/wp-content/uploads/2017/05/Building-the-caring-economy_exec-summary_hi-res.pdf.
- Institute of Medicine (IOM) & National Research Council (NRC) (2015). *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation*. Washington, DC: The National Academies Press. Retrieved from <https://www.nap.edu/catalog/19401/transforming-the-workforce-for-children-birth-through-age-8-a>.
- McGee, H.B. (1918). *A Study of Day Nurseries in Chicago Made for the Chicago Association of Day Nurseries*. Chicago: Chicago Association of Day Nurseries.
- McLean, C., Whitebook, M., & Roh, E. (2019) *From Unlivable Wages to Just Pay for Early Educators*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from <http://cscce.berkeley.edu/files/2019/05/From-Unlivable-Wages-to-Just-Pay-for-Early-Educators.pdf>.

- National Academies of Sciences, Engineering, and Medicine (NASEM) (2018). *Transforming the Financing of Early Care and Education*. Washington, DC: The National Academies Press. Retrieved from <https://doi.org/10.17226/24984>.
- Organization of Economic Cooperation and Development (OECD) (2016). "Wage levels" (indicator). Retrieved from https://www.oecd-ilibrary.org/employment/wage-levels/indicator/english_0a1c27bc-en.
- Snyder, A. (1972). *Dauntless Women in Childhood Education 1856-1931*. Washington, DC: Association for Childhood International.
- Vermont Blue Ribbon Commission (2016). *Blue Ribbon Commission on Financing High Quality, Affordable Child Care Final Report*. Montpelier, VT. Retrieved from <https://legislature.vermont.gov/Documents/2018/WorkGroups/Senate%20Health%20and%20Welfare/Bluer%20Ribbon%20Commission/W~Charlotte%20Ancel~Final%20Report%20-%202016~1-19-2017.pdf>.
- Whitebook, M., King, E., Philipp, G., & Sakai, L. (2016). *Teachers' Voices: Work Environment Conditions That Impact Teacher Practice and Program Quality*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from <http://cscce.berkeley.edu/files/2016/2016-Alameda-SEQUAL-Report-FINAL-for-Dissemination-v2.pdf>.
- Whitebook, M., & Sakai, L. (2004). *By a Thread: How Child Care Centers Hold On to Teachers, How Teachers Build Lasting Careers*. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. Retrieved from <https://doi.org/10.17848/9781417524457>.
- Whitebook, M., & McLean, C. (2017). *In Pursuit of Pre-K Parity: A Proposed Framework for Understanding and Advancing Policy and Practice*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley and New Brunswick, NJ: the National Institute for Early Education Research. Retrieved from <http://cscce.berkeley.edu/files/2017/04/in-pursuit-of-pre-k-parity.pdf>.
- Whitebook, M., McLean, C., Austin, L.J.E., & Edwards, B. (2018). *Early Childhood Workforce Index – 2018*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from <http://csce.berkeley.edu/topic/early-childhood-workforce-index/2018/>.
- Whitebook, M., Phillips, D., & Howes, C. (2014). *Worthy Work, STILL Unlivable Wages: The Early Childhood Workforce 25 Years after the National Child Care Staffing Study*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from <http://cscce.berkeley.edu/files/2014/ReportFINAL.pdf>.

- Whitebook, M., Hankey, A., Schlieber, M., Austin, L.J.E., & Philipp, G. (2018). *Teachers' Voices: Work Environment Conditions That Impact Teacher Practice and Program Quality — Miami-Dade County*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from <http://cscce.berkeley.edu/files/2019/04/Teachers-Voices-Miami-Dade-County-2018.pdf>.
- Whitebook, M., Schlieber, M., Hankey, A., Austin, L.J.E., & Philipp, G. (2018a). *Teachers' Voices: Work Environment Conditions That Impact Teacher Practice and Program Quality — Minnesota*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from [http://cscce.berkeley.edu/files/2019/04/Teachers-Voices-Minnesota-2018 .pdf](http://cscce.berkeley.edu/files/2019/04/Teachers-Voices-Minnesota-2018.pdf).
- Whitebook, M., Schlieber, M., Hankey, A., Austin, L.J.E., & Philipp, G. (2018b). *Teachers' Voices: Work Environment Conditions That Impact Teacher Practice and Program Quality — New York*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from [http://cscce.berkeley.edu/files/2019/04/Teachers-Voices-New-York-2018 .pdf](http://cscce.berkeley.edu/files/2019/04/Teachers-Voices-New-York-2018.pdf).



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