Cost Analysis of the South Carolina Child Early Reading and Development Education Program

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Preface

The South Carolina Early Reading and Development Education Program (CERDEP) is a state-funded full-day pre-kindergarten (4K) program for four-year-old children at risk of not being ready to start kindergarten. Eligible children include those who live in districts with a score of 70 percent or higher on the state poverty index, those whose family income is at or below 185 percent of the federal poverty guidelines, and those who are eligible for Medicaid. The program is implemented using a mixed-delivery system, with both public schools and licensed private center–based providers able to serve eligible children. Reimbursement occurs through a per-pupil funding amount, which was $4,422 for the 2017–2018 academic year. In that year, the program funded about 11,700 children, with more than 80 percent of children attending classrooms in public schools.

As part of an ongoing commitment by the South Carolina legislature to evaluate aspects of CERDEP, the South Carolina Education Oversight Committee (EOC) contracted with the RAND Corporation to address questions related to per-pupil costs, teacher credentials, and teacher professional development. The focus of this report is the first topic: assessing the per-pupil cost to deliver CERDEP as of the 2017–2018 academic year and comparing those estimates with the current instructional reimbursement rate provided by the state. More specifically, this report addresses the following questions:

- What are the "ingredients," in terms of personnel, facilities, educational materials, and other supplies, required to deliver CERDEP in public and private settings? What are the sources of potential variation in program costs?
- What is the estimated per-pupil cost of CERDEP? Does the per-pupil cost vary by key program features, such as public versus private settings, teacher qualifications, student enrollment, or geographic area?
- How does the per-pupil cost compare to the current per-pupil reimbursement rate for CERDEP providers?

This study will be of interest to the policymakers and practitioners associated with CERDEP, as well as those interested more generally in the costs of state-funded preschool programs.

A second report from the project will examine teacher credentials and professional development.

This study was undertaken by RAND Education and Labor, a division of the RAND Corporation that conducts research on early childhood through postsecondary education programs, workforce development, and programs and policies affecting workers, entrepreneurship, financial literacy, and decisionmaking. This study was funded by the South Carolina EOC.

More information about RAND can be found at www.rand.org. Questions about this report should be directed to karoly@rand.org, and questions about RAND Education and Labor should be directed to educationandlabor@rand.org.

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Summary

In the 2006–2007 school year, the state of South Carolina began funding a full-day four-year-old kindergarten (4K) pilot program in the state's poorest districts.[1] The pilot program was founded in response to a South Carolina Supreme Court case ruling in a decades-long legal challenge to South Carolina's public school–funding formula. At the time, funds for the pilot program were made available to the plaintiff school districts in the supreme court case, all of which served a high proportion of low-income families. Eight years later, in 2014, the pilot program was signed into law, made permanent, and named the South Carolina Early Reading Development and Education Program (CERDEP). CERDEP is the state's primary initiative to promote school readiness among low-income children by providing high-quality early childhood education free of charge to families.

Currently, eligible children must live in a district with a poverty index of 70 percent or higher, come from a family whose income is at or below 185 percent of the federal poverty guidelines, or be eligible for Medicaid. The program is implemented using a mixed-delivery system, with both public school districts and licensed private early care and education (ECE) centers able to serve eligible children. Oversight of the public district-based programs is provided by the South Carolina Department of Education (SCDE), while South Carolina First Steps to School Readiness (First Steps)—the statewide public-private partnership to increase school readiness—oversees implementation in private centers. During the 2017–2018 school year, CERDEP served about 11,700 students, with the large majority of children—about 83 percent—attending the program in public school districts.

Documenting and understanding the costs of CERDEP is necessary for education leaders in South Carolina to continue to deliver a high-quality 4K program. During the 2017–2018 school year, the focus of this report, the state reimbursed CERDEP providers $4,422 per pupil to cover the costs of instruction for a traditional 180-day school year, with 6.5 hours of instruction per day. Research indicates that the full cost of early childhood programs like CERDEP can be challenging and costly to estimate. States and early childhood leaders do not always know the true program costs when funding policies and mechanisms, such as per-pupil reimbursement rates, are put in place. According to a recent report from the National Academies of Sciences, Engineering, and Medicine (NASEM), when ECE program reimbursement rates are not sufficient for covering program costs, providers may not be able to deliver high-quality services in the long run, with consequences for the stability and sustainability of the statewide program.

[1] We use the term *4K* to refer exclusively to preK (pre-kindergarten) programs for four-year-olds and use the term *3K* to refer to those for three-year-olds. We use *preK* to refer generally to early education programs of various kinds (e.g., state or federally-funded programs, private pay programs) for three- and four-year-old children.

Thus, in an effort to inform CERDEP-stakeholder decisions on CERDEP reimbursement policy, we estimate the full cost for CERDEP providers, in public schools and private centers, to deliver the services consistent with the program requirements. More specifically, we apply rigorous methods to address the following questions:

- What are the "ingredients," in terms of personnel, facilities, educational materials, and other supplies, required to deliver CERDEP in public and private settings? What are the sources of potential variation in program costs?
- What is the estimated per-pupil cost of CERDEP? Does the per-pupil cost vary by key program features, such as public versus private settings, teacher qualifications, student enrollment, or geographic area?
- How does the per-pupil cost compare to the current per-pupil reimbursement rate for CERDEP providers?

The first question is important for understanding the resources required to implement CERDEP, a fundamental first step toward understanding program costs. With that foundation, it is possible to then estimate CERDEP costs for specific providers based on their expenditures for CERDEP or for provider types based on a cost model (where assumptions are made about the provider circumstances, the resources required, and their prices; this is sometimes called a cost-estimation model or cost calculator). Based on either data from specific providers or from a cost model, it is then possible to compare program expenditures with the per-pupil reimbursement rate to determine if state funding is adequate to cover the program costs.

In the remainder of this summary, we first provide a brief overview of our approach to answering the study questions and then highlight the resulting key findings. We conclude with the important policy implications of our findings and the recommendations informed by the cost analysis.

Approach and Limitations

We use two complementary methods to address the three study questions: (1) collecting information on CERDEP expenditures from a small number of illustrative public and private providers; and (2) developing a cost model, informed by the interviewed providers, to estimate CERDEP per-pupil cost under baseline assumptions and the variation in cost per pupil under alternative assumptions (e.g., program scale, local price differences, teacher qualifications and compensation, provisions of transportation). For both approaches, we focus on estimating the total cost for CERDEP providers to deliver the services consistent with CERDEP requirements. To assess total cost, we include both direct classroom-based resources required to implement the CERDEP model, and indirect resources that support program delivery, such as program administration and operations.

The first approach relies solely on data collected from interviews with ten purposefully selected CERDEP providers—five school districts and five private center–based providers. All

ten providers gave information on their program structure and features (e.g. number of children, classrooms, and staff; program services; sources of revenue). Following the interviews, nine providers sent further detailed financial information on their program expenditures; one of the school districts opted out of sending financial information. The approach yielded in-depth information from CERDEP providers across the state regarding the resources required for CERDEP implementation (our first study question), as well as illustrative estimates of program cost per pupil served (our second question) and whether CERDEP reimbursement was sufficient to cover total costs (our third question).

The second model-based approach builds upon well-established cost calculators developed for modeling the cost of 4K programs, modified to account for the features of CERDEP (e.g., the option to offer transportation services) and informed by the illustrative providers. We also draw on other information sources, such as salary data for South Carolina and statewide school enrollment data for the 61 South Carolina districts that offered CERDEP in 2017–2018 (out of 82 districts in the state).

The model produces estimates of per-pupil costs—in total and by major cost components—for CERDEP providers under varied circumstances. In particular, by examining four baseline provider scenarios and a variety of sensitivity analyses, the model allows us to examine how per-pupil CERDEP cost would be expected to vary according to the following factors, all of which are established cost drivers of 4K programs:

- **Provider type**: We estimate costs for school district programs and private center–based programs.
- **Staff compensation**: For private centers, we estimate costs assuming compensation parity with the salaries and benefits of public school 4K teachers and for the lower compensation levels, on average, in private centers.
- **Highest degree of lead teacher**: Again, for private centers, we estimate costs assuming the lead teacher has a bachelor's degree versus an associate degree, the latter of which is an option under the CERDEP program requirements.
- **Price variation across geographic locations**: We estimate costs based on typical (i.e., median) salaries and other costs, as well as lower- versus higher-cost areas in the state.
- **Program size**: Costs are estimated for providers with one, two, and four CERDEP rooms.
- **Class size**: We estimate costs assuming the maximum class size (also known as *group size* in the ECE context) of 20 children, as well as smaller class sizes, specifically 15 and 18 children. Because we always assume two teachers are in the classroom, the variation in class size is associated with a corresponding change in the staff-child ratio.
- **Expenditures for rent**: We estimate costs with and without rental costs.

- **Expenditures for transportation**: Because transportation services are optional, we estimate costs with and without transportation services being provided.

To capture these factors, the baseline cost model estimates per-pupil costs for four illustrative provider types (described in more detail in a later section) with assumed features that are as realistic as possible in terms of the cost structure that providers face in South Carolina and that also represent important sources of variation in CERDEP costs. In this way, the cost model in the second methodological approach serves to illustrate how costs vary with the provider's circumstances. In addition, the model has the advantage of providing a standardized way to compare per-pupil cost under alternative scenarios where we vary one cost parameter at a time, holding other parameters constant. This approach then is particularly relevant for addressing the second study question, beyond what we might learn from a sample of providers.

We also examine how much of the estimated per-pupil costs under the various provider circumstances would be covered by the per-pupil CERDEP reimbursement (our third study question). The cost model captures the providers' experience regarding program expenditures which can be compared with program revenue sources from the public sector (e.g., the per-pupil CERDEP reimbursement). This allows us to determine if the per-pupil reimbursement rate is adequate to cover program costs for some provider types but not for other types.

Finally, to provide a point of comparison for South Carolina's CERDEP per-pupil reimbursement rate, we collected information about the reimbursement rates for state-funded full-day 4K programs in nine other nearby states: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Tennessee, Virginia, and West Virginia. We also considered the reimbursement rates for the South Carolina Voucher program (SC Vouchers), funded under the federal Child Care and Development Fund (CCDF), which subsidizes the cost of child care and early learning programs in private settings for low-income working parents with children up to age 12.

Our overall approach does have several limitations that are important to understand. For our first approach, given the small number of providers for which we gathered expenditure data, we stress that we are not able to report an average statewide total per-pupil cost for CERDEP. While these programs were purposefully selected to represent different characteristics of CERDEP providers (e.g., public and private providers of varying sizes in different parts of the state), if there are cost elements associated with CERDEP delivery not reflected in the expenditures for the ten providers, we may omit some costs. However, we also rely on well-established cost calculators developed for modeling the cost of 4K programs, which ensures that we are likely to capture the most important cost components. Further, we rely on providers' self-reports of program costs. Program expenditures can be difficult to track and report for many providers; thus, there is likely to be some measurement error in our estimates for the specific providers.

In the case of the model-based estimates of CERDEP costs, we must make assumptions about program structure (e.g., program size, the number of classrooms, children per classroom), the associated resource requirements given the program structure, and the corresponding prices for those resources (e.g., staff salaries, occupancy costs). Our assumptions are informed by the

information from the ten providers and other 4K cost models. Nevertheless, varying our key assumptions may produce somewhat different estimates of cost.

Key Findings

Our findings are organized by the three study questions enumerated above and summarized in the text box that follows.

Cost Ingredients and Sources of Cost Variation

Based on information on CERDEP costs provided by five public school districts and five private center–based providers, we confirmed that the delivery of CERDEP requires expenditure in multiple categories: personnel-related, namely salaries and benefits for classroom staff and administrative staff, as well as professional development; program-related, such as classroom supplies and other instructional supports, food service, daily transportation and transportation for special events (e.g., field trips); occupancy-related, including rent (or mortgage and taxes), utilities, and repairs and maintenance; and a host of administrative costs associated with program operations from office supplies to licensing and staff clearance fees. These cost elements are similar to those identified in other cost studies of 4K programs and typically are included in ECE program cost models (with the possible exception of transportation costs).

At the same time, despite operating programs under a common set of requirements, important differences across CERDEP providers have implications for per-pupil cost. The most meaningful of these differences are in the following areas:

- **Compensation**: The data from providers confirmed what has been well documented elsewhere: striking differences in salary levels and benefits packages between public school district–based programs and private centers. For our illustrative providers, lead teachers in public schools, for instance, had salaries that ranged from $35,000 to $52,000, compared with $25,000 to $43,000 for the lead teachers in private centers. These salary differences across provider type exist even for lead teachers with a bachelor's degrees and ECE specialization. Moreover, the benefits package for public school teachers included subsidized health, dental, and vision insurance; a retirement plan; and time for paid leave, among other benefits. In total, benefits for public school teachers equated to about 45 percent of their salaries, compared with a fringe-benefit rate of about 12 percent for private centers, which mostly consisted of payroll taxes.
- **Transportation**: While all district-based CERDEP sites provide transportation services, just two of the private centers also provide transportation. For one center, the bus drivers assist in the classrooms once the children arrive at the center, and they reprise their driving role in the afternoon.

Key Findings

Cost Ingredients and Sources of Cost Variation

- Delivery of CERDEP requires expenditures in multiple categories, including costs for personnel, classroom materials and other instructional supports, food service, transportation, occupancy, and program administration.
- Key sources of variation in program cost structure include staff compensation levels, whether transportation services are provided, and whether the program pays rental costs (or the equivalent).

Per-Pupil Costs and Variation by Provider Context

- Based on our baseline cost model, the estimated all-inclusive annual per-pupil cost for the traditional CERDEP option (180-day school year at 6.5 hours per day, 20 pupils per classroom, state median salaries and benefits), when delivered at a site operated by a public school district, with transportation costs and rent, was about $11,000 in 2017 dollars (or just over $10,000 per pupil if there are no rental costs for the public site).
- The estimated per-pupil cost was almost identical for a private center–based program, with the same program features (including teacher qualifications) and parity with public school salaries and fringe benefits.
- When the private program is assumed to pay the lower wages and benefits consistent with other private child care programs, the estimated per-pupil cost falls to about $7,000. The $4,000 per pupil difference is entirely attributable to the public-private compensation differential.
- Assuming a CERDEP program is delivered in a higher-cost area (approximately the 75th percentile of salaries in the state), estimated per-pupil costs were about 18 percent higher. In a lower-cost area (the 25th percentile of salaries in the state), per-pupil costs were about 11 to 14 percent lower. The difference in per-pupil costs between lower- and higher-cost communities was $2,000 to $3,500 depending on the provider context.
- The differences attributable to program scale were small, given the model's assumptions. In contrast, costs were up to 10 percent higher and up to 27 percent higher when the class size fell to 18 pupils per classroom or to 20 pupils per classroom, respectively. This may occur if providers intentionally seek to lower class size, or it may reflect underenrollment.

CERDEP Cost Versus Reimbursement

- With the 2017–2018 CERDEP instructional reimbursement rate of $4,422 per pupil for the traditional CERDEP option (the program variant we model), coupled with CERDEP transportation reimbursement (private centers only) and subsidized food costs, the total reimbursement per pupil falls short of provider costs by as much as 50 percent. The same is true for the hourly and daily reimbursement rates that apply for extended-day or extended-year options.
- The reimbursement gap is larger when compensation in private centers is equivalent to public school salaries and benefits, for providers in higher cost areas, and for providers that operate with a lower class size.
- Given a CERDEP per-pupil reimbursement rate which is the same regardless of provider context, the size of the differential between per-pupil cost and reimbursement will vary substantially across CERDEP providers based on their compensation schedule, geographic locale, class size, and other features that drive per-pupil costs.

- **Occupancy**: We defined occupancy costs to include rent (or mortgage and property taxes), along with utilities, repair, and maintenance. None of the public-school CERDEP sites reported costs for rent or a mortgage because their buildings are fully owned. In addition, two of the five centers (those located in church buildings) reported receiving the use of their center space without charge.

Other differences in CERDEP operations that have implications for cost include the size of the group of children in the CERDEP room and the overall program size. As part of the cost model we develop, we consider the sensitivity of per-pupil CERDEP costs to variation in these key program features: compensation, transportation, occupancy, class size, and program size.

Per-Pupil Costs and Variation by Provider Context

Given the small number of CERDEP providers for whom we gathered cost information, we focus on the per-pupil cost estimates derived from our cost model. It is important to keep in mind that the model results are for illustrative programs and are conditional on a set of assumptions regarding the provider context and program structure that are designed to be as realistic as possible. The model produces robust findings that speak to the nature of the cost structure of CERDEP 4K programs.

In particular, the baseline cost model includes four illustrative provider contexts for CERDEP delivery, one that applies to public school district programs and three that pertain to private centers (see Table S.1). The four types were selected to allow comparisons along three key provider features: public versus private and, for private providers, compensation levels and lead teacher qualifications. (The feature that changes in moving from type A to type B, from type B to type C, and from type C to type D is outlined with a box in Table S.1.) Other sources of cost differences are explored in sensitivity analyses.

In the model baseline, all four contexts assume the traditional CERDEP option: operating for 6.5 hours per day for 180 days per year. CERDEP enrollment is assumed to be 40 children in two classrooms of 20 children each. In the baseline, all program types are assumed to pay rent or have a mortgage for their facility and to offer transportation services (even though transportation is optional). For the **type A** public program site, total enrollment across all grades is assumed to be 450 students at baseline. For the type B, C, and D private centers, total enrollment is assumed to be 120 children, from infancy to 4K.

Like the type A public site, the **type B** private center is assumed to employ lead CERDEP teachers with a bachelor's degree, and compensation (salaries and fringe benefits) is assumed to be the same as those in public 4K programs. Type B is also assumed to have a lower total enrollment than type A, at 120 children in total across all ages, reflecting the different overall size of an elementary school site versus an ECE center. Thus, the differences between type A and type B programs are whether the provider is a public school district or a private center and the overall size of the school or program.

Table S.1. Key Assumptions for Four Provider Types for CERDEP Cost Model

Features	Type A	Type B	Type C	Type D
Setting	School district school or center	Private center	Private center	Private center
Lead teacher qualifications	Bachelor's with ECE	Bachelor's with ECE	Bachelor's with ECE	Associate degree
Compensation	Public school salaries and benefits	Pay parity with public site (Type A)	Center salaries and benefits	Center salaries and benefits
Total school or center enrollment	450	120	120	120

NOTES: All provider types are assumed to offer the traditional CERDEP (6.5 hours per day and 180 days per year) with three CERDEP rooms in the site and full enrollment of 20 children. Facility rent (or mortgage) and transportation services are all assumed for all four types. The feature that changes between each type is outlined with a box.

Type C private centers differ from type B centers only in having compensation consistent with pay for center-based ECE programs. **Type D** private providers are the same as type C, with the exception that the lead teacher has an associate (two-year) degree, the minimum education qualification for private centers under CERDEP. For the baseline model, we assume median salaries for South Carolina teachers and teachers in child care centers. Other unit costs are based on average prices for the state.

We present model-based estimates for CERDEP unit costs—per pupil, per pupil-day, and per pupil-hour—in Table S.2. Key findings are as follows:

- In our baseline model, the estimated all-inclusive per-pupil cost for the traditional CERDEP option (academic school year at 6.5 hours per day), when delivered at a site operated by a public school district, was about $11,000 (see provider type A in Table S.2). For a private center operating with the same salary and benefit structure as the public schools, the equivalent per-pupil cost was almost identical. Thus, there is no inherent difference in CERDEP costs in public versus private settings when compensation levels are assumed to be the same and the program pays rent (or a mortgage) for its space.
- A more-substantial difference in per-pupil (or per-pupil-day or per-pupil-hour) costs was between CERDEP delivered in private centers, where compensation followed center-based rates (either for a lead teacher with a bachelor's degree or an associate degree as allowed under the CERDEP requirements), versus where compensation followed public school teacher compensation. Estimated per-pupil cost is about $7,000 based on typical center-based salaries (types C and D in Table S.2). The cost differential of $4,000 per pupil in comparing type A or B providers with type C or D is entirely attributable to the higher salaries and benefits in the public school programs or private centers with public school compensation parity.

Table S.2. Model-Based Estimated CERDEP Unit Costs, Baseline Model by Provider Type (2017 dollars)

Cost Component	Type A (Public Site)	Type B (Private Center, Pay Parity with Public Site)	Type C (Private Center, Center Salaries)	Type D (Private Center, Center Salaries, and Associate Degree)
Cost per pupil	10,933	10,932	7,097	6,968
Cost per pupil day	60.74	60.74	39.43	38.71
Cost per pupil hour	9.34	9.34	6.07	5.96

- The other significant cost drivers were associated with local salary and price differentials, class size below the allowed level of 20 children per classroom, and whether space rental or mortgage costs (a subset of occupancy costs) were included. These differences in estimated per-pupil costs are summarized in Table S.3.

Table S.3. CERDEP Per-Pupil Cost by Provider Type Under Alternative Scenarios (2017 dollars)

Scenario	Type A (Public Site)	Type B (Private Center, Pay Parity with Public Site)	Type C (Private Center, Center Salaries)	Type D (Private Center, Center Salaries and Associate Degree)
Baseline	10,933	10,932	7,097	6,968
Salaries and unit cost				
Lower-cost areas	9,376	9,359	6,316	6,211
Higher-cost areas	12,845	12,819	8,380	8,207
Program size				
2 CERDEP rooms	11,228	11,601	7,599	7,469
5 CERDEP rooms	10,898	10,611	6,895	6,766
Class size				
18	11,996	11,791	7,623	7,479
15	13,931	13,361	8,525	8,353
Without rent[a]	10,059	10,059	6,224	6,095
Without transportation	10,683	10,682	6,847	6,718

[a] Rent is a component of occupancy costs. Utilities are still included in occupancy costs, along with repair and maintenance.

- The gap analysis also demonstrates that, given a CERDEP per-pupil reimbursement rate which is the same regardless of provider context, the size of the differential between per-pupil cost and reimbursement will vary substantially across CERDEP providers based on their compensation schedule, geographic locale, class size, and other features that drive per-pupil costs. This introduces differentials across providers in the extent to which their CERDEP costs are covered by state (or federal) funds and thus the amount of funds per pupil needed from other public or private sources to fill the gap.

Policy Considerations

The findings from our analysis raise a number of policy considerations regarding the reimbursement of CERDEP public and private providers for the services they provide. We highlight five issues in particular.

Using a Single Reimbursement Rate Versus One that Varies by Provider Context

Our analysis demonstrates that CERDEP providers, when meeting CERDEP requirements, will deliver the program with different total cost per pupil; those differences can be substantial, equal to several thousands of dollars in total per-pupil costs, according to our cost model. These differences arise because of variation in compensation levels and unit prices for other resources across geographic locales, class size, and lead teacher qualifications (in the case of center-based providers), among other factors. Some of these factors are determined by providers (e.g., desired class size); others are beyond their control (e.g., local price levels).

These differences in provider per-pupil cost, whether under the control of the provider or not, raise the issue of whether the reimbursement mechanism should account for cost variation through varying reimbursement rates. Currently, by using a single statewide reimbursement rate for CERDEP, the cost differences are not being recognized. With a single rate, the extent to which a provider's costs are covered by the reimbursement will vary. Providers in lower-cost areas would cover a greater portion of their costs relative to providers in higher-cost areas, with other factors the same. Providers with a class size below 20 would have a smaller portion of their costs covered relative to providers with 20 children in each CERDEP room, all else equal.

In comparison with the nine other neighboring states we reviewed, South Carolina is not alone in using a single reimbursement rate regardless of the provider circumstance, as Alabama, Mississippi, Tennessee, and Virginia use this same approach (see the first column in Table S.4). However, five other states—Florida, Georgia, Kentucky, North Carolina, and West Virginia—do vary the reimbursement rate for their state-funded 4K program by provider context (specific features are referenced in the discussion that follows). Likewise, the reimbursement rate under SC Vouchers also varies with provider context.

If the structure of the reimbursement rate schedule accurately mirrors the pattern of cost differences by provider circumstances, a reimbursement schedule that varies with the provider context will allow more equal treatment in the extent to which provider costs are covered. This approach, however, introduces more complexity into the process of administering provider reimbursements, which may raise program central administrative costs.

Table S.4. Reimbursement Features of State-Funded 4K Programs in Selected States

	Factors Tied to Reimbursement							
State Program	Reimbursement Rate Varies	Location	Teacher Education and Compen-sation	Public Versus Private Provider	Class Size	Child Disability Status	Days of Services	Local Funds Expected To Supplement Reimbursement
AL								✓
FL	✓	✓						
GA	✓	✓	✓	✓	✓		✓	
KY	✓					✓		
MS								✓
NC	✓		✓	✓				
SC								
TN								✓
VA								✓
WV	✓		✓					

SOURCES: State 4K program websites and other materials documented in Appendix B.
NOTE: AL = Alabama; FL = Florida; GA = Georgia; KY = Kentucky; MS = Mississippi; NC = North Carolina; SC = South Carolina; TN = Tennessee; VA = Virginia; WV = West Virginia.

Which Sources of Cost Variation to Recognize in the Reimbursement Rate Schedule

In moving beyond a single reimbursement rate, consideration must be given as to which sources of cost variation to recognize and how many dimensions in total to accommodate in the rate schedule. As more and more dimensions of variation are incorporated in the reimbursement rate schedule, administration of the reimbursement process becomes more and more complex. At the extreme, a reimbursement rate could be assigned to each provider based on its program features, the equivalent of negotiating individual provider contracts that specify the reimbursement rate. Such contracts are employed in some state and local 4K programs, such as North Carolina's 4K program and New York City's universal preschool program.

In Table S.4, we detail the factors tied to reimbursement for the five states that vary their reimbursement rate. We identified six sources of variation in these states: geographic locale, teacher education and compensation, private versus public provider status, class size, child disability status, and the number of days that programs offer services. Most of the five states only vary their reimbursement rate by one or two of these factors; teacher education and compensation was the most common source of variation. Georgia was the exception to this pattern, as the rates in this state vary by all the identified factors, except for child disability status. In the case of SC Vouchers for four-year-olds in full-day programs (like CERDEP), the reimbursement rate varies by geography and quality rating.

Assuming a limited number of sources of cost variation would be recognized because of administrative costs considerations, the challenge becomes identifying which sources to recognize and how many dimensions in total to incorporate. Criteria to consider could include

- **whether the variation in costs is outside of the provider's control**. For example, this would mean incorporating variation in the reimbursement schedule based on variation in costs across geographic locales.
- **whether choices providers make increase program quality**. This would mean recognizing the higher per-pupil cost for private providers who opt to employ lead teachers with a bachelor's degree in ECE or a related field or for private providers that elect to achieve compensation parity with public providers. By linking higher per-pupil reimbursement to providers choosing evidence-based higher-quality program features (such as the SC Vouchers provider payment schedule), the reimbursement schedule signals the priority given to high quality and thereby incentivizes providers to operate with high-quality features.
- **whether the program feature supports other policy objectives**. An example would be supporting families' access to 4K programming. The current CERDEP reimbursement for transportation costs could be viewed as contributing to this goal. The additional reimbursement for a longer day or longer year is another example of adding costly features that support families and their need for care.
- **whether a program component is one where providers qualify for reimbursement with other public funds**. An example would be excluding a reimbursement component for meals when providers qualify for CACFP reimbursement.

How Much of Provider Costs to Cover

Assuming all relevant dimensions of cost variation are identified for per-pupil reimbursement, a remaining issue is what share of provider costs should be covered by state funds. From the perspective of state policymakers, the current share of costs covered may be viewed as appropriate, although our model-based estimates suggest that providers are left with having to cover up to half of the total CERDEP costs from other sources. As public entities, we might expect school districts to most readily have access to other public funds, such as district general funds. This may justify reimbursing a smaller share of CERDEP costs for public school providers relative to private center–based providers, for whom alternative funds are less likely to be available. Indeed, given the present reimbursement gap under CERDEP, private center–based providers must, by necessity, pay lower salaries and provide fewer benefits compared with school district providers in order to break even.

As indicated in the last column of Table S.4, we also reviewed whether other state-funded 4K policies address how much of the cost of the program should be covered by the state, versus the provider or other funds. Four of the states we reviewed—Alabama, Mississippi, Tennessee, and Virginia—have explicit policies that require a contribution of local funds to supplement the state reimbursement rates. As such, the state reimbursement rate is not intended to cover the full cost of the program. Notably, there is wide variation in the per-pupil reimbursement rates among these states, ranging from $2,150 per pupil in Mississippi to $6,125 in Virginia. The range of

reimbursement rates among states that are not explicit about whether the state rate is designed to cover the full cost of the program is similar: $2,437 in Florida to $5,850 in North Carolina. While this illustrative group of ten states (including South Carolina) is not inclusive of all states, we do not observe a clear pattern of higher reimbursement rates in states with no explicit expectation of cost-sharing between the states, the providers, and other sources of funds; indeed, the ranges nearly overlap. Consistent with our findings in South Carolina, this may suggest that, despite the lack of an explicit cost-sharing mechanism, there is an implicit assumption in these states that the reimbursement rate will not cover the full cost of the program.

Considering the revenue side of the cost-versus-reimbursement equation, the state share of CERDEP costs may be determined by whether there are other sources of revenue, public or private, to fill the gap, as suggested by the criteria above. For example, CERDEP reimbursement would not include the per pupil cost of meals if providers are eligible for reimbursement of food costs under the CACFP. Providers that cannot be reimbursed by CACFP would receive the meal component of the CERDEP reimbursement schedule. If the CACFP per-pupil reimbursement rate is determined to be too low, the gap could be filled by CERDEP funds. Access to federal Title I funds provides another interesting example of a funding source for 4K programs offered by public schools. Several of the illustrative districts apply Title I funds to cover a portion of the costs of CERDEP. If full cost reimbursement became available for school districts, it would be important to consider whether a maintenance-of-effort (MOE) requirement should be in place to ensure that district providers sustain funding from other public sources under the new reimbursement approach. Otherwise, other funding sources may be supplanted by CERDEP funds.

On the cost side, whether a cost component should be covered could vary by whether the costs are deemed essential to achieving high quality or, rather, are optional features with no incremental benefit in terms of program impact. Exclusion of certain expenditures from CERDEP reimbursement would require a solid understanding of CERDEP features and which have evidence to support their implementation. Examples include higher expenditures on enrichment activities, such as extra field trips, beyond a specified threshold or the use of a high-cost professional development model that has not been shown to be effective.

Addressing the Compensation Differential for Public Versus Private Providers

One other key policy consideration is whether the CERDEP reimbursement mechanism would institutionalize the substantial differences in compensation between public schools and private center–based providers documented in this study and elsewhere. In recent years, as a growing share of preK slots are delivered through public schools, there has been growing attention placed on the need to achieve salary parity between preK teachers in public schools and private centers, as well as how to achieve that goal. For example, just as public schools are required to follow a minimum salary schedule, First Steps could require that private center–based CERDEP providers adhere to the same (or modified) salary schedule for their lead classroom teachers. A higher CERDEP reimbursement would then be associated with adhering to the salary

schedule. This approach ensures that the higher reimbursement to providers results in higher compensation for the program staff.

Of course, achieving compensation parity for private providers would result in an increase in the per-pupil cost of CERDEP relative to the status quo, and thus increased state funding if enrollment is to remain the same or increase. However, there would be a host of expected offsetting benefits from achieving compensation parity, such as lower rates of staff turnover (and the accompanying increase in program quality) and a reduced reliance on the part of private center–based staff on social safety net programs such as Medicaid and SNAP (Supplemental Nutrition Assistance Program).

At the same time, if compensation parity is addressed for 4K teachers in private programs but not for teachers in the same program in rooms with younger children (e.g., infants, toddlers, 3K), private providers may find that the within-site disparities in compensation for similarly qualified staff would create new issues in terms of staff performance, satisfaction, and retention. Thus, addressing the issue of compensation parity must account for the disparities between public and private programs, as well as the differences across staff within private settings based on the ages of the children they serve.

Addressing the Alignment in Reimbursement Rates Across Publicly Subsidized Programs

CERDEP operates along with other programs that subsidize the cost of 4K in both public and private settings. Where providers may simultaneously participate in more than one program, as is the case with CERDEP and SC Vouchers in private centers, one issue is whether the reimbursement rates across programs are similar. If reimbursement rates are not aligned, it may provide an incentive for providers to shift toward serving children in the program with the higher reimbursement rate, all else being equal.

At present, SC Voucher rates for full-day 4K vary by the urban-rural status of the provider and the provider's ABC Quality rating in South Carolina's quality rating and improvement system (QRIS). As of the 2017–2018 program year, the fixed CERDEP per-pupil reimbursement rate, on an hourly basis, would have been higher than the SC Voucher hourly reimbursement rate for all provider types. All five of the illustrative private center–based providers that we interviewed also serve children receiving subsidies through SC Vouchers. Thus, these providers (and others like them) may consider the reimbursement rates in the two programs as they enroll four-year-olds in their program. Given the relatively modest difference as of 2017–2018 (a minimum of about $328 per child on an annual basis), the incentive to serve children eligible for CERDEP over those who qualify for SC Vouchers may not be very salient from the providers' perspective. However, if CERDEP rates are raised in the future, in recognition of the need to cover a larger share of providers' costs, the gap between CERDEP and SC Voucher reimbursement rates will become even larger and potentially more relevant for provider decisionmaking, especially for providers with lower quality ratings and in rural areas where SC Voucher reimbursements are lower.

Recommendations

This discussion has raised a number of policy issues regarding reimbursement of per-pupil costs for CERDEP providers. Many of these issues inherently involve tradeoffs that must be considered as part of a policymaking process. We therefore recommend a series of action steps for CERDEP stakeholders in South Carolina to take in support of a deliberate process to determine the potential costs and benefits of modifying the current CERDEP reimbursement mechanism.

Recommendation 1. Convene CERDEP stakeholders to recognize the variation in CERDEP costs and identify options for an adequate and equitable reimbursement policy.

The SCDE and First Steps should hold one or more convenings with all CERDEP stakeholders—public and private providers, Education Oversight Committee (EOC), and other relevant parties—to recognize the considerable variation in the estimated total per-pupil cost of delivering CERDEP and the potential strategies for instituting a reimbursement policy that incentivizes quality and ensures an adequate and more equitable reimbursement of provider costs. The discussions should focus on the policy considerations referenced in the last section, such as which sources of cost variation should be incorporated in the reimbursement schedule, what the expectations are for the state's share of CERDEP costs and how providers will fill any gap, and whether there is support for moving toward compensation parity for CERDEP teachers in public and private settings.

Recommendation 2. Conduct an analysis of the effects of changes in the reimbursement mechanism on the funding required with no change in enrollment.

Guided by the discussions from the first recommendation, EOC should undertake an analysis of the implications of changes in the reimbursement mechanism for state funding of CERDEP with no change in enrollment. If a more-complex reimbursement approach is required, consider options to minimize administrative complexity, such as the use of existing formulas for K–12 funding to adjust for geographic differences in prices. Direct contracts with providers should be considered, as well. Similar to the approach taken in the National Academies report, *Transforming of the Financing of Early Care and Education*, it may be most feasible to phase in a new reimbursement structure over multiple years or gradually across districts, given the increase in funding that would be likely be required.

Recommendation 3. Provide technical assistance to CERDEP providers to ensure they access other sources of funding to cover their costs.

To the extent that private providers, in particular, will be expected to cover a portion of their costs from other public or private sources, First Steps should offer technical assistance to providers to ensure those funds are accessed to the maximum extent possible. For example, our set of illustrative providers suggests that some private centers may not access all sources of reimbursement, such as CACFP, for which they qualify. They also may not always fully claim all available CERDEP reimbursement (e.g., extended-day or summer). Technical assistance

would be a valuable resource for private centers (and perhaps school districts) to support the financial viability of CERDEP providers and stable participation in the program. Together, SCDE and First Steps could collaborate on an integrated plan for providing technical assistance and consistent implementation of the support for both public and private CERDEP providers.

Recommendation 4. Collect information on provider costs and refine model-based cost estimates to support the redesign of reimbursement policy.

Drawing on in-house capacity or external expertise, SCDE, First Steps, and EOC should continue to collect information on provider costs and refine model-based cost estimates as reimbursement policies are redesigned. The validity of any reimbursement mechanism depends on the extent to which it is grounded in real-world information about how providers implement the program and the associated cost structure. An evidence-based approach will encourage buy-in on the part of CERDEP providers and other stakeholders, as well as support from families with children and the public more generally. Likewise, information collected from providers should be periodically updated to account for changes in program delivery and the associated implications for costs.

Recommendation 5. Review alignment between CERDEP's reimbursement rates and those for other publicly funded early childhood programs in the state.

SCDE, First Steps, EOC and other state leaders should review the reimbursement rates for CERDEP and compare them with those of the other publicly funded early childhood programs in South Carolina that apply to 4K. This comparison is particularly relevant for private center–based CERDEP providers, as they also qualify to serve four-year-old children eligible for SC Vouchers. The review would determine the consequences of any current differences in the reimbursement rates across provider types, and assess the potential consequences in terms of participation in the subsidized program. If changes are made to the reimbursement rates for CERDEP, the consequences for the difference in the reimbursement rates with SC Vouchers or any other relevant subsidized 4K program should be taken into account.

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Abbreviations

3K	state-funded three-year-old prekindergarten
4K	state-funded full-day four-year-old prekindergarten
BLS	U.S. Bureau of Labor Statistics
CACFP	Child and Adult Care Food Program
CCDF	Child Care and Development Fund
CDA	Child Development Associate (credential)
CDEPP	Child Development Education Pilot Program
CERDEP	Early Reading Development and Education Program
CPI	Consumer Price Index
ECE	early care and education
EOC	Education Oversight Committee
EIA	Education Improvement Act
First Steps	South Carolina First Steps
FTE	full-time equivalent
NASEM	National Academies of Sciences, Engineering, and Medicine
NIEER	National Institute for Early Education Research
PCQC	Provider Cost of Quality Calculator
preK	prekindergarten, more generally, for three- and four-year old children
QRIS	quality rating and improvement system
SCDE	South Carolina Department of Education
SC-ELS	South Carolina Early Learning Standards
SC Voucher	South Carolina Voucher program
USDA	U.S. Department of Agriculture

1. Introduction

The South Carolina Early Reading Development and Education Program (CERDEP) is a state-funded full-day four-year-old prekindergarten (4K) program for low-income children at risk of not being ready to start kindergarten (South Carolina Department of Education [SCDE], 2017). CERDEP began in the 2006–2007 school year as a pilot program, in response to a court decision concerning the equity of the state school funding formula. The program is implemented using a mixed-delivery system, with both public schools and licensed private center–based providers able to serve eligible children. In the 2017–2018 school year, the focus of the report, CERDEP served approximately 11,700 children, or about 33 percent of low-income four-year-old children in the state.

As South Carolina and other states have established state-funded prekindergarten (preK)[2] programs, a key policy decision is how much to reimburse providers for the cost of providing the program. According to the National Institute for Early Education Research (NIEER), in the 2016–2017 school year, states spent an average of approximately $5,000 per pupil on state-funded preK programs. However, there is wide variation in spending across states, with at least one state (New Jersey) spending nearly $12,000 per pupil and other states spending less than $3,000 per pupil (Friedman-Krauss et al., 2018). Variation in state spending may capture true differences in the cost of preK programs based on program requirements and other factors, or it may reflect differences in the extent to which state funding covers the full cost of providing a 4K program. True cost differences may arise, for example, from differences in program delivery and structure (e.g., mixed delivery or not, part- versus full-day programs, the length of the program year), requirements for teacher qualifications and associated compensation, the population served and any additional services provided to account for higher needs, and differences in the cost of living across states. But states vary in the extent to which local funds on the part of school districts or private providers are expected to contribute to the cost of providing preK programming.

In the 2017–2018 school year, CERDEP providers were reimbursed $4,422 per student, slightly under the national average for per-pupil spending on state-funded preK programs. All CERDEP providers were reimbursed the same amount per pupil, regardless of provider type or geographic location in the state. Some states follow this same model of a single reimbursement rate, while others have varying rates depending on the provider circumstances. For example, per-pupil state funding for Georgia's state-funded preK program, the Georgia Preschool Program,

[2] We use prekindergarten, or preK, to refer generally to early education programs of various kinds (e.g., state or federally funded programs or private pay programs) for three- and four-year old children. We use the term 4K to refer exclusively to state-funded full-day preK programs for four-year-olds, and 3K to refer to state-funded preK programs for three-year-olds.

varies by a number of factors, including provider type (private or public), program geographic area, and teacher qualifications.

A recent report from the National Academies of Sciences, Engineering, and Medicine (NASEM) suggests that the financing mechanisms (e.g., reimbursement rates) for many preK and other early care and education (ECE) programs limit providers' ability to create supportive learning environments for participating children and families (NASEM, 2018). When program reimbursement rates (or the amount states reimburse providers for serving children) are not sufficient for covering program costs, providers may not be able to deliver high-quality services in the long run, with consequences for the stability and sustainability of the statewide program (Barnett and Robin, 2006; NASEM, 2018). The full cost of preK programs can be challenging and expensive to estimate, especially because information on providers' operating costs is not routinely collected in administrative data systems, and primary data collection is expensive (Davis et al., 2017).

In this report, we focus on estimating the total cost for CERDEP providers in the public and private sectors to deliver services consistent with the program requirements. To assess total cost, we include both direct classroom-based resources required to implement the CERDEP model, and indirect resources that support program delivery. More specifically, we apply rigorous methods to address the following study questions:

- What are the "ingredients," in terms of personnel, facilities, educational materials, and other supplies, required to deliver CERDEP in public and private settings? What are the sources of potential variation in program costs?
- What is the estimated per-pupil cost of CERDEP? Does the per-pupil cost vary by key programmatic features, such as public versus private settings, teacher qualifications, student enrollment, or geographic area?
- How does the per-pupil cost compare to the current per-pupil reimbursement rate for CERDEP providers?

Documenting program costs is necessary for education leaders in South Carolina and across the nation to understand the resources required for delivering a high-quality preK program and to determine whether current reimbursement rates are adequate for supporting the delivery of high-quality programs. In particular, the first question is important for documenting the complete set of resources required to implement CERDEP, a fundamental first step toward understanding program costs. With that foundation, it is possible to then estimate CERDEP costs for specific providers based on their expenditures for CERDEP or for provider types based on a cost model (where assumptions are made about provider circumstances, the resources required, and the price of those resources; sometimes also called a cost-estimation model or cost calculator). Based on either data from specific providers or from a cost model, it is then possible to compare program expenditures with the per-pupil reimbursement rate to determine if the state funding is adequate to cover the program costs.

Approach and Limitations

To address our study questions, we use two complementary approaches: (1) collecting information on CERDEP expenditures from a small number of illustrative public and private providers; and (2) developing a cost model, informed by the providers examined in the first approach, to estimate the CERDEP per-pupil cost under baseline assumptions and the variation in per-pupil cost under alternative assumptions (e.g., program scale, local price differences, teacher qualifications and compensation, provision of transportation) consistent with the CERDEP requirements. While either approach could be used in isolation, by combining the two methods, we have a stronger foundation for understanding CERDEP costs and identifying policy implications.

The first, analytic approach provides us with in-depth information from ten CERDEP providers across the state regarding the resources required for program implementation (our first study question), as well as illustrative estimates of program cost per pupil served (our second question), and whether CERDEP reimbursement was sufficient to cover total costs (our third question). Resource and time limitations precluded us from collecting such cost information from a larger representative sample of providers in the state, which would have allowed us to examine the sources of cost variation. Nevertheless, the small number of illustrative providers is especially useful for understanding program cost structure, our first question about the required CERDEP ingredients, which then informs the model-based estimates that comprise our second strategy.

The second, model-based approach has the advantage of providing a standardized way to compare per-pupil cost under a set of baseline assumptions and then under alternative scenarios where we vary one cost parameter at a time, holding other parameters constant. This approach then is particularly relevant for addressing the second and third study questions in a structured way, beyond what we might learn from a sample of providers. The model serves to illustrate major cost drivers, as well as how much of the total per-pupil costs are covered by the CERDEP reimbursement mechanism for providers in different contexts.[3] By tailoring the cost model to reflect the information we gathered from the ten public and private providers, the cost model reflects real-world information that is tailored to the CERDEP context, rather than using an off-the-shelf tool.

Our overall approach does have several limitations that are important to understand. First, given the small number of providers for which we gathered expenditure data, we stress that we are not able to report an average statewide total per-pupil cost for CERDEP. We interviewed just five private providers (about 3 percent of participating providers) and five school districts (about 8 percent of participating districts). While these programs were purposefully selected to

[3] Such a model can also provide the basis for setting reimbursement rates that account for variation in provider costs that are expected to arise because of variation in provider cost components (e.g., the lead teacher qualifications and compensation, whether rent is paid, whether transportation services are provided) and other factors such as local prices.

represent different characteristics of CERDEP providers (e.g., both public and private providers of varying sizes in different parts of the state), the sample is too small to be representative. We use these providers to understand the cost components for CERDEP providers and to account for these cost elements in the model-based estimates. If there are cost elements associated with CERDEP delivery not reflected in the expenditures for the ten providers, we may omit some costs. However, we also rely on well-established cost calculators developed for modeling the cost of 4K programs, which ensures that we are likely to capture the most important cost components.

For the provider-based cost estimates, we rely on provider self-reports of expenditure details for their most recent completed fiscal year. Further, we require that providers identify the costs that apply just to their CERDEP classrooms, which is typically a subset of the children served in public school districts or private centers. Providers vary in the extent to which expenditures are tracked to the classroom level, as well as the specificity of their expenditures more generally. Thus, there is likely to be some measurement error in the provider-based estimates of per-pupil cost. For this reason, small differences in per-pupil costs across providers or for specific cost components should be interpreted with caution. In the case of the model-based estimates of CERDEP costs, we must make assumptions about program structure (e.g., program size, the number of classrooms, children per classroom), the associated resource requirements given the program structure, and the corresponding prices for those resources (e.g., staff salaries, occupancy costs). Our assumptions are informed by the information from the ten providers and other 4K cost models. Nevertheless, varying our key assumptions may produce somewhat different estimates of cost.

We also note that our study is an analysis of the total cost to implement CERDEP under current program requirements. We do not assess how costs might vary under alternative program features (e.g., a higher class size, a higher staff-child ratio). We are also not able to consider whether the program, as delivered, is achieving the desired outcomes or whether the resources spent on the program generate a positive return on investment. As such, this analysis does not address fundamental questions regarding the efficacy of CERDEP, its value to the state, and whether it should continue to be funded. Actions by the state legislature since the program's inception suggest there is general support for the program. For example, as described in more detail later in this chapter, the state has expanded access to the program since the 2006–2007 school. year, making more districts eligible to establish CERDEP classrooms. At the same time, the cost analyses we undertake could provide a foundation for future analyses of the potential economic returns for CERDEP, based on expected or verified effects of participating in CERDEP on school readiness and other short- and longer-term outcomes.

To set the stage for the remainder of the report, the next section of this introductory chapter provides important background information on CERDEP.[4] We also provide a brief review of prior research on the costs of preK programs and illustrate the approaches that other U.S. states

[4] For a complete review of the program history, features, and requirements, see Appendix A.

have adopted for reimbursing providers under their state-funded full-day 4K programs. We conclude the chapter with a roadmap for the remainder of the report.

Background on South Carolina CERDEP

CERDEP began as the Child Development Education Pilot Program (CDEPP), a state funded early childhood education program in low-income districts in the state.[5] The pilot program was founded in 2006 in response to a court ruling in a decades-long legal challenge to South Carolina's public school funding formula. CDEPP was created to remedy the lack of funding for early childhood education in the state's poorest districts. CDEPP was signed into state law as a permanent program in 2014 (South Carolina General Assembly, 2014) and renamed CERDEP. By law, the program must serve children from low-income families in the state's poorest districts, and focus on reading and school readiness (SCDE, 2018c).

CERDEP is implemented using a mixed-delivery system, with both public school districts and private center–based providers able to serve eligible children. Oversight of the public school district–based programs is provided by the SCDE, while South Carolina First Steps to School Readiness (First Steps)—the statewide public-private partnership to increase school readiness—oversees implementation in private providers. To be eligible to implement CERDEP, districts must have a score of 70 percent or higher on the state poverty index.[6] These CERDEP-eligible districts may opt in or out of establishing CERDEP classrooms. Private providers may be located anywhere in the state, including in districts that do not meet the 70-percent poverty threshold. All children served by the program in either public or private settings must meet the child and family criteria described below.

In Table 1.1, we present a description of CERDEP's key characteristics, including child and family eligibility criteria and major program requirements. Here we focus on key required features that are associated with preK program quality, many of which also have implications for program costs. (See Appendix A for a complete description of CERDEP's features.) In particular, NIEER has developed a set of quality indicators (or benchmarks) for state preK programs. In the 2017 State Preschool Yearbook, NIEER revised and released ten new benchmarks for quality, including curriculum supports and staff professional development requirements (Friedman-Krauss et al., 2018).

[5] This section draws heavily from the following: Friedman-Krauss et al., 2018; South Carolina Education Oversight Committee, 2018; EOC, 2017; SCDE, 2018a, 2018b; First Steps, 2018a, 2018b.

[6] The poverty index is determined by the state's General Assembly and is calculated based on the percentage of students and families in a district enrolled in Medicaid, Temporary Assistance for Needy Families, the Supplemental Nutrition Assistance Program, and Department of Social Services Foster Care.

Table 1.1. CERDEP Features in Private and Public Providers, and Corresponding NIEER Quality Benchmarks

Program Feature	CERDEP Requirements	Applicable (New) NIEER Standard	Meets Standard[a]
Child/family eligibility	Child must be 4 by September 1 and family must have (a) income at or below 185 percent of the federal poverty guidelines or (b) be Medicaid eligible	None	–
Licensing	Must be licensed by the South Carolina Department of Social Services	None	–
Service options	• Traditional year: 180 days; 6.5 hours/day • Extended day: 180 days; up to 8.5 hours/day • Extended year: up to 220 days; 6.5–8.5 hours/day • Summer: up to 220 days; 180 days at 6.5–8.5 hours and 40 days of summer at 8.5 hours	None	–
Maximum class size and staff-child ratio	20 children 1:10 staff-child ratio	7 and 8. Maximum class size and staff-child ratio	Yes
Early learning standards	*South Carolina Early Learning Standards* guide children's learning and development	1. Early learning and development standards	Yes
Curriculum	• Big Day in Pre-K (public only) • Creative Curriculum • High Scope • InvestiGator Club (public only)[b] • Montessori • World of Wonders (public only)	2. Curriculum supports	Yes
Lead teacher degree	Public: Bachelor's degree Private: Associate degree (with documentation of working toward a bachelor's)	3. Teacher degree	No
Lead teacher specialization in early childhood	Public: Teaching certificate in early childhood Private: Associate degree in early childhood, a CDA, or other specialized ECE training	4. Teacher specialized training	Yes
Instructional assistant degree	High school degree	5. Assistant teacher degree	No
Kindergarten readiness assessments	All children must be assessed at the start and end of the year by an approved reading assessment: • Individual Growth and Development Indicators Early Literacy (public only) • PALS–Pre-K (public only) • Teaching Strategies GOLD	None	–
Screenings and referrals	No requirements; health and developmental screenings recommended	9. Screenings and referrals	No
Teacher PD	15 hours of PD for teachers	6. Staff PD	Yes
Monitoring/CQI system	Regular monitoring and structured classroom observations	10. CQI system	Yes

NOTES: Abbreviations: CQI = continuous quality improvement; PD = professional development; CDA = Child Development Associate (credential).
[a] As determined by NIEER (Friedman-Krauss et al., 2018).
[b] Curriculum approved for the 2018–2019 school year only.
SOURCES: Friedman-Krauss et al., 2018; EOC, 2017, 2018; SCDE, 2018a, 2018b; First Steps, 2018a, 2018b.

In the final two columns of Table 1.1, we indicate, where relevant, the corresponding NIEER standard and whether the CERDEP features meet the applicable benchmark (as determined by NIEER's most recent analysis of information from the 2016–2017 school year). As of 2016–2017, CERDEP met seven of ten quality metrics. In comparison to other states, meeting seven benchmarks puts South Carolina in the middle to the high end of the distribution in the 2016–2017 school year (the most recent with comprehensive data). Only three states—Michigan, Alabama, and Rhode Island—meet all ten, while five states met nine. Ten states met fewer than half of the benchmarks. There is an extensive body of research literature evaluating how to define and measure quality in preK and childcare settings and whether these quality metrics are related to child outcomes.[7] While a literature review on preK quality or the features of the CERDEP program is outside the scope of this report, the NIEER standards provide useful evidence-informed benchmarks for quality, because all the standards were developed by identifying the common characteristics of effective, research-based preK programs (Friedman-Krauss et al., 2018).[8]

To enroll in CERDEP, children living within CERDEP-eligible districts must have reached age four on or before September 1 and meet one of the following criteria: (1) have family income at or below 185 percent of the federal poverty guidelines or (2) be eligible for Medicaid. Families can choose to apply for a CERDEP slot in either a public school district or a private provider. In the 2017–2018 school year, 64 districts were CERDEP-eligible and 61 opted into the program—approximately 74 percent of the state's 82 total districts. Additionally, 197 private providers across the state implemented CERDEP in 2017–2018. In this school year, CERDEP served a total of 11,735 children served; the large majority of children—9,789 or about 83 percent—attended a CERDEP classroom in a public school district, with less than 2,000 children attending such classrooms in private providers. Based on recent state estimates, the 11,700 children served by CERDEP represented about 33 percent of all low-income children in the state at the time.[9]

All programs must operate for at least 180 school days, five days a week, with at least 6.5 hours of instruction per day—or what the program refers to as the *traditional school year* service option. In the 2017–2018 school year, the state's General Assembly made additional funds available to expand CERDEP offerings. CERDEP providers had the option of three different expansions which included: *extended day*—180 days per year and up to 8.5 hours of instruction per day; *extended year*—up to 220 days per year and 6.5–8.5 hours of instruction per day; and *summer*—up to 220 days per year total with 180 days of 6.5–8.5 hours during the school year

[7] See Burchinal et al., 2010; National Institute for Child Health and Development Early Child Care Research Network, 2002, 2003; Keys et al., 2013; Zaslow et al., 2011.

[8] For a more detailed description of CERDEP's features in relationship to NIEER's standards, see EOC, 2017, 2018. In addition, RAND's forthcoming companion report on CERDEP, RR-2944-SCEOC, will explore aspects of the CERDEP, including the teacher education requirement and the teacher professional development opportunities.

[9] Based on estimates of low-income children in the state from EOC, 2018.

and 40 days of a summer program with up to 8.5 hours of instruction per day.[10] In 2017–2018, the majority of districts and private providers (about 60 percent each) opted into the summer program option (see Appendix A for a complete breakdown of the program options). As discussed in more detail in later sections, each service option is associated with a different per-pupil reimbursement rate. For all service options, the classroom size is capped at 20, and the staff-child ratio within a classroom cannot exceed 1:10. All CERDEP providers are required to purchase and use one of the approved, research-based program curricula listed in Table 1.1. In addition, educators must follow the South Carolina Early Learning Standards.

The requirements for lead teacher qualifications differ across the public and private settings. In the school districts, all lead teachers are required to have a bachelor's degree and a South Carolina teaching certification in early childhood education. In the private settings, teachers with bachelor's degrees are preferred, but lead teachers are only required to have a two-year college degree in early childhood education, or a two-year college degree in another field with additional early childhood experience (such as having a CDA credential). All lead teachers without a four-year degree must show evidence that they are enrolled in four-year teacher education program with an emphasis on early childhood education. Once hired, CERDEP requires that all lead teachers complete 15 hours of professional development per year.

CERDEP Reimbursement Mechanisms

The SCDE and First Steps are responsible for reimbursing the CERDEP districts and private providers with state funds to pay for the program. The reimbursement structure has three main components: (1) reimbursement for instruction, (2) reimbursement for transportation, (3) and funds for materials and equipment for new classrooms. The state General Assembly sets the reimbursement rates depending on available state funding. The rates are the same across all providers in public and private settings and across all state regions. In Table 1.2, we detail the reimbursements for these components starting with the first year of the program through the 2018–2019 school year.

At the program's inception in the 2006–2007 school year, providers were reimbursed $3,077 per pupil. This starting rate was based, in part, on initial estimates produced by the EOC on the per-pupil cost for a CERDEP classroom in either a public or private setting (EOC, 2006). The estimated costs per pupil were $3,647 for a CERDEP classroom in a public school with a certified teacher, and $2,693 per pupil for a certified teacher in a private setting. The estimates were based on median salary information for teachers and teaching assistants in South Carolina, in both public schools and private centers at

[10] First Steps and SCDE defined the extended year and summer options differently. As defined by SCDE, the public districts had the option of between 6.5–8.5 hours of instruction per day for extended year, while the private providers who implemented the extended-year option capped their hours at 6.5, as defined by First Steps. Similarly, for the summer option, public schools had the option of between 6.5–8.5 hours of instruction for the 180 days of the school year, and 8.5 hours of instruction for the 40-day summer program. The private providers who implemented the summer option implemented only 6.5 hours during the school year and 8.5 hours per day of summer instruction.

Table 1.2. CERDEP Reimbursement Rates from 2006–2007 to 2018–2019

School Year	Instruction (in nominal dollars)	Transportation (in nominal dollars)*	Materials and Equipment for New Classrooms (in nominal dollars)
2006–2007	3,077.00	185.00	Up to 10,000 per classroom
2007–2008	3,931.00	550.00	"
2008–2009	4,093.00	550.00	"
2009–2010	4,093.00	550.00	1,000 per pupil for providers enrolling 1 to 6 children; support not to exceed 10,000 for providers enrolling 7 or more children
2010–2011	4,218.00	550.00	"
2011–2012	4,218.00	550.00	"
2012–2013	4,218.00	550.00	"
2013–2014	4,218.00	550.00	"
2015–2016	4,218.00	550.00	"
2016–2017	4,323.00	550.00	"
2017–2018	4,422.00	561.63	"
2018–2019	4,510.00	574.00	"

* With the exception of 2006–2007, when both private and public providers could claim transportation costs, the transportation reimbursement rate applies to private providers only.
NOTE: " = no change from previous year.
SOURCE: Private communication from EOC.

the time. The assumed fringe-benefit rates were 28 percent and 20 percent in public and private settings, respectively. Classroom instructional materials were estimated at $60 per pupil and transportation services at $185 per pupil.

The reimbursement rate saw its largest increase—approximately $854, or 28 percent—after that first year, bringing the rate to $3,931 in 2007–2008. By 2017–2018 the rate had increased to $4,422 with a final boost to $4,510 in 2018–2019. Overall, the reimbursement rate for instruction has increased $1,433, or about 47 percent, since the program began. This increase outpaces general inflation.[11]

The rates cited above all pertain to the traditional school year CERDEP option (i.e., 180 days of instruction at 6.5 hours per day). As described above, in the 2017–2018 academic year, the General Assembly made funds available for a CERDEP expansion of program options. Providers could pick from three new options: extended-day, extended-year, or summer. To implement each of the service options, programs received additional funds beyond the base $4,422 per pupil; we present these rates in Table 1.3. These rates appear to be calculated as a portion of the base rate. For example, assuming a 180-day school year and 6.5 hours of instruction per day, the base reimbursement rate translates into an hourly rate of $3.78. Thus, for the extended-day option, programs received an additional $3.78 per hour per pupil for the extension of the program from

[11] The inflation rate from 2006 to 2018, based on the Consumer Price Index (CPI), was about 24.4 percent according to the U.S. Bureau of Labor Statistics (BLS) inflation calculator. The CPI is a general measure of price trends. As such, it is not intended to capture price changes in specific sectors such as education or ECE. Thus, whether CERDEP reimbursements have kept pace with the cost of providing the program would require the use of a price index that captures price changes for the personnel and other resources required to implement the program.

Table 1.3. CERDEP Expansion Service Options Reimbursement Rates

Service Option	Additional Reimbursement Beyond Base Rate
Extended Day	$3.78 per additional hour (up to 2 hours beyond 6.5)
Extended Year	$24.56 (6.5 hours) or $34.02 (8.5 hours) per additional day
Summer	$34.02 (public) or $32.13 (private)[a] per additional summer school day (up to 40 days, at 8.5 hours per day)

[a] The difference in the additional per-day funding rate between public and private providers for the Summer options appears to be due to a calculation error in program documents. EOC confirmed in internal communication that reimbursement rates do not differ between public and private settings.
SOURCE: SCDE, 2018a; First Steps, 2018a.

6.5 hours to up to 8.5 hours. The same logic was used to calculate the additional reimbursement for the extended year and summer options (i.e., $4,422 annual reimbursement rate divided by 180 days equals $24.56 per day).

With the exception of 2006–2007, the per-pupil transportation rate has been fairly constant over the years with a rate of $561.63 per pupil in 2017–2018.[12] As of the 2007–2008 school year, only private providers are eligible to claim transportation costs; the districts are expected to absorb the transportation costs into the countywide school transportation budget. The last component of the reimbursement structure is the funds available to providers when they open new classes; in the 2017–2018 school year, programs could receive a max of $10,000 total per classroom, depending on the additional CERDEP children to be served.

Early Childhood Landscape and Other ECE Funding in South Carolina

CERDEP is not the only publicly funded ECE program in the state. In 1984, the Half Day Child Development Program was created as part of the Education Improvement Act (EIA). South Carolina districts not participating in CERDEP can use EIA funds to implement a part-day (at least 2.5 hours per day) preschool program for at-risk four-year-olds. Some districts use other funds to extend the program to full-day service. SCDE does not set a per-pupil reimbursement rate but determines public school districts' funds for the program based on kindergarten enrollment and the district poverty index. Public schools also have access to federal funds to supplement their 4K programs, including Title I funds of the Elementary and Secondary Education Act (as amended by the Every Student Succeeds Act). Title I funds support local educational agencies and schools with high numbers or high percentages of children from low-income families. Districts can also use funds authorized by the Individuals with Disabilities Education Act to provide preK services for children with disabilities.

South Carolina also has a number of Head Start programs. Enrollment figures for the 2017–2018 school year indicate that over 13,000 children were served by Early Head Start or Head

[12] Based on the BLS inflation calculator, the CERDEP transportation reimbursement rate has not kept pace with inflation, having increased only four percent since the 2007–2008 school year. The same caveat applies that the CPI captures general price trends which may differ for the transportation sector of interest here.

Start programs in South Carolina.[13] Some of the private CERDEP providers also receive Early Head Start funding, Head Start funding, or some combination of the two, and operate multiple programs simultaneously.

The South Carolina Voucher program (SC Vouchers) is another mechanism to subsidize the cost of child care and early learning programs in private settings for low-income working parents with children up to age 12. The program, which reimburses child care providers for some or all of the cost of a child's tuition, is administered by the South Carolina Department of Social Services and funded by the federal Child Care and Development Fund (CCDF), which was reauthorized by the 2014 Child Care and Development Block Grant. Many of the private providers that administer CERDEP also accept SC Vouchers. As a point of comparison to CERDEP, the provider reimbursement rates for SC Vouchers vary by provider characteristics, including the provider type (e.g., licensed centers, family child care homes); providers' rating on the state's quality rating improvement system (QRIS), ABC Quality; geographic locale (urban versus rural settings); child age; and hours of care (full- or part-time).[14] For example, the reimbursement rate that applied during the 2017–2018 federal fiscal year for three- to five-year-old children receiving full-time care (up to 10 hours per day) at an urban licensed center with the highest ABC Quality rating was a maximum of $175 per week, the equivalent of $35 per day or $3.50 per hour, assuming a 10-hour day.[15] This is less, on an hourly basis, than the $3.78 per hour reimbursement for CERDEP (see Table 1.3). Since the SC Vouchers payment rate is lower for four-year-olds in centers in rural areas or in centers with lower quality ratings, the reimbursement rate for CERDEP exceeds the equivalent hourly reimbursement for SC Vouchers under all circumstances. Over the course of a 180-day program for 6.5 hours per day, the gap is equivalent to a minimum of $328 per child.

Finally, both public districts and private centers can apply to receive funds from the U.S. Department of Agriculture (USDA) Child and Adult Care Food Program (CACFP), a federal entitlement program, to reimburse the cost of food service for CERDEP and other preK programs.

[13] South Carolina Head Start Collaboration Office, undated.

[14] Reimbursement rates for SC Vouchers are based on periodic market surveys of the prices that providers charge for care of children of different ages and hours of service. Rates are based on the price level at the 75th percentile for ABC Quality level C providers and up to the 85th to 90th percentile for providers with the highest quality ratings (South Carolina Department of Social Services, 2018). It is important to recognize that the market-based survey captures the price that providers charge, which is not necessarily the same as the full cost to providers of providing the care (Davis et al., 2017).

[15] EOC, undated; and South Carolina Department of Social Services, undated.

Reimbursement Mechanisms in Publicly Funded Preschool Programs in Other States

To provide further context for the reimbursement policy for CERDEP 4K in South Carolina, we reviewed the reimbursement rates for the following nine neighboring state-funded 4K programs:

- Alabama First Class Pre-K
- Florida Voluntary Prekindergarten Program
- Georgia Preschool Program
- Kentucky Preschool Program
- Mississippi Early Learning Collaborative
- North Carolina Pre-K Program
- Tennessee Voluntary Pre-K
- Virginia Preschool Initiative
- West Virginia Universal Pre-K.

We display key characteristics of these programs and CERDEP in Table 1.4. As indicated, these programs are similar to CERDEP in terms of a number of characteristics that can drive program costs; for example, whether the program is targeted at certain populations (e.g. low-income families) or universal, the program's class size and staff-child ratio, and the program's required teacher credentials. Like South Carolina, four of the other state-funded programs are targeted to low-income families and children with other risk factors, and all programs have a maximum class size of about 20 children, with staff-child ratios ranging from 1:9 to 1:11. Florida is the only other state that, like South Carolina for private providers, does not require all lead teachers to have a bachelor's degree. Using the NIEER benchmark standards as indicators of quality, there is wide variation among these programs. The Florida Voluntary Prekindergarten program meets just two benchmarks, while Alabama First Class Pre-K meets all ten.

In Table 1.5, we present detailed information about the per-pupil reimbursement policy in each state-funded 4K program, including the reimbursement mechanism for instruction, the factors tied to reimbursement, the maximum per-pupil reimbursement rate for a standard academic year, and other costs for which programs are reimbursed. We compiled this information from a review of publicly available documents. Note that comprehensive data on state reimbursement policies are not routinely collected or reported in many states. In multiple instances, current information was not available; we present information for the most recent year for which data were identified. Despite the lack of complete current information, the details on the other programs helps to situate South Carolina's reimbursement rate in the context of other neighboring states.

Table 1.4. Features of State-Funded 4K Academic-Year Programs in Selected States

State Program	4K Eligibility	Key Program Features		NIEER Standards Met
Alabama First Class Pre-K	All eligible	Class size: Staff-child ratio: Lead teacher: Assistant teacher:	20 1:10 BA CDA or 9 ECE/CD credits	10
Florida Voluntary Prekindergarten Program	All eligible	Class size: Staff-child ratio: Lead teacher: Assistant teacher:	20 1:10 CDA or equivalent + training None	2
Georgia Preschool Program	All eligible	Class size: Staff-child ratio: Lead teacher: Assistant teacher:	22 1:11 BA in ECE, CD, ECE SpEd CDA	8
Kentucky Preschool Program	Targeted to children in low-income families (<160% FPL) or with other at-risk characteristics	Class size: Staff-child ratio: Lead teacher: Assistant teacher:	20 1:10 BA in ECE, CD, ECE SpEd HSD	7
Mississippi Early Learning Collaborative	Some providers targeted to children in low-income families (eligible for Head Start)	Class size: Staff-child ratio: Lead teacher: Assistant teacher:	20 1:10 BA in ECE, CD AA in ECE, CD	9
North Carolina Pre-K Program	Targeted to children in low-income families (<75% of SMI) or with other at-risk characteristics	Class size: 1 Staff-child ratio: Lead teacher: Assistant teacher:	8 1:9 BA in ECE, CD HSD	8
South Carolina CERDEP	Targeted to children in districts with high poverty (70% or higher) and in low-income families (<185% FPL) or with other at-risk characteristics	Class size: Staff-child ratio: Lead teacher (pub.): Lead teacher (priv.): Assistant teacher:	20 1:10 BA in ECE AA in ECE or CD, working toward BA HSD	7
Tennessee Voluntary Pre-K	Targeted to children in low-income families (<185% FPL) or with other at-risk characteristics	Class size: Staff-child ratio: Lead teacher: Assistant teacher:	20 1:10 BA in ECE, CD, ECE SpEd HSD	5
Virginia Preschool Initiative	Targeted to children in low-income families (<200% FPL) or with other at-risk characteristics	Class size: Staff-child ratio: Lead teacher (pub.): Lead teacher (priv.): Asst. teacher (pub.): Asst. teacher (priv.):	20 1:10 BA in ECE or CD HSD and ECE training HSD None	6
West Virginia Universal Pre-K	All eligible	Class size: Staff-child ratio: Lead teacher: Assistant teacher:	20 1:10 BA in ECE, CD, ECE SpEd CDA	9

NOTES: All data pertains to the 2016–2017 school year except Florida, in which the data pertains to the 2013–2014 school year. In this table, ECE stands for a degree specialization in *early childhood education* rather than *early care and education*, as in the rest of the report. AA = associate degree; BA = bachelor's degree; CD = child development; HSD = high school diploma; SMI = state median income; SpEd = special education; FPL = federal poverty level.
SOURCES: Friedman-Krauss et al., 2018; Barnett and Kasmin, 2016.

Table 1.5. Reimbursement Features of State-Funded 4K Programs in Selected States: Most Recent Academic Year Available

State Program (Year)	State Reimbursement Mechanism	Factors Tied to Reimbursement	Maximum Per-Pupil Reimbursement for Standard Academic Year School-Day Program	Other Reimbursements (Annual)
Alabama (2018–2019)	Per-pupil discretionary grant; expectation of local contribution to achieve quality	None	$4,860	• Supplement for classrooms with other funding, up to $2,250 per pupil • New classroom, up to $2,640 per pupil
Florida (2014–2015)	Per-pupil discretionary grant	• District cost differential	$2,508	• Summer option
Georgia (2018–2019)	Per-pupil discretionary grant	• Lead teacher education • Metro vs. nonmetro area • Public vs. private provider • Class size • Number of days offering services	$3,087[a] $3,229[b] $3,529[c]	• Transportation, ~$150 per pupil • New classroom • Sparsity allowance
Kentucky (2018–2019)	Per-pupil school funding formula	• Child disability status	$4,491	• Supplement for severe/multiple disabilities, $2,143 per pupil
Mississippi (2017–2018)	Per-pupil discretionary grant; require 1:1 local match	None	$2,150	• Part-day option, $1,075 per pupil • Extended-day option
North Carolina (2017–2018)	Per-pupil discretionary grant; based on state contract with provider	• Lead teacher education/ credential • Public vs. private provider	$4,257[d] $5,850[e]	• Administration (~4%) • New classroom • Quality funds
South Carolina (2018–2019)	Per-pupil formula grant	None	$4,510	• Transportation, $574 per pupil (private only) • New classroom, up to $500 per pupil • Extended-day and summer options
Tennessee (2016–2017)	Per-pupil formula grant; required local match based on school funding formula	None	$5,874	
Virginia (2016–2017)	Per-pupil discretionary grant shared by state and local match (50% maximum) based on index of ability to pay	None	$6,125	

Table 1.5. Reimbursement Features of State-Funded 4K Programs in Selected States: Most Recent Academic Year Available, Continued

State Program (Year)	State Reimbursement Mechanism	Factors Tied to Reimbursement	Maximum Per-Pupil Reimbursement for Standard Academic Year School-Day Program	Other Reimbursements (Annual)
West Virginia (2015–2016)	Per-pupil school funding formula	• Educator salaries	$5,007 (est.)	• Administration and other cost factors • Transportation • Quality improvements

[a] Approximate rate for a public school program with a lead teacher with a bachelor's degree and full enrollment.
[b] Approximate rate for a private program in a non-metro area with a lead teacher with a bachelor's degree and full enrollment.
[c] Approximate rate for a private program regardless of teacher qualification.
[d] Approximate rate for a public school program with a lead teacher with a bachelor's degree; monthly rate times 9 months.
[e] Approximate rate for a private program with a lead teacher with a bachelor's degree and a birth-through-kindergarten license; monthly rate times 9 months.
SOURCES: Barnett and Kasmin, 2016; state 4K program websites and other materials documented in Appendix B.
NOTES: See Table 1.4 for full program names. The standardized program is 5 to 6.5 hours per day for 180 days.

We show three different reimbursement mechanisms among these ten states according to Barnett and Kasmin (2016): (1) per-pupil discretionary grant—a designated per-pupil reimbursement rate determined by the legislature's budgetary process, typically without reference to provider-cost information; (2) per-pupil (discretionary) formula grant—similar to the first approach, but which uses a formula to adjust the grant for student or district needs; or (3) per-pupil school funding formula—the same approach typically used by states to determine state funds for K–12 education. South Carolina falls into the second category. As described earlier, all CERDEP providers in South Carolina are reimbursed the same amount per pupil for instruction, so there are no factors tied to the reimbursement rate. Kentucky and Tennessee's reimbursement mechanisms are similar to South Carolina's in that they both employ a per-pupil formula grant as well. However, unlike South Carolina, Kentucky makes additional per-pupil funding available for children with disabilities, while in Tennessee, local districts are required to match the grant from the state to supplement funds for the program. Indeed, like four of the 4K program policies we reviewed, Tennessee's policy is explicit: State funds are not intended to cover the full cost of instruction, and local matching or supplemental funds are necessary. In addition to local matching funds, states find alternative ways to supplement the state funding to cover the cost of their 4K program. For example, in 2016, the Mississippi Department of Education was awarded a $6 million grant from a private foundation to improve the quality of early childhood education in the state. The grant was intended to support activities such as professional development for staff, program evaluation, and parent engagement (Mississippi Department of Education, 2016).

Unlike South Carolina, five of the states we reviewed vary the per-pupil reimbursement rate by program or child factors. In the state of Georgia, for example, the per-pupil reimbursement rate varies by teacher education, geographic area (metro or nonmetro), public or private provider

status, class size, and the number of days the program is offered. North Carolina also varies the per-pupil reimbursement rate based on whether providers are public or private.

South Carolina's 2018–2019 per-pupil reimbursement rate, $4,510, is in the middle of the distribution among the nine states. Mississippi has the lowest rate at $2,150; however, local governments are required to match funds. Florida's rate is also comparatively low; notably, Florida is the only state (aside from South Carolina for private providers) that does not require teachers to have a bachelor's degree, and its 4K program met the fewest NIEER quality benchmarks. Virginia has the highest per-pupil reimbursement rate at $6,125. As for reimbursement for other program costs, South Carolina and a number of other states—specifically Alabama, Georgia, and North Carolina—provide additional funds for new classroom start-up. Some states also reimburse for transportation costs and provide additional funding for extended hours during the school year, summer programs, or both.

Prior Research on the Cost of High-Quality PreK Programs

Analyses of the cost of preK programs aim to estimate the value of the direct and indirect resources required to deliver the program—both resources that require cash expenditures, as well as resources provided in-kind. The latter may include, for example, space that is donated or partially subsidized, as well as classroom supplies provided by families to supplement what the program can cover. The cost of facilities is often not captured in public school district-based programs because buildings are owned outright or costs for utilities and maintenance are recorded as part of a school or district's overhead expenses. Other overhead expenditures for program administrators and support functions may also not be included when accounting for a preK program's costs. Notably, program costs are not necessarily equivalent to the fees that parents may be charged or the reimbursement rates for publicly funded programs. Capturing information on the costs to provide a preK program is more time-consuming and therefore more expensive than gathering data on the prices that providers charge. Thus, such information is typically not routinely collected.

Despite the challenges of measuring the cost of preK programs and other care and early learning programs serving children before kindergarten entry, a growing body of research now documents program costs for providers. Analyses of preK program costs across multiple studies consistently show that the one of the largest expenditure components is compensation (salaries and fringe benefits) for instructional personnel (Gault, Mitchell, and Williams, 2008; Caronongan et al., 2016). Consequently, key drivers of per-child preK program costs include the education level of the staff, the salary scale and generosity of the fringe benefit package, the staff-child ratio in the preK classrooms, and program intensity (e.g., part- versus full-day programs, academic-year versus calendar-year programs). PreK teachers in public-school programs typically receive higher compensation compared with teachers in private center– or home-based programs, although some publicly funded programs require private providers to compensate teachers on the same scale as their public school counterparts (Whitebook, McLean, and Austin, 2016). Syntheses across preK program cost studies indicate that per-child costs are

also higher when programs provide ancillary services (e.g., the health services component in Head Start), but they may be lower in programs with higher enrollment because of economies of scale (Caronongan et al., 2016). Costs also vary with other program features such as program size (e.g., enrollment) and with the local area cost of living.

The total cost of ECE can also be based on estimates from cost models (Davis et al., 2017). Indeed, states are now encouraged as part of CCDF to supplement the information they collect on provider fees with data on cost of care, using cost models such as the U.S. Department of Health and Human Service's Office of Child Care's (undated) Provider Cost of Quality Calculator (PCQC) and other methods. The basic approach of a cost model is to assume a given program structure and set of features, determine the resources required to implement the ECE program with those features in a given time period (e.g., a fiscal year), and then price out the value of all required resources. The sum of the value of the resources required is the total cost for the accounting period. Total resources can be divided by the number of children served or child hours for those children to measure cost per pupil or cost per pupil hour.

For example, the NASEM report on *Transforming the Financing of Early Care and Education* (NASEM, 2018) estimated annual cost of full-time care at the national level, assuming high-quality program features, in center and home settings. In 2016 dollars, infant care was estimated at $35,354 on an annual basis, toddler care at $28,203, and preschool-age care at $13,655. These estimates are based on program features consistent with an earlier NASEM report that recommended bachelor's-level lead teachers for all child age groups, appropriate staff-child ratios, and adequate teacher compensation (NASEM, 2015). Given that more than half of the cost of high-quality ECE is in the form of classroom and program staff salaries and benefits, adequate compensation and ratios recommended by the National Association for the Education of Young Children for accreditation will lead to considerably higher costs than what providers typically offer.

Roadmap for the Report

We proceed in the next two chapters to present our methods and findings from the two-pronged approach we take to examining per-pupil costs of CERDEP: first, the estimates based on information gathered from ten CERDEP providers and second, the model-based estimates. The final chapter summarizes the key results from the study, identifies important policy implications, and provides recommendations informed by the cost analysis findings.

2. Provider-Based Information on CERDEP Costs

This chapter presents the results of our first approach to examining CERDEP costs based on illustrative estimates derived from information provided by the ten providers surveyed for this report. The results focus on the categories of expenditures required to implement CERDEP (e.g., personnel, facilities, materials and supplies) and optional features, such as transportation and extended-day or extended-year programming. The staffing models used by programs are also examined. Together, the provider-based information contributes to our understanding of the issues raised in our first study question regarding the ingredients needed to implement CERDEP—both those directly associated with instruction, as well as indirect resources. We also use the provider-based data to provide insight into our second and third questions by estimating total per-pupil cost for the ten providers and considering whether CERDEP reimbursement would be sufficient to cover those total costs. Ultimately, the illustrative providers serve to demonstrate important features of the cost structure for CERDEP and provide a foundation for the model-based estimates covered in the next chapter. Before presenting the findings, we first detail our approach to collecting and analyzing the information from the ten providers.

Approach

To better understand the cost structure for CERDEP delivery, we worked with EOC to identify five public school districts and five private center–based CERDEP providers, from which we collected information about the program features and expenditures for the most recent fiscal year. We begin by describing the characteristics of the illustrative programs. We also discuss the information that we collected through our interviews and our approach to estimating CERDEP costs based on the expenditure data. The questionnaire instruments used for the provider interviews are provided in Appendix C.

Characteristics of the Public and Private Providers Interviewed

The ten CERDEP providers were purposively selected to capture variation in program setting (public schools and private centers), program scale of operations (i.e., enrollment), and region of the state. The programs are not intended to produce a representative sample but rather to provide variation that allow us to capture relevant features of CERDEP providers that affect their cost structure. Given the proprietary nature of the information from CERDEP providers, particularly the private centers, providers and districts are not identified by name, and results are presented in a way that precludes indirect identification.

Table 2.1 summarizes key characteristics of the five public school districts and five private providers we interviewed. The features are as of the 2017–2018 school year. The variation in scale is reflected in the indicators in panel (a). In particular, the five public school districts

Table 2.1. Features of Ten CERDEP Providers Interviewed, 2017–2018 Academic Year

Indicator	School Districts (*n* = 5)	Private Centers (*n* = 5)
a. Enrollment and Facilities		
Ages served prior to kindergarten	3K (1), 4K (5)	Infants, toddlers, 3K, 4K
Number of CERDEP sites	1 to 6	1
Facility	School sites only (4), school sites and stand-alone centers (1)	Own building (3); church building (2)
Total site birth to 4K enrollment	–	100 to 150
Total site 4K enrollment	20 to 64	15 to 60
Total district 4K enrollment	Less than 60 to greater than 400	–
Total district kindergarten enrollment	Less than 150 to greater than 1,000	–
Total district enrollment	About 5,000 to greater than 10,000	–
b. Other Features		
Type of provider	Public school districts	Nonprofit (4), for profit (1)
ABC Quality rating	In ABC (1), Not applicable (4)	B (2), B+ (1), C (2)
Accredited	–	None
Head Start grantee	No	Yes (1), No (4)
Accept SC vouchers	–	Yes
Title I funding	Yes	–
Fiscal year	July 2017 to June 2018	January 2017 to December 2017

SOURCE: Public records and provider interviews.
NOTES: – = not applicable.

operated CERDEP in one to six sites in their districts, typically in elementary schools, although one district had CERDEP classrooms in stand-alone centers. One district had 3K (preK for three-year-olds) classrooms, in addition to their 4K CERDEP rooms. Total district 4K enrollment (CERDEP and other 4K) and kindergarten (K) enrollment ranged from the bottom quartile of districts in the state (a small rural district) to the top quartile (a large urban district), indicating that we captured both smaller and larger districts. Total enrollment across the districts ranged from about 5,000 students in the smaller districts to over 10,000 in the largest district. The private providers all served children from birth to kindergarten entry in single sites, either in their own building or a church building. Enrollment ranged from about 100 to 150 children in total and from 15 to 60 children in their 4K (CERDEP and other 4K) classrooms. Geographically, the ten providers are located in eight of the state's 46 counties, with 33 to 72 percent of each county's population in rural areas.

Panel (b) in Table 2.1 records other relevant features of the ten CERDEP providers surveyed, again illustrating both common elements as well as variation. In terms of quality indicators, public school districts are generally not expected to participate in the ABC Quality QRIS program. However, one district had an ABC rating for several sites. Some or all of the elementary schools with CERDEP classrooms in the five public school districts receive federal

Title I funds, though Title I funds were not always applied to the school's preschool program. Among the private centers, all but one were nonprofits. All had ABC Quality ratings which ranged from B to C. None were accredited by the National Association for the Education of Young Children, the main national accreditation organization for early childhood care and learning programs. In terms of other public funds, one private center was also an Early Head Start grantee, and all private centers accept the SC Vouchers for subsidized care.

In terms of their finances, the public school districts all operate on a July to June fiscal year, whereas the private centers operate on a January to December fiscal year. Thus, in analyzing expenditure data, we will be referencing the period from July 2017 to June 2018 for the school districts and January to December 2017 for the private centers. Given the relatively low rate of current inflation, the six-month shift in the reference fiscal year for public versus private providers should not affect our ability to compare per-pupil CERDEP cost between public school districts and private centers.

Information Collected from Providers on Program Structure and Expenditures

We conducted telephone interviews with all but one of the CERDEP providers, following an interview protocol that differed somewhat between the school districts (where there were typically multiple sites) and private center–based providers (all with a single site). All ten providers who we selected and contacted agreed to participate in the interview. In the case of the school districts, we spoke with one or more district-level staff knowledgeable about the CERDEP sites they operate, often the director of early childhood programs. One school district's staff opted out of the phone interview and instead filled out the interview form and sent their information electronically. The interviews with center-based providers were conducted with the director of the center and sometimes with an associate administrator as well. The interviews, which lasted up to two hours, focused on the organization (e.g., auspices, fiscal year, type of facility, accreditation status); program structure (e.g., hours and weeks of operation, ages served, number of classrooms by age group, enrollment by age group, CERDEP enrollment for 4K, and program services); staffing patterns, required qualifications, and nonwage benefits, particularly for CERDEP classroom staff and program administrators; and sources of revenue.

The remaining sections of the questionnaire covered details on expenditures for the most recently completed fiscal year. Given our interest in estimating the per-pupil cost of CERDEP, the information we collected on expenditures needed to account for the fact that most of the district-based CERDEP classrooms were part of a larger school facility, such as an elementary school. Likewise, all of the private providers had classrooms serving younger children in addition to the 4K CERDEP classrooms. In both settings, we therefore needed to segregate expenditures for the CERDEP classrooms from those serving other age groups. Thus, expenditures were differentiated in the following three categories (see Table 2.2):

Table 2.2. Expenditure Categories and Items for Cost Analysis

Expenditure Category and Item	CERDEP Classroom Level	School or Center Level	District Level
Personnel expenses			
Classroom staff salaries	✓		
Classroom staff payroll taxes and benefits	✓		
Administrative staff salaries, taxes, and benefits		✓	✓
Other site-level staff salaries, taxes, and benefits		✓	
Other personnel-related expenses			
Professional development, training	✓	✓	
Program-related expenses			
Classroom supplies and other instructional support	✓	✓	
Food service		✓	
Transportation to and from program		✓	
Other transportation (e.g., field trips)		✓	
Occupancy expenses			
Rent or mortgage and taxes		✓	
Utilities		✓	
Repair and maintenance		✓	
Administrative and other expenses			
Office supplies		✓	
Postage and phone		✓	
Photocopying, printing, and publications		✓	
Equipment rental and maintenance		✓	
Nondepreciated equipment		✓	
Depreciation on equipment or purchase of equipment		✓	
Contractors (e.g., payroll, accounting, legal)		✓	
Insurance		✓	
Marketing and advertising		✓	
Interest and bank charges		✓	
Maintenance supplies		✓	
Licensing and fees		✓	
Dues and subscriptions		✓	
Other		✓	

- **CERDEP classroom expenditures**: This included expenditures for the salaries, payroll taxes, and nonwage compensation of the lead teachers and assistant teachers in the classrooms supported with CERDEP funds. If other expenditures for staff professional development or classroom materials and supplies could be assigned exclusively to the CERDEP rooms, those expenditures were recorded as well.
- **Shared resources at the school or center level**: This category included all other expenditures—exclusive of compensation for classroom staff and other expenditures tied to specific classrooms—that were shared across classrooms at the school or center site. This included expenditures for the salaries, taxes, and benefits of other staff that support

CERDEP (e.g., director or principal, other programmatic or administrative staff, food service staff); staff professional development; classroom materials and supplies; food service; transportation; occupancy (e.g., facility rent, utilities, repair and maintenance); and other operating costs (e.g., telephone; postage; office supplies; advertising; licensing and fees; bank charges and credit card interest; insurance; accounting, payroll, and legal services). We also identified resources that were provided at a discount or donated, such as facility rent, utilities, or equipment. As discussed further in the next subsection, a portion of the expenditures for these school- or centerwide shared resources were allocated to the CERDEP classrooms.

- **Shared resources at the district level**: This captured support for CERDEP at the district level and only applies to public CERDEP providers. This would include a director of early childhood programs for the district and other shared district administrative expenditures. A portion of these district-level expenditures were also allocated to CERDEP classrooms.

In most cases, we discussed the expenditure information we were seeking during the interview and the provider submitted the detailed expenditure data after the interview, given the need to assemble the financial records, often with the assistance of a district financial officer or center finance director, accountant, or bookkeeper. Nine of the ten providers sent further detailed financial information on program expenditures; one of the school districts opted out of sending any additional information. One school district sent incomplete information, precluding the use of some of their data in the analyses that follow.

Approach to Estimating Per-Pupil Costs for CERDEP

A formal cost analysis would typically aim to account for the value of all resources used in the delivery of a given program, such as CERDEP. This would entail accounting for not only cash outlays, but also for the value of resources that may have been provided to the program at a discount or at no charge (e.g., subsidized or free rent, use of equipment without charge, volunteer time). This full accounting represents the value to society of the resources used, which may exceed the actual cash outlays on the part of the provider. In our case, we are interested in understanding the costs that providers face when delivering CERDEP in order to compare it with the reimbursement they receive from the state. Thus, in our case, we focus on estimating the per-pupil cash outlays for CERDEP services, although we note when providers reported receiving donated goods or services or had the use of resources without cash expenditures (e.g., the use of donated space or a fully owned building with no mortgage).

To generate a per-pupil cost, we proceeded as follows for each provider (public school site or private center), based upon the information gathered from our interviews:

1. Generate an estimate of **total direct expenditures** for CERDEP classrooms and the aggregate center, school, or district indirect expenditures that support CERDEP classrooms, where expenditures may fall into the categories listed in Table 2.2. A share

of the center-, school-, or district-wide indirect expenditures are allocated to CERDEP as discussed in the next step.

2. Calculate the **proportion of shared resources to allocate as CERDEP expenses**, based on either (a) the enrollment in CERDEP classrooms as a share of total enrollment in the school or center (labeled the *enrollment share*) or (b) the share of CERDEP classrooms as a share of the total number of classrooms in the school or center (labeled the *classroom share*). In most cases, the enrollment share and classroom share were very similar, so we could use either proportion and reach a similar estimate. Nevertheless, based on whether the use of resources was likely to be proportional to enrollment or to classrooms, we used the enrollment share for all shared expenditures except for staff professional development and occupancy, for which we used the classroom share.
3. Apply the shares from the second step to generate an estimate of **total direct and indirect expenditures** for CERDEP classrooms. This consists of the sum of CERDEP classroom costs, CERDEP share of expenditures at the school or center level, and (for public schools only) the CERDEP share of expenditures at the district level.
4. Calculate the **cost per pupil for CERDEP classrooms** as the total direct and indirect CERDEP expenditures divided by total enrollment in the CERDEP classrooms.[16]
5. Calculate the **cost per pupil-hour for CERDEP classrooms** as the per-pupil cost divided by the annual CERDEP hours. For a CERDEP site operating for 6.5 hours per day for a 180-day school year, total annual hours are 1,170.[17] A similar estimate is made for the cost per pupil-day.

To maintain the anonymity of the participating providers in our study, they are referred to by the letters A through I; A to D are the public providers and E to I are the private providers. All expenditure figures are reported per pupil or per pupil hour, rather than in their aggregate dollar values. In reporting results for the school districts, we have created an aggregate estimate of expenditures across all CERDEP sites (i.e., public schools or private centers), rather than reporting results for each site separately.

In order to compare cost structures across providers, we report alternative estimates of per-pupil costs after making several adjustments to account for differences in how key cost components are treated. Because of differences in how components of occupancy costs are treated across providers, with some private centers receiving partially or fully subsidized rent and

[16] Note that in some private centers, 4K classrooms had both CERDEP-funded children and children funded by other sources (e.g., parent fees or state child care subsidies). In those cases, we used the total classroom enrollment to calculate per-pupil costs. This effectively assumes that CERDEP and non-CERDEP children in the same classroom share resources evenly.

[17] All private centers reported serving some CERDEP children for as much as three additional hours per day. We constructed an estimated average annual hours as the enrollment-weighted average of 1,170 annual hours for the standard day (6.5 hours) and 1,710 for an extended day (up to 9.5 hours). Thus, we based an estimate of hourly costs on actual hours of service rather than the hours that may be reimbursed by CERDEP.

school districts not paying rent for the use of their facilities, we present per-pupil costs exclusive of occupancy costs. We likewise exclude transportation costs because not all providers, especially private centers, offer transportation.

A final adjustment is to account for differences across providers in the staff-child ratio. As noted in Chapter 1, CERDEP providers may serve up to 20 children in a classroom with a staff-child ratio of 1:10. Some providers choose to operate with fewer children in each classroom, which creates a lower staff-child ratio, while others had enrollment below their target of 20 children per room, which effectively lowers the staff-child ratio. Thus, we consider what the cost per pupil would have been if the same total expenditures applied for operating at full capacity of 20 children per classroom.[18] This calculation effectively assumes that all CERDEP costs are fixed, so that reaching full enrollment of 20 children would not add to the overall expenditures. This assumption is accurate for major expenditure categories, such as personnel and occupancy, which are fixed given the number of rooms in use. In reality, some expenditures do vary per enrolled child, such as food costs and some classroom supplies, but these added marginal costs are likely to be small. Thus, we view the capacity adjustment as a reasonably accurate way to see how much of the variation in cost per pupil across providers might be explained by variation in the extent of full enrollment.

While we strived for a thorough accounting of all expenditures for all relevant CERDEP-related resources, there are a number of challenges in generating cost estimates for any given provider, as well as comparable estimates across providers. First, the cost estimates are most accurate for the salaries, payroll taxes, and nonwage compensation of the classroom staff in the CERDEP rooms. The compensation costs for these staff in the CERDEP classrooms are readily identifiable in accounting systems and accurately recorded. In most cases, all other resources are recorded at the school or center level and then allocated to the CERDEP rooms. We applied consistent and reasonable rules for those allocations, but they may differ, to some extent, from how resources are actually distributed across the CERDEP rooms versus other rooms in the school or center (e.g., the time usage of the director, the use of space in the facility).

Second, because of differences in accounting systems, programs did not disaggregate the expenditures in exactly the same way. For this reason, we focus on major cost components rather than detailed categories (e.g., reporting occupancy costs rather than such separate components as rent, utilities, and maintenance). Even at this aggregate level, there were some differences in how costs were assigned to different categories so that the reported expenditures in any given category will not necessarily be strictly comparable across the ten providers.

[18] This involves multiplying the estimated cost per pupil by the ratio of actual enrollment to full-capacity enrollment (i.e., 20 children times the number of classrooms). This adjustment factor is a maximum of one for programs that operate with 20 children per classroom and less than one for those programs operating with fewer than 20 children per classroom. This adjustment will therefore lower the per-pupil cost when programs are operating below full capacity.

Illustrative Provider-Based Estimates of CERDEP Costs

We now present the results based on the programmatic and financial information obtained from the five public school districts and five private providers that we interviewed. We first report on key features of CERDEP as implemented by each provider. While many features are the same because of program requirements, there are some elements that differ due to choices that providers can make, such as the length of the program day, the length of the program year, and, in the case of private providers, the education level of the lead teacher. We then detail the major cost components for CERDEP providers and where there are substantial differences in cost elements. We follow with the per-pupil estimates and discuss the variation we observe for the illustrative providers and the difference between per-pupil cost and CERDEP reimbursement.

Variation in CERDEP Delivery Model Across Public and Private Providers

The structural features of 4K programs—hours per day, days per year, class size, and provision of such specific services as transportation and meals—have implications for the cost of program delivery. Table 2.3 summarizes these key features for the ten CERDEP providers we interviewed. Note that these features pertain to their overall 4K services, not just what they provide as part of delivering the portion of their program reimbursed by CERDEP. As indicated in the table, all ten providers deliver the program for 6.5 hours per day for the traditional 180-day academic year. For a few private providers, the core CERDEP full-day program was up to 8 hours, even though their reimbursement may just be for the traditional 6.5-hour CERDEP day. All five private centers also offer an extended day, with up to ten hours of total care per day. In addition, four of the school district programs extend to the summer months for six to eight weeks (sometimes just four days per week), while all of the private center–based programs operate year round for up to 51 weeks.

As noted earlier, the school districts and private centers typically have more than one CERDEP 4K classroom at their site. For the school districts, CERDEP classrooms exclusively served CERDEP-eligible children, while the center-based programs sometimes had a handful of non–CERDEP-eligible children in the CERDEP classroom. In contrast, the school district sites often had other non-CERDEP 4K classrooms, typically funded with district funds.

With the exception of one school district and one private center where the programs operate with a maximum class size of 15 children, all other programs we interviewed seek to enroll 20 children per classroom, consistent with the CERDEP requirements. All providers also had a lead teacher and assistant teacher for each CERDEP classroom, meaning a ratio of at most one staff member to ten children, as required. The difference in the class size, which affects the ratio, will have implications for per-pupil costs analyzed later in this chapter.

In terms of other program services, all of the district CERDEP sites provide transportation to and from school, usually as part of their existing transportation infrastructure. By contrast, just two of the private centers offer such transportation. All programs provide meals, specifically lunch, while all private centers also report providing breakfast and a snack, meals that are not always offered in the district-based programs; as required, all programs conduct developmental

Table 2.3. Program Structure for Ten CERDEP Providers Interviewed, 2017–2018 Academic Year

Indicator	School Districts (*n* = 5)	Private Centers (*n* = 5)
Program hours and days		
Hours per day for full-day program	6.5 hours	6.5 to 8 hours
Days per year for academic-year program	180 days	180 days
Offer hours beyond the full-day program[a]	0 of 5	5 of 5 (1.5 to 3 hours)
Offer summer or extended-year program[a]	4 of 5 (24 to 40 days)	5 of 5 (65 to 80 days)
4K enrollment beyond CERDEP		
Enrollment of non-CERDEP children in CERDEP rooms	0 of 5	3 of 5
Enrollment of 4K in non-CERDEP rooms	3 of 5	0 of 5
Class size and classroom staff		
Maximum class size	15 (1), 20 (4)	15 (1), 20 (4)
Number of teachers per classroom	Lead and assistant	Lead and assistant
Other services		
Transportation to and from program	5 of 5	2 of 5
Meals	Breakfast: 3 of 5 Lunch: 5 of 5 Snack: 1 of 5	Breakfast: 5 of 5 Lunch: 5 of 5 Snack: 5 of 5
Direct provision of developmental assessments	5 of 5	5 of 5
Direct provision of health screenings	5 of 5	0 of 5
Formal family referrals to services	4 of 5	2 of 5

SOURCE: Provider interviews.
[a] The added hours or days beyond a 6.5-hour day or 180-day year may or may not be supported by CERDEP funding.

assessments. Although it is not a CERDEP requirement, all of the school districts conduct health screenings, typically for vision, hearing, and speech and sometimes for dental and obesity screenings as well. Private providers often have third parties (such as school district staff) come to their center to do the screenings; thus, they are not incurring those costs directly. Four of the five districts and two of the private centers also reported having a staff member or other resource for referring families to needed services such as cash aid, housing assistance, or subsidized health care.

Another key programmatic feature with implications for cost is the classroom-staffing model, professional-development supports provided to classroom staff, and fringe benefits that are part of the compensation package. As noted earlier, all ten providers staff each classroom with a lead teacher and an assistant teacher (also known as an instructional assistant). For public schools, CERDEP requires lead classroom teachers to have a bachelor's degree with a specialization in early childhood (e.g., a teaching certificate in early childhood). As shown in Table 2.4, all public school districts reported meeting that standard. Although private centers require a minimum of an associate degree (with documentation of working toward a bachelor's degree), one of the centers employed lead CERDEP teachers who all had a bachelor's degree with ECE

specialization, and two other centers had a least one CERDEP classroom lead teacher with that qualification. All lead teachers in the two remaining centers had a bachelor's degree but without the ECE specialization. Despite the difference in requirements, all five of the private providers had a least one lead CERDEP teacher with a bachelor's degree. For one district and three centers, at least one of the teacher assistants also had a bachelor's degree. All five private providers reported offering at least some additional professional development opportunities beyond what was offered by First Steps such as external conferences, online courses, and other trainings.

Finally, we note an important difference between the school district CERDEP sites and the private providers. In the districts, classroom staff receive a comprehensive set of fringe benefits (health, dental, and vision coverage; retirement contributions; and paid sick or personal leave). By contrast, all but one private center offered paid sick or personal leave, but none provided retirement contributions and just one provided subsidized health insurance. Some centers offered more benefits for the director or other administrative staff.

Expenditure Components for CERDEP Delivery

The information collected from the nine illustrative providers that sent detailed financial information can be used to identify the resources or "ingredients" required to deliver the CERDEP model, given such program requirements as teacher qualifications, class size, the ratio of classroom staff to children, the curriculum, professional development activities, and other program features. As such, the information in this section helps to address the first study question.

Table 2.4. Staffing Model, Supports, and Fringe Benefits for Ten CERDEP Providers Interviewed, 2017–2018 Academic Year

Indicator	School Districts (*n* = 5)	Private Centers (*n* = 5)
Lead CERDEP teacher qualifications		
Has a bachelor's degree + ECE specialization	All lead teachers: 5 of 5	All lead teachers: 1 of 5 At least 1 lead teacher: 2 of 5*
Has a bachelor's degree, no ECE specialization	–	All lead teachers: 2 of 5
Assistant CERDEP teacher qualifications		
Has a bachelor's degree w/ or w/o ECE specialization	At least 1 assistant teacher: 1 of 5	At least 1 assistant teacher: 3 of 5
Provide PD beyond First Steps	5 of 5	5 of 5
Fringe benefits for classroom staff		
Health, dental, vision	5 of 5	1 of 5
Retirement	5 of 5	0 of 5
Paid sick or personal leave	5 of 5	4 of 5

SOURCE: Provider interviews.
NOTES: – = not applicable.

Table 2.2 provided a comprehensive list of the expenditure categories and items that would be expected for a CERDEP 4K program. Although providers did not always report expenditures at the level of disaggregation in Table 2.2, at least some expenditures fell in each category for every provider. We highlight, however, three important differences in the relevance of an expenditure category or its value.

Wages, Salaries, and Fringe Benefits

In reporting on the wages and salaries for CERDEP classroom staff, some providers reported the aggregate amount for all teachers, while others provided a detailed breakdown. That detail revealed striking differences, documented in other settings as well, between the wages and salaries paid to classroom teachers in public CERDEP sites versus those in private centers. For public schools, lead teachers had annual salaries that ranged from $35,000 to $52,000, compared with $19,000 to $43,000 for the lead teachers in private centers. These differences are consistent with occupational wage data assembled by the BLS (2017), discussed further in the next chapter. As noted above, the teacher credential requirements differ between the public and private settings. The lower education requirement in the private settings is one explanation for the disparity in pay. However, as illustrated in Table 2.4, at least one lead teacher in each of the five private providers we interviewed held a bachelor's degree and in one case the lead teach also has their degree in ECE. As such, these data suggest that bachelor's-level teachers in private and public CERDEP settings are paid at different rates despite having similar levels of formal education.

The salary differentials were less evident for assistant teachers, where salaries ranged from $13,000 to $21,000 for those in public school classrooms versus $19,000 to $21,000 for those in private centers. Again, we did not collect this salary information consistently across all providers; therefore, we acknowledge these figures are not necessarily representative of the range we would find across all CERDEP classroom staff across the state. Even so, together with the information on fringe benefits for teaching staff, this set of providers illustrates the substantial differences in the total compensation packages for CERDEP teachers, particularly lead teachers, in public versus private settings.

Transportation

As noted earlier, while all public schools provide transportation services by augmenting their existing transportation system to accommodate the 4K students, just two of the private centers also provide transportation (using a small number of minibuses). For one center, the bus drivers assist in the classrooms once the children arrive at the center, and they reprise their driving role in the afternoon. For those centers without transportation, they may still have a small amount of transportation-related expenditures for field trips.

Occupancy

We defined occupancy costs to include rent (or mortgage and property taxes), along with utilities, repair, and maintenance. None of the public school CERDEP sites reported costs for

rent or a mortgage because their buildings are fully owned. In addition, two of the five centers, which are located in church buildings, reported receiving the space without charge. Because we focus on expenditures from the perspective of providers, we do not impute a rental equivalent. However, to compare per pupil cost across all programs, we also report cost per pupil exclusive of all components of occupancy costs.[19]

Illustrative Estimates of Per-Pupil Costs

Table 2.5 provides results for nine of the ten providers that supplied expenditure data: four school districts and five centers. The table reports the estimated cost per pupil, which ranges from an average of about $8,600 for the district-based programs to $6,900 for the private center–based sites, suggesting a higher per-pupil cost in the district-based sites compared with center-based programs (a difference of about $1,700 per pupil). The table also shows the cost components that are not included in the per-pupil cost estimate, which varies across the providers in ways that affect this comparison. For example, all five of the districts did not have rental costs for their facility (a component of occupancy costs), nor did we impute a rental equivalent. Likewise, two of the private centers either had a fully subsidized space or owned their own facility. In the case of transportation cost, three of the five center-based programs did not provide transportation services, while one district did not report their transportation expenditures. These differences in the expenditure data means that the per-pupil cost is not strictly comparable across the nine providers.

Table 2.5 also shows the staff-child ratio for all nine providers. Notably, the district-based programs all operate close to capacity, with either a ten-to-one ratio or just slightly below. In contrast, three of the center-based sites operate below capacity either intentionally (e.g., a planned enrollment of 15 CERDEP children per classroom) or because of unfilled slots. The lower ratio in these sites means that per-pupil costs will be higher compared with sites that operate with 20 children per room, with all else remaining equal. Indeed, of the three centers with the highest per-pupil expenditures, two have enrollment below 20 children per classroom.

Explaining Variation in Per-Pupil Costs

The expenditures-per-pupil figures reported in Table 2.5 do not provide an apples-to-apples comparison of per-pupil cost because of differences across providers in terms of occupancy and transportation costs, as well as differences in the staff-child ratio. To allow for greater comparability of per-pupil cost, Table 2.6 shows a sequence of adjustments across the nine providers. Line A shows the same result as Table 2.5 for total per-pupil cost. Line B removes all occupancy-related cost from the per-pupil estimate, line C further removes transportation cost, while line D deducts the central administrative costs (e.g., school or district leaders, center leaders). What remains are the personnel costs for the classroom staff and classroom materials

[19] Alternatively, we could have excluded just the rental portion of occupancy, but not all providers separated out the rental cost from other occupancy-related costs.

Table 2.5. Estimated CERDEP Per-Pupil Cost for Ten CERDEP Providers Interviewed, 2017 Dollars

Indicator	District A	District B	District C	District D	Center E	Center F	Center G	Center H	Center I
Cost per pupil ($)	8,422	8,479	8,992	7,780	7,323	6,514	5,414	7,980	7,273
Rent or equivalent not included	✓	✓	✓	✓			✓	✓	
Central administration not included									
Transportation not included/provided						✓	✓		✓
Staff-child ratio	9.8	10.0	9.9	10.0	10.0	7.5	10.0	7.5	8.8

Table 2.6. Estimated Adjusted CERDEP Per-Pupil Cost for Ten CERDEP Providers Interviewed, 2017 Dollars

Indicator	District A	District B	District C	District D	Center E	Center F	Center G	Center H	Center I
A. Cost per pupil	8,422	8,479	8,992	7,780	7,323	6,514	5,414	7,980	7,273
B. Line A without occupancy	8,149	7,954	8,563	7,379	4,871	4,153	5,153	7,368	5,902
C. Line B without transportation costs	7,773	7,708	8,326	6,672	4,871	4,112	5,144	7,307	5,901
D. Line C without administration cost	7,318	7,133	7,729	6,105	4,427	3,081	3,974	6,864	4,624
E. Line D with adjustment for class size of 20	7,196	7,133	7,454	6,105	4,427	2,311	3,974	5,148	4,085
F. Classroom personnel with adjustment for class size of 20	5,244	5,132	4,726	5,379	3,567	1,586	2,826	3,173	2,395

and supplies, food, and other operating costs which are more or less consistently reported across providers. On this basis (line D), the average cost per pupil for the four public school districts is about $7,000 per pupil, versus $4,600 per pupil at the private centers, a difference of about $2,400.

We make two further adjustments. The first is to account for enrollment below 20 students per classroom. As noted earlier, we assume that up to 20 children could be served in each classroom without additional costs on the margin, given that all classroom and administrative staff would not change.[20] This adjustment (line E) lowers the cost for private centers compared with public sites, which further widens that gap between the two provider types to about $3,000. A final adjustment is to consider just the per-pupil cost of the compensation for the classroom staff, shown as line F, again with the adjustment for underenrollment. This narrows the gap between per-pupil cost for public versus private providers to about $2,400 per pupil (about $5,100 per pupil for public providers versus $2,700 for private providers).[21] This gap is entirely the result of difference in salaries and benefits between the public and private CERDEP programs.

Other factors may explain some of the variation that still remains after the adjustments shown in Table 2.6. For example, price levels (e.g., teacher salaries, cost of other goods and services) may vary across the communities where our nine sites are located in ways that raise or lower costs relative to the state average.

Additional Sources of Revenue

The per-pupil estimates in Table 2.6 indicate the per-pupil costs for both public and private providers exceed the standard CERDEP reimbursement of $4,422 per pupil applicable in 2017–2018. For private center–based providers that offer transportation services, such as Centers E and H, adding the per pupil transportation reimbursement of $562 that applied in the 2017–2018 school year still leaves a gap. This suggests that public and private providers must be supplementing CERDEP funding with other sources of revenue to cover their full costs. Although we did not collect detailed information on program revenue, we did ask providers to report which sources of revenue they had in 2017–2018. As shown in Table 2.7, providers rely on an array of public and private funding sources. Among the CERDEP funding streams, all providers had CERDEP instruction reimbursement, but fewer had new provider reimbursements in the fiscal year of interest (although some reported receiving those funds in earlier years). CERDEP transport (for private providers only) and expansion funds were also used by a subset of the providers.

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[20] The adjustment involves dividing total expenditures or any subset of expenditure components by potential enrollment (i.e., 20 children times the number of classrooms) instead of using actual enrollment. This adjustment will have no effect on the estimated per pupil cost if actual enrollment is already 20 children per classroom.

[21] The gap narrows because the district-based programs, after adjusting for class size, spend about $1,000 more per pupil on average for administrative staff, food service personnel, and custodial staff.

Table 2.7. Sources of Revenue for Ten CERDEP Providers Interviewed, 2017–2018 Academic Year

Revenue Source	School Districts (*n* = 5)	Private Centers (*n* = 5)
Sources of public funding		
CERDEP instruction	5 of 5	5 of 5
CERDEP new provider	1 of 5	3 of 5
CERDEP transport	–	2 of 5
CERDEP expansion (extended day, year, or summer)	2 of 5	3 of 5
Early Head Start, Head Start	–	1 of 5
USDA CACFP	4 of 5	3 of 5
Title I	1 of 5	–
Other district funds	4 of 5	–
SC Vouchers	–	5 of 5
Other public funds	1 of 5 (EOC grants)	0 of 5
Sources of private funding		
Parent fees	0 of 5	5 of 5
Sponsoring agency	–	1 of 5
Special events/fund raising	1 of 5	4 of 5
Private donations	3 of 5	3 of 5

SOURCE: Provider interviews.
NOTES: – = not applicable.

Other public funding sources apply differentially to districts and centers. Among public school districts, one applied Title I funds for a subset of their schools with CERDEP classrooms, and four had other district support (e.g., general funds) for their CERDEP classrooms. One center had Early Head Start funding for younger children, and all centers reported serving children with SC Vouchers. Among the public sources that apply to both districts and centers, seven of the ten providers reported reimbursement through the USDA CACFP. In terms of private sources of revenue, parent fees are charged for at least some non-CERDEP families in all of the center-based programs, while a subset of centers rely on support from their sponsoring agency, fundraising events, and other private donations. Fewer district-based programs relied on private sources, either from special events or private donations. No providers reported funding through other community groups or from employers (not shown in the table).

3. Model-Based Estimates of CERDEP Costs

We now turn to our second approach for examining total per-pupil costs of CERDEP. This approach is based on a cost model we developed, informed by the providers examined in the prior chapter, to estimate the variation in total per-pupil cost under alternative scenarios regarding the provider type, teacher qualifications and compensation, program scale, price structure, and the inclusion of specific cost components (namely facility rent and transportation). A cost model (also called a cost-estimation model or cost calculator in the ECE field) estimates the cost to provide child care or preschool services based on specific assumptions about the structure of the program (e.g., the total enrollment, the program hours per day and weeks per year, the ages of children served, the number of classrooms of each type and children per classroom, and the number and qualifications of staff for each classroom) and other program inputs (other labor, food service, transportation, space requirements, and all other materials and supplies listed in Table 2.2), along with the prices or cost of each of these inputs (e.g., staff salaries, the cost of rent and utilities, the cost of other goods and services) (Davis et al., 2017). Based on the assumptions about resource inputs and their cost, the model multiplies the quantity of each input by its price and sums across all inputs to obtain a total cost for the program structure.

In our case, the 4K CERDEP cost model we develop is for the traditional year program option—6.5 hours per day of instruction for 180 days per year. All other assumptions and program features are consistent with CERDEP requirements, such as the qualifications of the teaching staff, the provision of meals, and so on. These model-based estimates of the cost to deliver CERDEP in a public or private setting primarily serve to address our second and third study questions in a more structured way. First, the results produce estimates of total per-pupil costs under baseline assumptions. Second, the model illustrates the variation in per-pupil costs under alternative provider contexts, thereby pointing to the major cost drivers. Third, the model-based per-pupil cost estimates are compared with CERDEP reimbursement rates to determine if provider costs are covered by state funds. We begin by describing the baseline model assumptions (some of which is documented in Appendix C) and alternative scenarios before presenting the results.

Approach

Given the scope of our work, it was not possible to develop a model to generate estimated CERDEP per-pupil cost under all possible combinations of program structure, staffing models, salary scales, and other key program features. To make our analysis tractable, we therefore consider several basic provider types that vary along key dimensions with assumed features that could be considered typical of public and private programs in the state. For each provider type,

we first estimate per-pupil total costs under baseline assumptions that are as realistic as possible in terms of the cost structure that providers face in South Carolina. We then examine how costs vary as we change key assumptions about the program context and other assumptions. Together, the variation across the baseline provider types and the sensitivity analyses correspond to major cost drivers and also capture features, discussed in Chapter 1, that are considered in state 4K reimbursement rates (e.g., variation by public versus private status, teacher qualifications, geography).

As with our Chapter 2 analysis of CERDEP costs for selected providers, our cost model is also designed to produce an estimate of the per-pupil cash expenditures for CERDEP providers. Effectively, the model captures the provider's experience regarding program expenditures which can be compared with program revenue sources from the public sector (e.g., the per-pupil CERDEP reimbursement). Our modeling approach builds upon PCQC (U.S. Department of Health and Human Services, Office of Child Care, undated).[22] Our adaptation of the tool is benchmarked against the ten providers examined in Chapter 2, in terms of the assumptions regarding program structure and the resources associated with the provision of CERDEP. We also draw on information about salaries for 4K programs in public schools and private centers using teacher salary information for South Carolina and occupational wage data for South Carolina maintained by BLS. In addition, for public school districts, we examine total enrollment and 4K enrollment by district and site to benchmark our baseline case and sensitivity analyses.[23] The model produces estimates of per-pupil costs—in total and by major cost components—for CERDEP providers under varied circumstances.[24] The expenditures capture both direct costs associated with CERDEP classrooms and indirect resources at the district, school, or center level. Our methods discussion first addresses major assumptions for the baseline model and then reviews the alternative scenarios we consider.

Assumptions for the Baseline CERDEP Cost Model

Our CERDEP cost model produces cost estimates at the site level (public school or private center) and requires specifying the resource quantities needed to implement CERDEP based upon assumed features of the site, such as the number of CERDEP rooms, the class size, the

[22] The PCQC was developed by the U.S. Department of Health and Human Services's Office of Child Care to support efforts on the part of federal, state, and local policymakers, as well as ECE practitioners, to understand the cost of providing high-quality ECE. The model assumptions about program structure, cost elements, and unit costs have been validated against cost data for samples of providers across the United States and the tool is widely used, including for purposes of setting provider reimbursement rates under state CCDF child care subsidy programs. As with our model, it is designed to be an estimator, rather than a precision tool.

[23] We do not have comparable information about total enrollment and CERDEP enrollment for the universe of private centers that deliver CERDEP.

[24] In many respects, our cost model is similar to the approach adopted by the EOC (2006) when CERDEP began in order to estimate per-pupil reimbursement rates. Our model is more comprehensive in considering not just classroom-related costs but other direct and indirect costs required for CERDEP delivery. In addition, we consider a wider range of provider contexts (beyond public versus private settings and degree requirements) to examine the sensitivity of per-pupil cost estimates to the provider circumstances.

staff-child ratio, and so on. The relevant resources include the classroom and administrative staff positions required, the number of staff to employ in each position, the square footage of space to use, the number of meals to be served, the classroom materials to be purchased, and so on. For each resource, a unit price is required such as the salary and benefits for each staff position, the cost of space per square foot, the cost of each meal, and so on. The prices for each resource may depend upon the provider context, such as public versus private status, being in a low- or high-cost area, and structural features such as the class size and educational qualifications of the lead classroom teacher(s). Once the resources are identified and the corresponding prices determined, the cost model multiplies each resource quantity by its price to obtain the total cost for each resource. The sum of the resource costs is the total cost for a program with the assumed features. Total cost divided by CERDEP enrollment is the measure of per-pupil cost.

Thus, the key assumptions for the baseline cost model fall into four categories: provider context, staffing model, staff compensation, and unit costs for other expenditure categories. We discuss assumptions in each of these areas in turn.

Provider Context

Our baseline model considers four illustrative provider contexts for CERDEP delivery—one that applies to public school district programs and three that pertain to private centers. These cases were selected because they allow us to vary three key program features within the baseline model: public versus private providers and, for private centers, staff compensation and lead teacher degree level. As discussed in Chapter 2, our illustrative providers demonstrate potential differences in the cost structure for public versus private providers, in part because of differences in staff compensation. The option within private centers—of employing lead teachers with an associate degree rather than a bachelor's degree—is another potential key difference in program structure that could affect per-pupil cost. Other potential cost drivers such as price variation across geographic areas, program scale, class size (and thus the staff-child ratio), rental cost, and transportation cost are addressed in the sensitivity analyses. Table 3.1 summarizes how we capture variation in program features and cost through the four baseline provider types (first column) and the sensitivity analyses (second column).

More specifically, as shown in Table 3.2, all four provider contexts assume the traditional CERDEP option: one operating with 6.5 hours per day for 180 days per year. CERDEP enrollment is assumed to be 40 children in two classrooms of 20 children each. The other key features are as follows (where the feature that changes between types is outlined with a box):

- **Type A** providers are sites operated by school districts (in a public school or stand-alone publicly funded center). As required under CERDEP, lead teachers are assumed to have a bachelor's degree with ECE specialization. Compensation is consistent with typical salaries for public school teachers and administrators based on the median salaries for South Carolina, according to data from BLS (discussed further later in this chapter). Overall, the site is assumed to have enrollment of 450 children across all grades (i.e., in the elementary school) and total enrollment of 150 4K children across all schools in the

district.[25] By full enrollment, we mean that all classrooms are fully enrolled at 20 children each (i.e., no underenrollment). We also assume the program pays rent (or has a mortgage) for the CERDEP space, and provides transportation services for children enrolled in the 4K program (even though transportation is optional).

- **Type B** mirrors type A but is a private center, rather than a public school. Notably, lead teacher qualifications are the same (a bachelor's degree) with ECE specialization and compensation is at parity with compensation for similar staff roles in public schools (referred to as compensation *parity* in Table 3.2). All other program features are assumed to be the same as type A, except that total enrollment in the center is 120 children, reflecting the different overall size of an elementary school site versus an ECE center. With two CERDEP rooms (40 4K slots total), this means two-thirds of the enrollment in the center is composed of younger children (i.e., infants, toddlers, and 3K children).

Table 3.1. Sources of Per-Pupil Cost Variation Addressed in Baseline Cases and Sensitivity Analysis

Source of Variation in Per-Pupil Cost	Examine in Baseline	Examine in Sensitivity Analysis
Provider type	Public versus private	–
Compensation for classroom staff (private centers only)	Public school salaries and benefits versus private center salaries and benefits	–
Highest degree of lead teacher (private centers only)	Bachelor's degree versus associate degree	–
Price variation across geographic areas (assume state median in baseline)	–	Lower-cost versus higher-cost geographic areas
Program size (assume 2 CERDEP rooms in baseline)	–	Smaller (1 CERDEP room) and larger (4 CERDEP rooms) program size
Class size (assume enrollment of 20 per classroom in baseline)	–	Smaller class sizes (15 and 18)
Expenditures for rent (assume rent is paid in baseline)	–	No expenditures for rent
Transportation services (assume provided in baseline)	–	No transportation services provided

SOURCE: Provider interviews.

NOTES: – = not applicable.

[25] These enrollment assumptions are relevant for determining shares of salaries and other expenses at the school or district level. We based these assumptions on enrollment information for the 61 school districts that operated CERDEP in the 2017–2018 school year. For those districts, the median 4K enrollment was about 145 students, just under our assumption of 150 students. For the schools in those districts with CERDEP classrooms, the median 4K enrollment was 40 students (i.e., two classrooms) and a total school enrollment across all grades of about 450.

Table 3.2. Baseline Assumptions for Four Provider Types for CERDEP Cost Model

Features	Type A	Type B	Type C	Type D
Setting	School district school or center	Private center	Private center	Private center
Days	180	180	180	180
Hours per day	6.5	6.5	6.5	6.5
Lead teacher qualifications	Bachelor's with ECE	Bachelor's with ECE	Bachelor's with ECE	Associate degree
Compensation	Public school salaries and benefits	Pay parity with Type A	Center salaries and benefits	Center salaries and benefits
Salaries	50th percentile	50th percentile	50th percentile	50th percentile
Fringe benefit rate	45 percent	45 percent	12 percent	12 percent
Total district enrollment	150	–	–	–
Total school/center enrollment	450	120	120	120
Total CERDEP/4K rooms	2	2	2	2
Group size	20	20	20	20
Enrollment	Full	Full	Full	Full
Facility rent	Included	Included	Included	Included
Transportation	Included	Included	Included	Included

SOURCE: Authors' assumptions.

NOTES: The feature that changes in moving from Type A to Type B, from Type B to Type C, and from Type C to Type D is outlined with a box. – = not applicable.

- **Type C** private providers are the same as type B, with the exception that compensation for staff is based on the salaries typical in South Carolina private child care settings, again based on median salaries using BLS data (see the discussion that follows).
- **Type D** private providers are the same as type C, with the exception that the lead teacher has an associate (two-year) degree, the minimum education qualification for private centers under CERDEP.

The assumptions for the four provider types allow ready comparison of total per-pupil costs across provider type, compensation structure, and teacher qualifications. In particular, a comparison of type A versus type B shows the difference in costs for a district program versus a private program where degree requirements and compensation levels are held constant. Comparing type A with type C shows the difference in per-pupil cost in changing both provider type (public district program versus private center) and the associated compensation structure (public school district salaries versus salaries in private centers). As another example, a comparison of type C versus type D shows the effect on per-pupil cost for private centers of having a lower teacher qualification as allowed under CERDEP relative to the qualification required in school district programs.

Staffing Model

The model makes assumptions about the number of staff at the classroom level and staff at the site level (and district level in the case of type A public providers) (see Appendix C and Table C.1 for additional detail). Staff are measured as full-time equivalent (FTE) positions. For the classrooms, all provider types in the public and private sectors are assumed to operate with one lead teacher, one assistant teacher, and a 0.25 FTE floater (who substitutes in when needed so that there are two staff per room at all times).

In the case of the type A school district site, we assume a district-level ECE coordinator and a school principal, each of whom serves the larger 4K district or overall school population of students. At the baseline scale, we assume 0.5 FTE district ECE coordinator and 1 FTE principal. We also assume 0.33 FTE school-level ECE director, 0.33 FTE office manager, and 0.33 FTE administrative assistant for the 4K program. The type A district-based site is assigned a portion of the compensation for the district ECE coordinator; the share is based on CERDEP enrollment at the district site as a share of the overall 4K enrollment in the district. A similar logic is employed for the school principal, except that we use the share of CERDEP enrollment relative to total site enrollment to assign a share of the salary for the principal. The full cost of the CERDEP ECE director, office manager, and administrative assistant are assigned to CERDEP.

In the case of the type B, C, and D private centers, each is assumed to have an ECE director, associate director, office manager, and administrative assistant. As site-level costs, a share of their salary is attributed as CERDEP costs based on the enrollment of children in CERDEP rooms as a share of total enrollment. Given the assumptions for type B, C, and D private centers with 40 children in CERDEP rooms and 120 children overall, 33 percent of the salary for the site-level administrative staff are assigned as CERDEP costs.

Staff Compensation

The cost model has assumptions about compensation (salaries and nonwage compensation) for each of the staff positions (see Table C.2 in Appendix C for details). Our salary assumptions are drawn from BLS data on occupational wages for South Carolina as of May 2017 (BLS, 2017). We use the median estimates where available for the closest occupation code to each staff position. For example, because there is no public preschool teacher category, we use the category for kindergarten teachers (except special education teachers) as the best fit for the lead teacher salary in a public school district–based 4K program.[26] In contrast, for the lead teacher in a private center, we used the BLS occupational category for preschool teachers, which had a South Carolina median of about $23,000, reflecting the lower salaries in private programs. Assistant teachers at the median are assumed to earn $21,000 in public school and $19,000 in private

[26] The South Carolina teacher salary scale differentiates between degree level and years of experience but not the grade assignment (SCDE, undated). The median South Carolina public school kindergarten teacher salary of about $51,000 (according to the BLS) is consistent with the average teacher salary at the state level for the 2017–2018 school year.

centers. The median salaries for the administrative staff positions are documented in Appendix C.

In addition to the salary costs for staff, we assume a fringe benefit rate to account for payroll taxes and other nonwage benefits for all staff (e.g., health, dental, and vision benefits; retirement contributions). Consistent with our findings for the public school sites in Chapter 2, we assume a 45 percent fringe rate for type A and type B providers (where parity is assumed for private providers). For type C and D providers, given the minimal fringe benefits offered by private centers and based on our illustrative cases and what is documented elsewhere (Thomason et al., 2018), we assume a fringe of 12 percent. This will cover payroll taxes and a very minimal benefits package (e.g., some paid sick or personal leave).

Other Unit Prices

The model also requires assumptions about the cost per unit of other cost components beyond classroom and administrative staff (see Table C.3 in Appendix C). At the highest level, this includes major cost categories of professional development, classroom resources, meals, transportation, occupancy, and other operating costs. In most of these categories, there are cost subcomponents. The baseline unit cost estimates are based on the PCQC estimates for South Carolina (U.S. Department of Health and Human Services, Office of Child Care, undated) with adjustments based on the information provided by the illustrative providers. Because the number of children, rooms, and sites are the same across provider types A to D, the baseline costs per pupil are the same regardless of provider context and the alternative scenarios, with the exception of professional development (see Appendix C for details).

Note that we are assuming that the unit prices are effectively the same for public and private providers. Because of the ability of school districts to purchase in bulk, it may be the case that the unit costs for larger school districts would be lower compared with private providers, but South Carolina also has many smaller districts that might not have the same purchasing advantage. We do not have sufficient information, however, to estimate such differences. The possibility of these differences should be kept in mind. As discussed in the later in this chapter, we also consider lower and higher unit costs as part of our sensitivity analyses to account for geographic differences in price levels, but the same analyses could be used to consider any cost advantage associated with scale.

Alternative Scenarios Examined

In addition to the baseline model, we examine the sensitivity of our estimates of per-pupil cost to variation in several key parameters (see Table 3.1). In particular, we consider sensitivity to changes in six key areas:

- **Salaries and unit costs**: The baseline model assumes salaries are at the South Carolina state median. We examine how much lower per-pupil costs would be if salaries were instead at the 25th percentile of state salaries (again based on BLS data) and how much higher per-pupil costs would be if instead salaries were at the 75th percentile (see Table

C.2 for the salary assumptions). The lower-salary case can be equated to what salaries would look like in a more rural community, where wages tend to be lower. The higher-salary case, in contrast, would be consistent with a higher-cost urban setting. Assuming that prices more generally follow wages and salaries, in the low-salary context, we adjust all other unit prices downward by 7.5 percent and we make an symmetric upward adjustment of 7.5 percent in the high-salary context (see columns two and three in Table C.3). Note that we have not considered the extremes of the potential salary range in South Carolina, which means that some providers could face even lower or even higher cost structures, depending on their geographic locale.[27]

- **Program size**: The baseline model assumes two CERDEP rooms in each district site or private center. To investigate the implications of economies of scale, we consider two alternative size profiles for both public and private provider types A to D: one CERDEP room and four CERDEP rooms.[28] Per-pupil classroom-based costs will not change (because we still assume 20 children per classroom), but per-pupil site-based costs, such as those attributable to program administrative staff, will change to some extent, especially for the Type B, C, and D private center–based cases, in which we assume no change in the administrative staffing. For the Type A district-based program, the FTE administrative staff are allowed to adjust with enrollment, assuming it is easier to assign part-time 4K responsibilities to a staff person when there are multiple administrative staff. For example, in a small district or school, an assistant superintendent or assistant principal, respectively, may have responsibility for the 4K to grade 3 program, whereas a larger district or school may have one person dedicated to the district- or school-level 4K program. Thus, we expect per-pupil cost in district-based programs to be less sensitive to scale effects compared with the private centers.
- **Class size**: The baseline assumption is a classroom size of 20 children, consistent with CERDEP requirements. We consider two alternative scenarios for the class size: 18 children and 15 children. The case of 18 enrolled children could result from an explicit decision to operate with a smaller class size than what CERDEP requires, or it could arise if there were a 10-percent vacancy rate in the program site (i.e., two of the 20 CERDEP slots in each classroom are not filled). The same reasoning would justify the class size of 15, a size explicitly used by one public and one private provider in our illustrative cases

[27] In the BLS data on occupational wages and salaries, the median salary for each occupation used for the baseline model was the salary in the middle of the salary distribution in the state, i.e., the salary where half of salaries would be below and half above the cutoff point. The 25th percentile is the salary level where 25 percent of salaries in the state for a given occupation fall below that threshold, and 75 percent would be above it. The 75th percentile is correspondingly the salary level where 75 percent of salaries fall below that threshold and 25 percent would be above it. The BLS data also provide the state 10th percentile and 90th percentile for each occupation, extremes we do not consider in the model.

[28] The same public school enrollment data referenced earlier show district 4K enrollment of 80 students at the 25th percentile and 300 at the 75th percentile. At these points, school-level enrollment is just under 350 and just over 600, the two levels we assume in this model.

(see Table 2.3). That class size could also result with a 25 percent vacancy rate when the desired class size is 20.

- **Facilities rent**: In the baseline model, we include the rental cost of the space used for the CERDEP classrooms as part of the occupancy cost category. As noted in Chapter 2, public school providers generally do not incur rental costs associated with the space for their CERDEP classrooms. In addition, several of our illustrative private centers received fully subsidized rent. Thus, we consider an alternative scenario where rent is set to zero. Costs for utilities, repair, and maintenance are still included.
- **Transportation**: The baseline model assumes that transportation is provided for CERDEP children, although it is not required. Thus, we consider an alternative scenario for each of our four provider types (A to D) where transportation services are not offered.

Model-Based Estimates of CERDEP Costs

We now turn to the model-based estimates of CERDEP per-pupil costs, focusing first on the cost estimates for the baseline model and then considering how those estimates vary under the various sensitivity analyses. These estimates address our second study question.

Estimated Per-Pupil Costs for the Baseline Model

Table 3.3 presents the results for total per-pupil costs under the baseline assumptions for the four provider types, A to D.[29] Panel (a) shows per-pupil cost in total and disaggregated by the major cost categories. Overall, on a per-pupil basis, provider types A and B are estimated to cost nearly $11,000 per pupil, in contrast with about $7,000 per pupil for types C and D. Notably, because of the assumptions and structure of our cost model, all per-pupil cost components other than personnel are the same or almost the same across the four provider types. In addition, the staffing model is effectively the same, as well. Thus, the difference in cost per pupil of about $4,000 in moving from types A and B to types C and D is entirely attributable to the difference in compensation costs: salaries and benefits. Indeed, personnel costs are about two times higher for types A and B, where salaries are pegged to those for public school staff, along with a 45 percent fringe benefit rate. The type C and D private centers—with salaries pegged to those for staff in private centers, combined with a 12-percent fringe rate—are essentially constrained in their ability to compensate their staff at the public school levels, because many of the families they serve cannot afford to pay for a program with type A and B compensation levels (NASEM, 2018).

[29] The results in Table 3.3 are not comparable to those for specific providers in Table 2.5 because the cost components are not same in all cases. For example, the baseline per-pupil cost includes rental costs for all four provider types, whereas none of the public schools had expenditures in this category. Later, when we examine sensitivity to the exclusion of rental cost, the results for Type A and the district providers in Table 2.5 are more similar.

Table 3.3. Model-Based Estimated CERDEP Per-Pupil Cost and Per-Pupil Cost Components, Baseline Model by Provider Type, 2017 Dollars

Cost Component	Type A (Public Site)	Type B (Private Center, Pay Parity with Public Site)	Type C (Private Center, Center Salaries)	Type D (Private Center, Center Salaries and Associate Degree)
a. Cost Per Pupil ($)				
Personnel	7,957	7,928	4,092	3,963
Classroom	5,625	5,625	2,623	2,494
Administrative	2,333	2,303	1,469	1,469
Consultants/training	24	33	33	33
Classroom materials and supplies	150	150	150	150
Meals	1,050	1,050	1,050	1,050
Transportation	250	250	250	250
Occupancy	1,282	1,282	1,282	1,282
Other operating costs	220	241	241	241
Total	10,933	10,932	7,097	6,968
b. Percentage Distribution (%)				
Personnel	72.8	72.5	57.7	56.9
Classroom	51.4	51.4	37.0	35.8
Administrative	21.3	21.1	20.7	21.1
Consultants/Training	0.2	0.3	0.5	0.5
Classroom materials and supplies	1.4	1.4	2.1	2.2
Meals	9.6	9.6	14.8	15.1
Transportation	2.3	2.3	3.5	3.6
Occupancy	11.7	11.7	18.1	18.4
Other operating costs	2.0	2.2	3.4	3.5
Total	100.0	100.0	100.0	100.0
c. Other Unit Cost Estimates ($)				
Cost per pupil-day	60.74	60.74	39.43	38.71
Cost per pupil-hour	9.34	9.34	6.07	5.96

NOTES: Percentages may not sum to 100 because of rounding.

Panel (b) of Table 3.3 confirms the expectation that the major cost component is for personnel. Given the higher compensation costs for provider types A and B (public and private with compensation parity), personnel costs reach about 73 percent of per-pupil costs, compared with about 57 percent of costs for private provider types C and D (based on center compensation). Of the personnel costs, the larger share is for classroom personnel: lead teacher, assistant teacher, and floater. Of the other cost categories, the shares are always higher for provider types C and D because of the lower share in personnel costs. But regardless of provider type, occupancy has the next largest share after personnel (12 to 18 percent), followed by meals (10 to 15 percent). The other cost components have shares below 5 percent under any scenario.

Panel (c) computes cost per pupil-day and cost per pupil-hour as alternative unit cost measures. Because we are modeling costs for the traditional CERDEP option (6.5 hours per day, 180 days per year), the daily and hourly cost estimates indicate the average cost for an extended

day (additional hours per day) or an extended year (additional days per year).[30] For Types A and B, the average daily costs are about $60 per day, compared with about $40 per day for Types C and D. Hourly cost are just over $9 for Types A and B and about $6 for Types C and D.

Variation in Per-Pupil Costs Under Alternative Scenarios

The baseline estimates demonstrate considerable variation in per-pupil costs for CERDEP depending on staff compensation. We now consider additional results for the six types of sensitivity analyses described earlier in the chapter. Panel (a) of Table 3.4 shows per-pupil costs under each alternative scenario for our four provider types A to D, where the first row in the table shows the baseline estimate from Table 3.3, which serves as our reference point. Panels (b) and (c) respectively record the absolute change and the percentage difference in per-pupil cost for each alternative scenario for the four provider types, each relative to its baseline. As described earlier, we examined sensitivity to assumptions in six areas:

- **Salaries and unit costs**: Assuming lower and higher salary and unit cost structures have a substantial effect on per-pupil costs, relative to the baseline, lower cost communities are estimated to have per-pupil costs 11 to 14 percent lower compared with the baseline. The corresponding increase in per-pupil costs for higher-cost areas is about 18 percent. Together these estimates indicate a difference in per-pupil costs between lower- and higher-cost communities of $2,000 to $3,500, depending on the provider context. As noted earlier, our cost differentials do not reflect the possible extremes of the local price context, meaning that the gap in per pupil cost could be even higher if we contrasted the lowest-cost communities in the state versus the highest-cost communities.
- **Program size**: Varying program size from one CERDEP room to four CERDEP rooms has a modest effect on per-pupil costs, with higher costs of 3 to 7 percent in the smaller-scale scenario (one room) and a 3 percent reduction in per-pupil cost in the larger-scale scenario (four rooms instead of two). The gap in per-pupil cost is about $300 to $1,000 between the smaller- and larger-sized programs we consider. Note that the effect of changing the program scale is much smaller for the type A public program, because of our assumption that administrative staffing levels at the district or school level can be more easily adjusted compared with private center–based programs.
- **Class size**: Changing the class size has a more meaningful effect on per-pupil cost. Dropping to 18 students per CERDEP room raises per-pupil costs by 7 to 10 percent relative to the baseline of 20 children in the group. A class size of 15 raises cost per pupil even more, by 20 to 27 percent, relative to the baseline. With 15 students per CERDEP

[30] We report average cost per-pupil-day or per-pupil-hour, consistent with the approach used by South Carolina to calculate the reimbursement rate for a longer day or extended year (see Table 1.3). These are average cost estimates. If some resources are fixed and do not vary with the length of the day or program year, marginal cost may be lower than average cost although many cost components are variable such as the time of classroom staff and some occupancy costs.

Table 3.4. CERDEP Per-Pupil Cost by Provider Type Under Alternative Scenarios (2017 dollars)

Scenario	Type A (Public Site)	Type B (Private Center, Pay Parity with Public Site)	Type C (Private Center, Center Salaries)	Type D (Private Center, Center Salaries and Associate Degree)
a. Cost per Pupil ($)				
Baseline	10,933	10,932	7,097	6,968
Salaries and unit cost				
25th percentile salaries, 7.5% lower unit cost	9,376	9,359	6,316	6,211
75th percentile salaries, 7.5% higher unit cost	12,845	12,819	8,380	8,207
Program size				
1 CERDEP room	11,228	11,601	7,599	7,469
4 CERDEP rooms	10,898	10,611	6,895	6,766
Class size				
18	11,996	11,791	7,623	7,479
15	13,931	13,361	8,525	8,353
Without rent[a]	10,059	10,059	6,224	6,095
Without transportation	10,683	10,682	6,847	6,718
b. Absolute Change from Baseline ($)				
Salaries and unit cost				
25th percentile salaries, 7.5% lower unit cost	–1,557	–1,574	–781	–757
75th percentile salaries, 7.5% higher unit cost	1,912	1,887	1,282	1,239
Program size				
1 CERDEP room	295	668	501	501
4 CERDEP rooms	–35	–322	–203	–203
Class size				
18	1,063	859	525	511
15	2,998	2,428	1,428	1,385
Without rent[a]	–874	–874	–874	–874
Without transportation	–250	–250	–250	–250
c. Percentage Change from Baseline (%)				
Salaries and unit cost				
25th percentile salaries, 7.5% lower unit cost	–14.2	–14.4	–11.0	–10.9
75th percentile salaries, 7.5% higher unit cost	17.5	17.3	18.1	17.8
Program size				
1 CERDEP room	2.7	6.1	7.1	7.2
4 CERDEP rooms	–0.3	–2.9	–2.9	–2.9
Class size				
18	9.7	7.9	7.4	7.3
15	27.4	22.2	20.1	19.9
Without rent[a]	–8.0	–8.0	–12.3	–12.5
Without transportation	–2.3	–2.3	–3.5	–3.6

NOTES: Percentages may not sum to 100 because of rounding.
[a] Rent is a component of occupancy costs. Utilities, repair, and maintenance are still included in occupancy costs.

room, the per-pupil cost is higher by $1,400 to $3,000 compared to the baseline class size of 20, indicating the substantial effect on per-pupil cost of operating with a lower class size than the maximum allowable class size under CERDEP.

- **Facilities rent**: With nearly $900 in per-pupil cost for rent based on our baseline model assumptions, removing this cost element from the larger category of occupancy costs reduces overall per-pupil cost by 8 to 13 percent. Although this is a modest difference, this scenario is quite common for public providers and for many private providers. Thus, the difference in per-pupil cost could be nearly $900 between a CERDEP provider that faces a rental or mortgage cost for their facility versus those that do not.
- **Transportation**: The model unit costs assume a transportation cost per pupil of $250. Thus, eliminating this cost element lowers per-pupil cost by about 2 to 4 percent, a considerably more modest cost factor given our assumptions.

In sum, these results indicate that the cost per-CERDEP-pupil could be very different depending on the provider context. Key cost drivers include (1) the compensation level for classroom and administrative personnel, where those cost differentials may arise across geographic locales or because of the contrast in compensation between public versus private programs; (2) the class size (and hence the staff-child ratio); and (3) whether the provider has rental cost. There are also potential cost differentials, albeit more modest given our assumptions, associated with economies of scale and transportation.

This sensitivity analysis also demonstrates that the cost model, under the appropriate assumptions, closely replicates our estimates of per-pupil cost for the eight illustrative providers for which we had complete expenditure data (see Table 2.5). For example, the per-pupil costs for districts A, B, and C were between $8,400 and $9,000. These districts were in more-rural communities, and each district's CERDEP sites operated at a scale and class size similar to our baseline assumptions. None paid rental cost. Thus, the best comparison would be using the lower-cost community assumptions for a type A program—per-pupil cost of about $9,400 in panel (a) of Table 3.4—less the per pupil cost of rent in the model of nearly $900. This gives a range of about $8,500 to $11,100 which includes the estimates for the three district-based providers.

The circumstances of the private centers were all quite different in terms of their cost structure and would be most comparable to a type C or type D center. On the low end, center G in a more rural community, with no rental or transportation cost, had a per-pupil cost of about $5,400, consistent with the lower-cost community per-pupil estimate for a type D center of about $6,200, less $1,100 for rent and transportation, but with the expectation of higher cost relative to the baseline from operating with a child-staff ratio of about nine-to-one rather than ten-to-one. On the high end, center H had a per-pupil cost of about $8,000. All lead teachers had a bachelor's degree (without ECE specialization), the site had no rental cost, and it operated with a class size of 15, making it most comparable to a type C center with the lowest class size we

modeled, where per-pupil costs were estimated to be about $8,500 (or about $7,600 with the exclusion of the rental cost).

Comparison of Per-Pupil CERDEP Costs with Per-Pupil Reimbursement

The estimated per-pupil total cost based on the cost model can be compared with the current state reimbursement levels for CERDEP, our third study question of interest. Given that our model is based on unit cost data for 2017, we make the comparison with reimbursement rates as of the 2017–2018 school year. With an instructional reimbursement rate of $4,422 per pupil for the traditional CERDEP option (as assumed in our model analysis), it is quickly evident that all of the estimated total costs per pupil across the scenarios we examined in Table 3.4 exceed, and often well exceed, this per-pupil reimbursement rate. Likewise, the hourly and daily reimbursement rates for extended-day or extended-year programs (see Table 1.3) fall short of the model-based estimated hourly and daily rates (see Table 3.3 where this is illustrated for the baseline). However, a more-careful assessment is needed of the potential gap between the available sources of reimbursement versus estimated cost.

First, it is important to consider which revenue sources may apply. For private CERDEP providers that transport students to and from the program, additional reimbursement of $552 per pupil was available in 2017–2018. In addition, because the income cutoff for CERDEP eligibility is the same as eligibility for the CACFP, providers can receive reimbursement for meal costs. Assuming the maximum possible reimbursement when children are eligible for free meals, a provider may claim as much as $1.75 per breakfast and $3.23 per lunch, for a total reimbursement over a 180-day school year of $896 per pupil. Panel (a) of Table 3.5 records these possible revenue sources for the four provider types A to D. With these additional revenue sources, providers may receive up to a total of nearly $5,900 per pupil.

Second, given the potential variation in cost structures, we also need to consider the difference in provider cost versus reimbursement based on the provider context. Panel (b) in Table 3.5 displays the gap between total per-pupil cost and the maximum possible reimbursement, with our baseline assumptions about salaries and unit prices for the four provider types, A to D. The table also reports the gap (when positive, indicating a revenue shortfall) as a percentage of total expenditures. Under the baseline model (case 1), provider types A and B have a gap that is close to half of total cost. The gap is smaller, but still positive, for provider types C and D, equal to about 17 percent of expenditures.

Case 2 in Table 3.5 shows the size of the gap when the cost of rent is eliminated (for providers without rental costs) and case 3 applies when both rent and transportation costs are not incurred. Note that when transportation services are not provided, the size of the gap increases because reimbursement for transportation is $562 per pupil compared with our estimated cost of $250 per pupil, producing an estimated net surplus when transportation is provided and reimbursed. Provider types C and D, with no rental costs (case 2) or with no rental or transportation costs (case 3), come closest to breaking even, with a shortfall of around $250 to $600 per pupil, about 4 to 11 percent of their estimated total cost.

Table 3.5. CERDEP Per-Pupil Cost Versus Per-Pupil Reimbursement by Provider Type Under Alternative Scenarios, 2017 Dollars

Scenario	Type A (Public Site)	Type B (Private Center, Pay Parity with Public Site)	Type C (Private Center, Center Salaries)	Type D (Private Center, Center Salaries and Associate Degree)
a. Possible Reimbursements				
CERDEP instruction ($)	4,422	4,422	4,422	4,422
CERDEP transportation ($)	0	562	562	562
USDA food ($)	896	896	896	896
Total reimbursement ($)	5,318	5,880	5,880	5,880
Total reimbursement, no transportation ($)	5,318	5,318	5,318	5,318
b. Per-Pupil Gap Estimates, All Applicable Revenue Sources and Baseline Cost Estimates				
1. Total cost ($)	10,933	10,932	7,097	6,968
Gap = Cost – reimbursements ($)	5,615	5,052	1,217	1,088
Gap as a percentage of cost (%)	51.4	46.2	17.2	15.6
2. Total cost without rent ($)	10,059	10,059	6,224	6,095
Gap = Cost – reimbursements ($)	4,741	4,179	344	214
Gap as a percentage of cost (%)	47.1	41.5	5.5	3.5
3. Total cost without rent and transport ($)	9,809	9,809	5,974	5,845
Gap = Cost – reimbursements ($)	4,491	4,490	655	526
Gap as a percentage of cost (%)	45.8	45.8	11.0	9.0
4. Instructional cost ($)	8,381	8,389	5,388	5,259
Gap = Cost – reimbursements ($)	3,062	2,509	–492	–621
Gap as a percentage of cost (%)	36.5	29.9	–	–
5. Instructional cost without rent ($)	7,507	7,515	4,514	4,385
Gap = Cost – reimbursements ($)	2,188	1,635	–1,366	–1,495
Gap as a percentage of cost (%)	29.2	21.8	–	–
6. Instructional cost without rent and transport ($)	7,257	7,265	4,264	4,135
Gap = Cost – reimbursements ($)	1,938	1,947	–1,055	–1,184
Gap as a percentage of cost (%)	26.7	26.8	–	–

NOTES: Percentages may not sum to 100 because of rounding. – = not applicable.

The last three cases in Table 3.5 are based on considering what we refer to as *instructional costs*: classroom staff compensation, professional development, classroom materials and supplies, meals, transportation, and occupancy. Our definition is somewhat more expansive than that which was used by EOC (2006) when the CERDEP instructional reimbursement rate was first set.[31] Focusing on our broader measure of instructional costs, there is still a sizeable, but

[31] Our broader definition is based on identifying those costs that providers must incur, on the margin, as they add a CERDEP classroom to their program. For example, expenditures for the compensation of the CERDEP classroom staff and other classroom materials and supplies are clearly direct costs of the program. But the staff also require professional development, which adds to CERDEP costs on the margin. The same is also true for the meals served to CERDEP enrollees. Adding a CERDEP room incurs additional occupancy costs, as well, at least for providers that pay rent or have a mortgage. Although transportation services are not required, we include them because we include the transportation reimbursement as part of potential revenue. What is omitted from instructional costs are compensation for the provider administrative staff and other operational costs, most of which are fixed costs for the program as a whole and would typically be considered part of program overhead.

smaller, revenue gap for type A and B providers paying public school salaries equal to as little as 27 percent of costs when the provider does not pay for rent or offer transportation (case 6). However, instructional expenses are covered by the available revenue sources for provider types C and D under all three cases (cases 4 to 6) because of the lower compensation costs we assumed for those two types of private providers. Indeed, focusing on just instructional costs, type C and D providers would have surplus revenue to offset at least some of the other noninstructional costs, such as general operations expenditures.

In sum, given our baseline assumptions, unless providers are paying the lower wages and benefits that characterize compensation in private centers, the available sources of reimbursement from CERDEP and subsidized school meals are not expected to cover the total cost of a high-quality CERDEP classroom, based on median salaries and average state unit costs—whether public or private. If we focus on the set of costs directly attributable to a CERDEP room, which we call instructional costs, there is still a gap between reimbursement and costs for public and private providers paying public school compensation rates. However, private centers with compensation comparable to other child care providers would see their instructional costs covered. We also note that although we have focused on cost per pupil, our findings would be replicated with respect to our estimates of CERDEP cost per pupil-day and cost per pupil-hour. Further, the gap analysis would show even higher gaps between CERDEP revenue and costs for providers in higher-cost parts of the state. Providers in lower-cost areas would see smaller gaps.

4. Key Findings, Policy Considerations, and Recommendations

CERDEP is South Carolina's primary program for promoting school readiness among low-income children by providing a full-day 4K free of charge to families. For the public school districts and private center–based providers that deliver CERDEP, a central question is whether the state reimbursement is sufficient to cover the cost of a high-quality program. If reimbursement is not adequate, it may affect the ability of providers to deliver high-quality services and to sustain their programs, especially for private providers who may not have access to other sources of public or private funds to fill the gap.

The goal of this study has been to develop a more complete understanding of the total cost to deliver CERDEP under such varied circumstances as the provider type, local cost structure, teacher qualifications, and other aspects of program structure. Based on information on CERDEP costs gathered from ten illustrative providers throughout the state, we aimed to understand the cost components that providers face, both to support instruction and operate programs. Armed with this information, we have developed model-based estimates of the total per-pupil cost of CERDEP under alternative contexts such as public versus private providers, low- and high-cost locales, and such structural features as size of classroom group and the educational credentials of the lead teacher. These estimates have in turn supported an analysis of the ability of CERDEP reimbursements alone, or in combination with other public funds, to cover the costs CERDEP providers are estimated to incur.

In this closing chapter, we summarize our findings with respect to the questions that motivated this study. We then discuss the implications of our findings and enumerate several recommendations that flow from our analysis.

Key Findings

At the outset, we asked a series of questions related to the cost of delivering CERDEP:

- What are the "ingredients," in terms of personnel, facilities, educational materials, and other supplies, required to deliver CERDEP in public and private settings? What are the sources of potential variation in program costs?
- What is the estimated per-pupil cost of CERDEP? Does the per-pupil cost vary by key programmatic features, such as public versus private settings, teacher qualifications, student enrollment, or geographic area?
- How does the per-pupil cost compare to the current per-pupil reimbursement rate for CERDEP providers?

We review our findings for each of these questions in turn.

Cost Ingredients and Sources of Cost Variation

Based on information on CERDEP costs provided by five public school districts and five private center–based providers, we confirmed that the delivery of CERDEP requires expenditures in multiple categories: personnel-related, namely salaries and benefits for classroom staff and administrative staff, as well as professional development; program-related, such as classroom supplies and other instructional supports, food service, daily transportation and transportation for special events (e.g., field trips); occupancy-related, including rent (or mortgage and taxes), utilities, and repairs and maintenance; and a host of administrative costs associated with program operations, from office supplies to licensing and staff clearance fees. These cost elements are similar to those identified in other cost studies of 4K programs and are typically included in ECE program cost models (with the possible exception of transportation costs).

At the same time, despite operating programs under a common set of requirements, there are important differences across CERDEP providers that have implications for per-pupil cost. The most meaningful of these differences are:

- **Compensation**: The data from providers confirmed what has been well documented elsewhere: striking differences in salary levels and benefits packages between public school district–based programs and private centers. For our illustrative providers, lead teachers in public schools, for instance, had salaries that ranged from $35,000 to $52,000, compared with $25,000 to $43,000 for the lead teachers in private centers. These differentials are not because of differences in the qualifications of the lead teachers: Many private centers employed lead teachers in their CERDEP rooms with bachelor's degrees and ECE specialization, even though that exceeded the program requirement. Moreover, the benefits package for public school teachers included subsidized health, dental, and vision insurance; a retirement plan; and time for paid leave, among other benefits. In total, benefits for public school teachers equated to about 45 percent of their salaries, compared with a fringe-benefit rate of about 12 percent for private centers, which mostly consisted of payroll taxes.

- **Transportation**: While all district-based CERDEP sites provide transportation services by augmenting their existing transportation system to accommodate the 4K students, just two of the private centers provide transportation (using a small number of minibuses). For one center, the bus drivers assist in the classrooms once the children arrive at the center, and they reprise their driving role in the afternoon.

- **Occupancy**: We defined occupancy costs to include rent (or mortgage and property taxes), along with utilities, repair, and maintenance. None of the public-school CERDEP sites reported costs for rent or a mortgage because their buildings are fully owned. In addition, two of the five centers, those located in church buildings, reported receiving the use of their center space without charge.

Other differences in CERDEP operations that have implications for cost include the size of the group of children in the CERDEP room and the overall program size. As part of the cost model we develop, we consider the sensitivity of per-pupil CERDEP costs to variation in these key program features: compensation, transportation, occupancy, class size, and program size.

Per-Pupil Costs and Variation by Provider Context

Given the small number of CERDEP providers for whom we gathered cost information, we focus on the per-pupil cost estimates derived from our cost model. It is important to keep in mind that the model results are for illustrative programs. Although designed to be as realistic as possible, the model produces estimated per-pupil costs that are conditional on the assumptions about program scenarios, structure, and other parameters.

We do not have all possible program circumstances included in the cases we examine. Nevertheless, we believe there are robust findings from the cost model that speak to the nature of the cost structure of CERDEP 4K programs.

In our baseline model, the estimated all-inclusive per-pupil cost for the traditional CERDEP option (academic school year at 6.5 hours per day), when delivered at a site operated by a public school district, was about $11,000. For a private center operating with the same salary and benefit structure as the public schools (i.e., compensation parity), the equivalent cost was almost identical. Thus, there is no inherent difference in the cost in public versus private settings when compensation levels are assumed to be the same and the program pays rent (or a mortgage) for its space. Rather, a more salient contrast was per-pupil costs for CERDEP delivered in private centers that pay salaries consistent with private child care centers, either for a lead teacher with a bachelor's degree or an associate degree as allowed under the CERDEP requirements. Those estimates showed per-pupil cost of about $7,000. The cost differential of $4,000 per pupil is entirely attributable to the higher salaries and benefits in the public school programs or private centers with public school pay parity. The other significant cost drivers were associated with local salary and price differentials, class sizes below the allowed level of 20 children per classroom, and whether space rental (or mortgage) costs were included.

CERDEP Cost Versus Reimbursement

With an instructional reimbursement rate of $4,422 per pupil for the traditional CERDEP option (the program variant we model), it is quickly evident that the reimbursement rate per pupil across the scenarios we examined falls short by as much as 50 percent of the estimated CERDEP per-pupil cost. Likewise, the hourly and daily reimbursement rates for extended-day or extended-year programs fall short of the model-based estimated hourly and daily costs. Likewise, the hourly and daily reimbursement rates for extended-day or extended-year programs fall short of the model-based estimated hourly and daily rates. This gap between total cost and reimbursement also holds when we consider the additional per-pupil reimbursement for CERDEP providers that provide transportation and the potential reimbursement for meals under the CACFP. Together, these sources bring the total potential reimbursement to $5,900 per pupil, but that still falls short

of total per-pupil costs, given our cost model assumptions. Even when we consider a narrower portion of provider costs, namely the cost components most directly attributable to a CERDEP classroom, the per-pupil reimbursement rate is not sufficient to cover these direct instructional costs, except in private centers paying the lower salaries consistent with private child care.

The gap analysis also demonstrates that, given a CERDEP per-pupil reimbursement rate that is the same regardless of provider context, the size of the differential between per-pupil cost and reimbursement will vary substantially across CERDEP providers, based on their compensation schedule, geographic locale, class size, and other features that drive per-pupil costs. This introduces differentials across providers in terms of the extent to which their CERDEP costs are covered by state funds, and thus the amount of funds per pupil needed from other public or private sources to fill the gap.

Policy Considerations

The findings from our analysis raise a number of policy considerations regarding the reimbursement of CERDEP public and private providers for the services they provide. We highlight five issues in particular.

Using a Single Reimbursement Rate Versus One that Varies by Provider Context

Our analysis demonstrates that CERDEP providers, when meeting CERDEP requirements, will deliver the program with different total cost per pupil; those differences can be substantial, equating to several thousands of dollars in total per-pupil costs, according to our cost model. Differences in costs per pupil arise because of variation in compensation levels and unit prices for other resources across geographic locales, a factor that is largely beyond the control of the provider. Cost differences also arise because of the different choices providers make, such as whether to implement CERDEP with a smaller class size than what is required, thereby raising per-pupil cost. But providers may also have a smaller class size because of difficulties maintaining full enrollment if children churn in and out of programs. Private providers also have the option to employ lead teachers with an associate degree rather than a bachelor's degree, thereby lowering per-pupil costs. Whether to offer transportation is also a choice, rather than a program requirement.

These differences in provider per-pupil cost, whether under the control of the provider or not, raise the issue of whether the reimbursement mechanism should account for cost variation through varying reimbursement rates. Currently, by using a single statewide reimbursement rate for CERDEP, the cost differences are not being recognized. With a single rate, the extent to which a provider's costs are covered by the reimbursement will vary. Providers in lower-cost areas would cover a greater portion of their costs relative to providers in higher cost areas, all other factors remaining the same. Providers with a class size below 20 would have a smaller portion of their costs covered relative to providers with 20 children in each CERDEP room, all else remaining equal.

As discussed in Chapter 1 (see Table 1.5), some states have elected to vary their 4K reimbursement rate with key dimensions of program cost, such as type of provider (i.e., public versus private), geographic locale, and lead teacher qualifications. Among the nine states we reviewed, five—Florida, Georgia, Kentucky, North Carolina and West Virginia—employ this approach. Likewise, as noted in Chapter 1, the reimbursement rate under SC Vouchers also varies with provider context. If the structure of the reimbursement rate schedule accurately mirrors the pattern of cost differences by provider circumstances, a reimbursement schedule that varies with the provider context will allow for more equal treatment in the extent to which provider costs are covered. This approach, however, introduces more complexity into the process of administering provider reimbursements, which may raise program central administrative costs.

Which Sources of Cost Variation to Recognize in the Reimbursement Rate Schedule

In moving beyond a single reimbursement rate, consideration must be given as to which sources of cost variation to recognize and how many dimensions in total to accommodate in the rate schedule. We have already noted that there are multiple potential sources of variation in CERDEP costs. As more and more dimensions of variation are incorporated in the reimbursement rate schedule, administration of the reimbursement process becomes more and more complex. At the extreme, a reimbursement rate could be assigned to each provider based on its program features, the equivalent of negotiating individual provider contracts that specify the reimbursement rate. Such contracts are employed in North Carolina's 4K program and New York City's publicly funded preschool program, just to name a few (NASEM, 2108).

In Table 1.5, we detailed the factors tied to 4K reimbursement for the five states that vary their reimbursement rate. We identified six sources of variation in these states: geographic locale, teacher education and compensation, private versus public provider status, class size, child disability status, and the number of days programs offer services. Most of the five states only vary their reimbursement rate by one or two of these factors; teacher education and compensation was the most common source of variation. Georgia was the exception to this pattern, as the rates in this state vary by all the identified factors, except for child disability status. In the case of SC Vouchers for four-year-olds in full-day programs (like CERDEP), the reimbursement rate varies by geography and quality rating.

Assuming a limited number of sources of cost variation would be recognized because of administrative cost considerations, the challenge becomes identifying which sources to recognize and how many dimensions, in total, to incorporate. One criteria could be to recognize sources of variation outside of the provider's control, and another would be choices providers make, supported by evidence, to implement higher-quality features. For example, this would mean incorporating variation in the reimbursement schedule based on variation in costs across geographic locales, as well as recognizing the higher per-pupil cost for private providers who opt to employ bachelor's-level lead teachers instead of their associate-level counterparts. On the other hand, unless there is evidence that smaller class sizes are cost-effective relative to the required class size of 20 (i.e., any additional gain in school readiness is worth the added cost),

providers with lower class sizes would not receive a higher per-pupil reimbursement relative to those with full enrollment at 20 students. By linking higher per-pupil reimbursement to providers choosing evidence-based higher-quality program features (such as the SC Vouchers provider payment schedule), the reimbursement schedule signals the priority given to high quality and thereby incentivizes providers to operate with high-quality features.

Another related criteria could be to provide an incremental reimbursement for program services that meet other policy objectives, such as supporting families' access to 4K programming. The current CERDEP reimbursement for transportation costs is one such example, although it is only available to private providers. The additional reimbursement for a longer day or longer year is another example of adding costly features that support families and their need for care. A possible fourth criteria would be to exclude costs for program components where providers qualify for reimbursement with other public funds. An example would be excluding a reimbursement component for meals when providers qualify for USDA CACFP reimbursement.

How Much of Provider Costs to Cover

Assuming all relevant dimensions of cost variation are identified for per-pupil reimbursement, a remaining issue is what share of provider costs should be covered by state funds. From the perspective of state policymakers, the current share of costs covered may be viewed as appropriate, although our model-based estimates suggest that providers are left with having to cover up to half of the total CERDEP costs from other sources. As public entities, we might expect school districts to have access most readily to other public funds, such as district general funds. This may justify reimbursing a smaller share of CERDEP costs for public school providers relative to private center–based providers, for whom alternative funds are less likely to be available. Indeed, given the reimbursement gap under CERDEP presently, private center–based providers must, of necessity, pay lower salaries and provide fewer benefits compared with school district providers in order to break even.

As described in more detail in Chapter 1, four of the states we reviewed—Alabama, Mississippi, Tennessee and Virginia—have explicit policies that require a contribution of local funds to supplement the state reimbursement rates. In other words, the state reimbursement rate is not intended to cover the full cost of the program. Notably, there is wide variation in the per-pupil reimbursement rates among these states, ranging from $2,150 per pupil in Mississippi to $6,125 in Virginia. The range of reimbursement rates among states that are not explicit about whether the state rate is designed to cover the full cost of the program is similar: $2,437 in Florida to $5,850 in North Carolina. While this illustrative group of ten states (including South Carolina) is not inclusive of all states, we do not observe a clear pattern of higher reimbursement rates in states with no explicit expectation of cost-sharing among the states, providers, and other sources of funds; indeed, the ranges nearly overlap. Consistent with our findings in South Carolina, this may suggest that despite the lack of an explicit cost-sharing mechanism, there is an implicit assumption in these states that the reimbursement rate will not cover the full cost of the program.

Considering the revenue side of the cost-versus-reimbursement equation, the state share of CERDEP costs may be determined by whether there are other sources of revenue, public or private, to fill the gap. For example, CERDEP reimbursement would not include the per-pupil cost of meals if providers are eligible for reimbursement of food costs under the CACFP, a federal entitlement (meaning all eligible children can participate). Providers that cannot be reimbursed by CACFP would receive the meal component of the CERDEP reimbursement schedule. If the CACFP per-pupil reimbursement rate is determined to be too low, the gap could be filled by CERDEP funds.

Access to federal Title I funds provides another interesting example of a funding source for 4K programs offered by public schools. As discussed in Chapter 2, one of the illustrative districts applies Title I funds to cover a portion of the costs of CERDEP. If full cost reimbursement became available for school districts, it would be important to consider whether a maintenance-of-effort (MOE) requirement should be in place to ensure that district providers sustain funding from other public sources under the new reimbursement approach. Otherwise, other funding sources maybe supplanted by CERDEP funds.

On the cost side, whether a cost component should be covered could vary by whether the costs are deemed essential to achieving high quality or are optional features with no incremental benefit in terms of program impact. Exclusion of certain expenditures from CERDEP reimbursement would require a solid understanding of CERDEP features and which of those have evidence to support their implementation. Examples could include higher expenditures on enrichment activities, such as extra field trips, beyond a specified threshold or the use of a high-cost professional development model that has not been shown to be effective.

Addressing the Compensation Differential for Public Versus Private Providers

One other key policy consideration is whether the CERDEP reimbursement mechanism would institutionalize the substantial differences in compensation between public schools and private center–based providers documented in this study and elsewhere. Our analysis demonstrates that there are not inherent cost differences by provider type beyond those associated with compensation. The compensation differential reflects historic differences in the professionalization of public school teachers, viewed as educators, versus those working in center-based programs, viewed as child care workers (NASEM, 2015, 2018). As preK programs have been implemented in public schools, those teachers were paid on par with their counterparts teaching kindergarten and other early elementary grades. As a growing share of preK slots are delivered through public schools, the compensation differential has become a more visible issue.

In recent years, there has been growing attention placed on the need to achieve salary parity between preK teachers in public schools versus private centers and how to achieve that goal (NASEM, 2015, 2018). For example, just as public schools are required to follow a minimum salary schedule, First Steps could require that private center–based CERDEP providers adhere to the same (or a modified) salary schedule for their lead classroom teachers. A higher reimbursement rate would then be associated with adhering to the salary schedule. This approach

ensures that the higher reimbursement to providers results in higher compensation for the program staff.

Of course, achieving compensation parity for private providers would result in an increase in the per-pupil cost of CERDEP relative to the status quo, and thus increased state funding if enrollment is to remain the same or increase. However, there would be a host of expected offsetting benefits from achieving parity, such as lower rates of staff turnover (and the accompanying increase in program quality) and a reduced reliance on the part of center-based staff on social safety net programs, such as Medicaid and SNAP (Supplemental Nutrition Assistance Program) (NASEM, 2018). At the same time, if compensation parity is addressed for 4K teachers in private programs but not for teachers in the same program in rooms with younger children (e.g., infants, toddlers, 3K), private providers may find that the within-site disparities in compensation for similarly qualified staff would create new issues in terms of staff performance, satisfaction, and retention. Thus, the addressing the issue of compensation parity must account for the disparities between public and private programs, as well as the differences across staff within private settings based on the ages of the children they serve (NASEM, 2018).

Addressing the Alignment in Reimbursement Rates Across Publicly Subsidized Programs

As noted in Chapter 1, CERDEP operates along with other programs that subsidize the cost of 4K in both public and private settings, namely the EIA Half Day Child Development Program implemented by school districts, as well as Head Start and SC Vouchers applicable to private center–based programs. Where providers may simultaneously participate in more than one program, as is the case with CERDEP and SC Vouchers in private centers, an issue is whether the reimbursement rates across programs are similar.[32] If reimbursement rates are not aligned, it may provide an incentive for providers to shift toward serving children in the program with the higher reimbursement rate, all else being equal.[33]

At present, SC Voucher rates for full-day 4K vary by the urban-rural status of the provider and the provider's ABC Quality rating. As of the 2017–2018 program year, the fixed CERDEP per-pupil reimbursement, on an hourly basis, would have been higher than the SC Voucher hourly reimbursement rate for all provider types. All five of the illustrative private center–based providers that we interviewed also serve children receiving subsidies through SC Vouchers. Thus, for these providers and others like them, they may consider the reimbursement rates in the two programs as they enroll four-year-olds in their program. Given the relatively modest difference as of 2017–2018 (a minimum of about $328 per child on an annual basis, as noted in Chapter 1), the incentive to serve children eligible for CERDEP over those who qualify for SC

[32] As noted in Chapter 1, school districts operating CERDEP programs do not receive EIA funding.

[33] In California, providers in higher-cost counties in the state received higher reimbursement for the voucher-based CCDF child care subsidies than they did for the state-funded 4K program (as of 2009). The differential was sufficiently large that some private center-based programs terminated their contracts with the state to provide the 4K program in favor of serving children with vouchers (Karoly, 2009).

Vouchers may not be very salient from the providers' perspective. However, if CERDEP rates are raised in the future, in recognition of the need to cover a larger share of providers' costs, the gap between CERDEP and SC Voucher reimbursement rates will become even larger and potentially more relevant for provider decisionmaking, especially for providers with lower quality ratings and in rural areas where SC Voucher reimbursements are lower.

Recommendations

This discussion has raised a number of policy issues regarding reimbursement of per-pupil costs for CERDEP providers. Many of the policy issues inherently involve tradeoffs that must be considered as part of a policymaking process. We therefore recommend a series of action steps for CERDEP stakeholders in South Carolina to take in support of a deliberate process to determine the potential costs and benefits of modifying the current CERDEP reimbursement mechanism.

Recommendation 1: Convene CERDEP stakeholders to recognize the variation in CERDEP costs and identify options for an adequate and equitable reimbursement policy. The SCDE and First Steps should hold one or more convenings with all CERDEP stakeholders—public and private providers, the EOC, and other relevant parties—to recognize the considerable variation in the estimated total per-pupil cost of delivering CERDEP and the potential strategies for instituting a reimbursement policy that incentivizes quality and ensures an adequate and more-equitable reimbursement of provider costs. The discussions should focus on the policy considerations referenced in the last section, such as which sources of cost variation should be incorporated in the reimbursement schedule, what the expectations are for the state's share of CERDEP costs and how providers will fill any gap, and whether there is support for moving toward compensation parity for CERDEP teachers in public and private settings.

Recommendation 2: Conduct an analysis of the effects of changes in the reimbursement mechanism on the funding required with no change in enrollment. Guided by the discussions from the first recommendation, EOC should undertake an analysis of the implications of changes in the reimbursement mechanism for state funding of CERDEP with no change in enrollment. If a more-complex reimbursement approach is required, consider options to minimize administrative complexity, such as the use of existing formulas for K–12 funding to adjust for geographic differences in prices. Direct contracts with providers should be considered, as well. Similar to the approach taken in the National Academies report, *Transforming of the Financing of Early Care and Education,* it may be most feasible to phase in a new reimbursement structure over multiple years or gradually across districts given the increase in funding that would be expected to be required.

Recommendation 3: Provide technical assistance to CERDEP providers to ensure they access other sources of funding to cover their costs. To the extent that private providers, in particular, will be expected to cover a portion of their costs from other public or private sources, First Steps should offer technical assistance to providers to ensure those funds are accessed to the maximum extent possible. For example, our set of illustrative providers suggests that some

private centers may not access all sources of reimbursement, such as CACFP, for which they qualify. They also may not always fully claim all available CERDEP reimbursement (e.g., extended day or summer). Technical assistance would be a valuable resource for private centers (and perhaps school districts) to support the financial viability of CERDEP providers and stable participation in the program. Together, SCDE and First Steps could collaborate on an integrated plan for providing technical assistance and consistent implementation of the support for both public and private CERDEP providers.

Recommendation 4: Collect information on provider costs and refine model-based cost estimates to support the redesign of reimbursement policy. Drawing on inhouse capacity or external expertise, SCDE, First Steps, and EOC should continue to collect information on provider costs and refine model-based cost estimates as reimbursement policies are redesigned. The validity of any reimbursement mechanism depends on the extent to which it is grounded in real-world information about how providers implement the program and the associated cost structure. An evidenced-based approach will encourage buy-in on the part of CERDEP providers and other stakeholders, as well as support from families with children and the public more generally. Likewise, information collected from providers should be periodically updated to account for changes in program delivery and the associated implications for costs.

Recommendation 5: Review alignment between CERDEP's reimbursement rates and those for other publicly funded early childhood programs in the state. SCDE, First Steps, EOC and other state leaders should review the reimbursement rates for CERDEP and compare them with those of the other publicly funded early childhood programs in South Carolina that apply to 4K. This comparison is particularly relevant for private center–based CERDEP providers, as they also qualify to serve four-year-old children eligible for SC Vouchers. The review would determine the consequences of any current differences in the reimbursement rates across provider types and assess the potential consequences in terms of participation in the subsidized program. If changes are made in the future to the reimbursement rates for CERDEP, the consequences for the difference in the reimbursement rates with SC Vouchers or any other relevant subsidized 4K program should be taken into account.

Appendix A. CERDEP History and Program Features

In this appendix, we present a more-detailed review of CERDEP than is included in the body of the report. This information will be useful to readers relatively unfamiliar with the program, or readers looking for a complete compilation of CERDEP information as of the publishing of this report. Specifically we cover the program's history, key features and requirements, program enrollment, and evaluation literature.[34]

Program History

CERDEP has its roots in the 2005 state supreme court ruling in *Abbeville v. the State of South Carolina*. The case began in 1993, when 40 South Carolina school districts (approximately 50 percent of the state's districts at the time) challenged the state's education-funding formula (Click and Hinshaw, 2014; Weiler, 2007). Specifically, the districts argued that the formula, based primarily on local property taxes, disadvantaged rural and low-income communities. Over the next decade, the case travelled in and out of the state's lower circuit courts and the state supreme court. Beginning in July 2003, arguments for an appeal of the case were heard in the Third Judicial Circuit Court, and in a 2005 opinion, the court ruled in favor of both the plaintiff districts *and* the state. In sum, the opinion articulated that there was "nothing wrong with the 'inputs' into education or the funding formula provided for local education, or the revenues allocated by the state for public education" (Weiler, 2007, p. 9), *except* for the poor funding provided for early childhood education. While many saw the overall ruling as a loss for South Carolina public education,[35] given that no changes were made to the core K–12 funding formula, the ruling was a win for early childhood services. Following this ruling, the South Carolina General Assembly, the state's legislative body, established the Child Development Education Pilot Program, a state funded early childhood education program in low-income districts in the state. The program was signed into state law in 2014 by the Read to Succeed Act and renamed CERDEP (South Carolina General Assembly, 2014). By law, the program must serve children

[34] This section draws heavily from the following citations: Friedman-Krauss et al., 2018; EOC, 2017, 2018; SCDE, 2018a, 2018b; First Steps, 2018a, 2018b.

[35] The 2005 ruling was not the final ruling in the Abbeville case. In 2014, an additional ruling came down from South Carolina's State Supreme Court stating that indeed the funding formulas were flawed, and failed to provide "minimally adequate" education—the court's interpretation of the state constitution's education clause—to all South Carolina children. Following this ruling, the South Carolina General Assembly was tasked with remedying the funding formula. As part of this effort, the assembly conducted assessments of education facilities and buildings, and provided $55.8 million for capital improvement projects in the plaintiff school districts. However, in November 2017, the 2014 ruling was vacated by the South Carolina State Supreme Court, meaning that the General Assembly was no longer responsible for altering school funding regulation. The primary argument for the new ruling was that the 2014 decision and the courts' attempts to influence education-funding legislation was an overreach of judicial power (Gilreath, 2017).

from low-income families in the states' poorest districts, and focus on reading and school readiness. Specifically, the law mandates that programs must provide: "(1) a comprehensive, systemic approach to reading that follows the State Reading Proficiency Plan and the district's comprehensive annual reading proficiency plan, (2) successful administration of the readiness assessment; (3) the developmental and learning support that children must have to be ready for school; (4) parenting education, including educating the parents as to methods that may assist the child; and (5) identification of community and civic organizations that can support early literacy efforts" (SCDE, 2018c).

CERDEP Features and Requirements

CERDEP is implemented using a mixed-delivery system with both public school districts and licensed private center–based providers able to serve eligible children. Oversight of the public district-based programs is provided by SCDE, while First Steps oversees implementation at private center–based providers. To be eligible to implement CERDEP districts must have a score of 70 percent or higher on the state poverty index.[36] These CERDEP-eligible districts may opt in or out of establishing CERDEP classrooms. Private providers may be located anywhere in the state, including in districts that do not meet the 70-percent poverty threshold. All children served by the program in either private or public settings must meet the criteria described below.

Table 1.1 in the body of the report presents a summary of CERDEP's characteristics. NIEER has developed a set of quality indicators, or benchmarks, for state preK programs. In the 2017 State Preschool Yearbook, NIEER revised and released ten new benchmarks for quality (Friedman-Krauss et al., 2018):

- Benchmark 1. Early Learning and Development Standards
- Benchmark 2. Curriculum supports
- Benchmark 3. Teacher degree
- Benchmark 4. Teacher specialized training
- Benchmark 5. Assistant teacher degree
- Benchmark 6. Staff professional development
- Benchmarks 7 and 8. Maximum class size and staff-child ratio
- Benchmark 9. Screenings and referrals
- Benchmark 10. Continuous Quality Improvement System.

[36] The poverty index is determined by the South Carolina Office of Revenue and Fiscal and is calculated based on the percentage of students and families in a district enrolled in Medicaid, Temporary Assistance for Needy Families, the Supplemental Nutrition Assistance Program, and Department of Social services Foster Care.

In the final two columns of Table 1.1, we indicate, where relevant, the corresponding NIEER standard and whether the CERDEP features meet the applicable benchmark (as determined by NIEER's analysis of data from the 2016–2017 school year). As of 2016–2017, CERDEP met seven of ten quality metrics. In comparison to other states, meeting seven benchmarks puts South Carolina in the middle to the high end of the distribution in the 2016–2017 school year (the most recent with comprehensive data). Only three states—Michigan, Alabama, and Rhode Island—meet all ten, while five states met nine. Ten states met fewer than half of the benchmarks.

To be eligible for CERDEP, children living within CERDEP-eligible districts must have reached age four on or before September 1 and meet one of the following criteria: (1) have family income at or below 185 percent of the federal poverty guidelines or (2) be eligible for Medicaid. Families can choose to apply for a CERDEP slot in either a district or a private provider.

Across both public and private settings, all CERDEP providers are required to be licensed by the Division of Early Care and Education in the South Carolina Department of Social Services. All programs must operate for at least 180 school days, five days a week, with at least 6.5 hours of instruction per day—or the traditional school year service option. In the 2017–2018 school year, the General Assembly made additional funds available to expand CERDEP offerings. CERDEP sites had the option of three different expansions which included: extended day—180 days per year and up to 8.5 hours of instruction per day; extended year—up to 220 days per year and 6.5–8.5 hours of instruction per day; and summer—up to 220 days per year total with 180 days of 6.5–8.5 hours during the school year and 40 days of a summer program with up to 8.5 hours of instruction per day.[37]

In Table A.1, we present the distribution of chosen service options across the public school districts and private providers in the 2017–2018 school year. Approximately 15 and 30 percent of private providers and districts, respectively, administered one or more CERDEP classrooms with the traditional year. The majority of school districts and private providers (about 60 percent each) opted into the summer program option. The extended day and extended year were the least frequently adopted options. As discussed in more detail in the full report, each service option is associated with a different per-pupil reimbursement rate. For all service options, the staff-child ratio within a classroom cannot exceed 1:10, and classrooms with more than 11 children are required to have at least one lead teacher and one instructional assistant.

[37] First Steps and SCDE defined the extended year and summer options differently. As defined by SCDE, the public school districts had the option of between 6.5-8.5 hours of instruction per day for extended year, while the private providers who implemented the extended-year option capped their hours at 6.5 (as defined by First Steps). Similarly, for the summer option, public schools had the option of between 6.5-8.5 hours of instruction for the 180 days of the school year, and 8.5 hours of instruction for the 40 day summer program. The private providers who implemented the summer option implemented only 6.5 hours only during the school year and 8.5 hours per day of summer instruction.

Table A.1. CERDEP Service Options for Participating Districts and Private Providers in 2017–2018

	Districts		Private Providers	
Service Option	**N**	**Percent**	**N**	**Percent**
Traditional year	18	29.5	29	14.7
Extended day	0	0.0	32	16.2
Extended year	6	9.8	25	12.7
Summer	37	60.7	117	59.4

SOURCES: SCDE, 2018a; First Steps, 2018a.
NOTES: There were a total of 197 private providers across the state and 61 districts implementing. CERDEP in 2017–2018. A total of five private providers implemented multiple service options (different classrooms implemented different service options). We count these providers in each of the service option totals they offered. Therefore, the totals across the private provider service options to not add up to a total of 197 providers or 100 percent.

In 2017, South Carolina's Division of Early Care and Education in the Department of Social Services and the SCDE's Office of Early Learning and Literacy worked together to develop the South Carolina Early Learning Standards (SC-ELS) (South Carolina Early Learning Standards Interagency Stakeholder Group, 2017). A number of other stakeholders, including First Steps and early childhood researchers at the University of South Carolina, were also involved in the effort. The document serves as universal guide for the state of the development and learning of young children ages birth to five. All CERDEP providers are required to align their programming with the standards. In addition to using the SC-ELS, programs are required to use an approved, research-based curriculum. In the 2017–2018 school year, the approved curricula for school districts were *Big Day in Pre-K* (published by Houghton Harcourt), *Creative Curriculum* (published by Teaching Strategies), *High Scope* (published by High Scope), *World of Wonders* (published by McGraw Hill), and the curriculum associated with Montessori programs. In the 2018–2019 school year, *InvestiGator Club* (published by Robert Leslie) was added to the list of approved curriculum for the districts. The approved curricula for the private centers was a smaller list, including only Creative Curriculum, the High Scope curriculum, and Montessori. Private providers also had the option to seek approval with First Steps to use an alternative curricula.

All programs assess children's literacy at the start and end of their 4K year. The districts were allowed to select among three different assessments to use: *Individual Growth and Development Indicators* (published by EL Labs, Inc.); the *Phonological Awareness Literacy Screening (PALS™) Pre-K* (published by IO Education); and *Teaching Strategies® GOLD™* (published by Teaching Strategies, LLC). First Steps requires all private providers to use *Teaching Strategies® GOLD*. CERDEP guidelines do not require programs to conduct other development or health screenings, but such services are recommended when districts and providers have the resources to do so.

The requirements for teacher qualifications differ across the public and private settings. In the school districts, all lead teachers are required to have a bachelor's degree and a South Carolina certification in early childhood education. Teacher's assistants must have a high school

degree or the equivalent, and have at least two years of experience working with children under five years old and must successfully complete or enroll in the Early Childhood Development Credential course within 12 months of being hired. In the private settings, teachers with bachelor's degrees are preferred, but lead teachers are only required to have a two-year college degree in early childhood education, or a two-year college degree in another field with additional early childhood experience (such as having a CDA credential). In addition, all lead teachers without a four-year degree must show evidence that they are enrolled in four-year teacher education program with an emphasis on early childhood education. Instructional assistants in the private setting are required to have a high school degree or equivalent and some early childhood experience.

Once hired, both CERDEP and Department of Social Services regulations require that all lead teachers complete 15 hours of professional development per year. Teachers have the option to earn these hours through professional development opportunities they seek out on their own (e.g. college courses, online workshops) or by attending professional development organized by First Steps (for the private settings) and the school districts (for the public settings). The South Carolina Center for Child Care Career Development is a statewide organization that certifies and tracks CERDEP teachers' professional development hours.[38]

CERDEP providers also engage in regular program quality monitoring and oversight activities. The SCDE Office of Early Learning and Literacy (OELL) monitors the quality of the programs in the districts. During the annual visit, OELL staff use the Early Language and Literacy Classroom Observation to assess classroom quality. First Steps monitors program quality for the private providers using the Early Childhood Environment Rating Scale. The First Steps staff aims to visit all classrooms implementing CERDEP twice monthly; however, the frequency of visits varies by region. In addition to the CERDEP-mandated quality visits, the Division of Early Care and Education of the South Carolina Department of Social Services administers ABC Quality. Neither public nor private providers implementing CERDEP are required to participate, but both are eligible if they choose to do so. In addition to receiving an annual rating (from A+, or "Surpasses" quality standards, to C, or "Meets" quality standards), participating programs receive a range of services, including staff professional development and quality assistance. In the 2016–2017 school year, over 90 percent of private CERDEP providers were enrolled in ABC Quality (EOC, 2017); the state does not collect comprehensive data on district enrollment in the QRIS.

CERDEP Enrollment

In Table A.2, we present information on the number of children served by CERDEP in the 2016–2017 and 2017–2018 school years. Specifically, these figures represent the number of

[38] In a forthcoming report, RR-2944-SCEOC, RAND will offer a more-detailed review of the professional development offerings for CERDEP teachers in public and private settings.

CERDEP-funded slots for students.[39] In 2017–2018, 64 districts were CERDEP-eligible, and 61 opted into the program, approximately 74 percent of the states' 82 total districts. Additionally, 197 private providers across the state implemented CERDEP in 2017–2018. In this school year, CERDEP served a total of 11,735 children; the large majority of children—about 83 percent—attended a CERDEP classroom in a public school district, with less than 2,000 children attending a CERDEP classroom at a private provider. Based on recent state estimates, the roughly 11,700 children served by CERDEP represented about 34 percent of all low-income children in the state at the time.[40] The enrollment between 2016–2017 and 2017–2018 was fairly consistent, with only a slight drop in the number of students.

Reliable enrollment data from previous years is not available due to past errors in reporting. In 2006–2007, the first year of the program, only the 34 trial and plaintiff districts from the *Abbeville* case—and the private providers in their catchment area—were eligible to administer CERDEP. The number of eligible districts remained constant until the 2013–2014 school year, when the General Assembly broadened the eligibility requirements to all districts with a score of 75 percent or above on the state poverty index. This change increased the number of eligible districts to 51, also increasing the number of children served. Then in the 2014–2015 school year—the year in which the program was codified in to law—the eligible criteria was changed to include districts with a poverty index of 70 percent or less, increasing the number of eligible districts to 64 and again likely increasing the number of children served. As of the 2018–2019 school year, the criteria and number of eligible districts have not changed.

The Evaluation Literature on CERDEP and State-Funded PreK in South Carolina

While there has never a causal evaluation of the effects of CERDEP on children's literacy or school readiness outcomes, there is some evidence to suggest that state funded early childhood education in the state of South Carolina supports child development. In the 2004–2005 school

Table A.2. Funded CERDEP Slots in the 2016–2017 and 2017–2018 School Years by Provider Type

	2016–17		2017–18	
Type of Provider	Number of Slots	Percent	Number of Slots	Percent
Public CERDEP	9,806	83.2	9,789	83.4
Private CERDEP	2,170	18.4	1,946	16.6
Total CERDEP	11,784	100.0	11,735	100.0

SOURCE: EOC, unpublished data, undated.

[39] Due to attrition and turnover throughout the school year, the number of children who spent at least one day in a CERDEP classroom may exceed these numbers. However, reliable data does not exist on the exact number of children who held these slots is not available.

[40] Based on estimates of low-income children in the state from EOC, 2018.

year (two years before the pilot program that would become CERDEP was founded), South Carolina was included in a multi-state evaluation of state- funded preK programs (Wong et al., 2008). At that time, the Half-Day Child Development Program was the only state-funded preK in the state. It was funded through the EIA with additional support from First Steps to School Readiness. At this time (like the present), children were served in both private and public settings, with the majority of children enrolled in public district–based settings. Using a quasiexperimental research design that capitalized on the child eligibility age cut-off, the evaluation estimated that South Carolina preK had a positive and significant impact on children's print awareness but not on their receptive vocabulary (Wong et al., 2008).

As described above, all CERDEP children are assessed on their literacy skills at the beginning and end of their 4K year. Descriptive analyses from 2016–2017 indicate that by the spring of that school year, over 75 percent of CERDEP children who took the cognitive assessments met or exceeded normal expectations for children in their age group (EOC, 2018). These analyses lack a research design that can confirm whether CERDEP caused children to be kindergarten-ready. However, the descriptive analyses do suggest that most children who participate in CERDEP enter kindergarten with skills on par with national norms.

Appendix B. 4K Reimbursement Mechanism Sources

Table B.1 documents the sources used to compile the reimbursement mechanism information on the state 4K programs listed in Table 1.5 of Chapter 1.

Table B.1. 4K Reimbursement Mechanism Sources

State	Source
Alabama	Alabama Department of Early Childhood Education, "Grants and Funding: About the First Class Pre-K Program," website, undated. As of November 27, 2018: https://children.alabama.gov/firstclass/prekgrants/
Florida	Florida Early Learning, "Voluntary Prekindergarten Program Payment Rate Schedule," undated. As of November 27, 2018: http://www.floridaearlylearning.com/Content/Uploads/floridaearlylearning.com/files/2014-2015%20VPK%20Funding%20Allocations.pdf
Georgia	Georgia Department of Early Care and Learning, "2018-2019 Georgia's Pre-K Rate/Per Child Estimate Chart," undated. As of November 27, 2018: http://decal.ga.gov/documents/attachments/2018-2019%20RateChart.pdf Georgia Department of Early Care and Learning, "Georgia's Pre-K Program 2018 - 2019 Pre-K Providers' Operating Guidelines," 2018. As of November 27, 2018: http://decal.ga.gov/documents/attachments/Guidelines.pdf
Kentucky	Kentucky Department of Education, "Preschool Staff Note: 2018-19 Preschool Grant Allotment System and Funding Rates," June 2018. As of November 27, 2018: https://portal.ksba.org/public/Meeting.aspx?PublicAgencyID=4388&PublicMeetingID=23380&AgencyTypeID=1
Mississippi	Mississippi Code, Title 37 Chapter 21, "Early Childhood Education Early Learning Collaborative Act," MS Code § 37-21-51, 2017. As of November 27, 2018: https://law.justia.com/codes/mississippi/2017/title-37/chapter-21/early-learning-collaborative-act/section-37-21-51/
North Carolina	North Carolina Division of Child Development and Early Education and North Carolina NC Pre-K, "North Carolina Pre-Kindergarten (NC Pre-K) Program Requirements and Guidance," 2018. As of November 27, 2018: https://ncchildcare.ncdhhs.gov/Portals/0/documents/pdf/N/NCPre-K_Program_Requirements_Guidance.pdf
South Carolina	SCDE, "CERDEP Guidelines," August 2018. As of November 27, 2018: https://ed.sc.gov/scdoe/assets/File/instruction/early-learning-literacy/CDEP/CERDEP%20guidelines%2018-19%20approved%20%2321464(1).docx
Tennessee	Tennessee Offices of Research and Education Accountability, "Tennessee's Pre-Kindergarten Program," 2009. As of November 27, 2018: http://www.comptroller1.state.tn.us/repository/RE/PreKHistory.pdf Tennessee Comptroller of the Treasury, "The Basic Education Program (BEP)," undated. As of November 27, 2018: https://www.comptroller.tn.gov/orea/bep

Table B.1. 4K Reimbursement Mechanism Sources, Continued

State	Source
West Virginia	West Virginia Department of Education, "Public School Support Program Total Estimated Allowance for Early Childhood Programs for the 2015-26 Year," December 23, 2015. As of November 27, 2018: http://wvde.state.wv.us/oel/static/docs/total-estimated-allowance-early-childhood-programs.pdf West Virginia Department of Education Office of Early Learning, "2017 Annual Report," 2018. November 27, 2018: http://static.k12.wv.us/oel/docs/spotlight/oel_2017annualreport.pdf West Virginia Legislature, West Virginia Code, "Chapter 18. Education. Article 9A. Public School Support," §18-9A-1, 2017. As of November 27, 2018: http://www.wvlegislature.gov/WVCODE/Code.cfm?chap=18&art=9A#09A

Appendix C. Methods for Chapter 3 Cost Model

This appendix provides additional details on the methods for the cost model presented in Chapter 3. As noted in Chapter 3, we require assumptions about the staffing model in public and private settings, staff compensation, and other unit costs. We provide additional detail on assumptions in those three areas.

Staffing Model

Table C.1 summarizes the staffing model assumed for each of the four provider types, both staff at the classroom level and staff at the site level (and district level in the case of type A public providers). Staff are shown as FTE positions. For the classrooms, all provider types in the public and private sectors are assumed to operate with one lead teacher, one assistant teacher, and a 0.25 FTE floater (who substitutes in when needed so that there are two staff per room at all times).

In the case of the Type A school district site, we assume a district-level ECE coordinator and a school principal, each of whom serves the larger 4K district or overall school population of students. We assume one district ECE coordinator for every 300 4K students in the district. Thus, for our baseline, we assume a half-time position. Only a share of the compensation costs for the district- and school-level administrators will be assigned as CERDEP costs as follows:

Table C.1. Assumed Baseline FTE Staffing Structure for CERDEP Cost Model, by Provider Type

	Number of FTE Staff			
Staff Role	**Type A (Public Site)**	**Type B (Private Center)**	**Type C (Private Center)**	**Type D (Private Center)**
Classroom staff, per classroom				
Lead teacher	1	1	1	1
Assistant teacher	1	1	1	1
Floater	0.25	0.25	0.25	0.25
Administrative staff, per site				
School principal	1	–	–	–
School/center ECE director	0.33	1	1	1
School/center ECE assoc. director	–	1	1	1
Office manager	0.33	1	1	1
Administrative assistant	0.33	1	1	1
Administrative staff, per district				
District ECE coordinator	0.50	–	–	–

NOTES: – = not applicable.

- **School district ECE coordinator**: The type A district-based site is assigned a portion of the compensation for the district ECE coordinator, where the share is based on CERDEP enrollment at the district site as a share of the overall 4K enrollment in the district. Given the type A assumption (see Table 3.2), with 40 CERDEP children at the site and 150 4K children in the district, the type A center will be assigned 27 percent of the (half-time) district ECE coordinator's compensation.
- **School principal**: A similar logic is employed, except that we use the share of CERDEP enrollment relative to total site enrollment to assign a share of the principal's salary. Using the type A case (see Table 3.2), this means 40 CERDEP students out of a total school enrollment of 450 students, which equates to a 9 percent share of the principal's salary.

The type A school-level ECE director is assumed to manage the CERDEP 4K classrooms, with one such director for every 120 students. With a CERDEP enrollment of 40 in the baseline case, this means a one-third time position. The same assumption is made for the 0.33 FTE office manager and the 0.33 FTE administrative assistant for the 4K program. All of the compensation for these CERDEP-specific staff is assigned to CERDEP.

The administrative staffing model is somewhat different for the private centers (type B, C, and D in Table 3.2). Each center is assumed to have one FTE ECE director, associate director, office manager, and administrative assistant. As far as site-level costs, a share of their salary is attributed as CERDEP costs based on the enrollment of children in CERDEP rooms as a share of total enrollment. Given the assumptions for type B, C, and D private centers with 40 children in CERDEP rooms and 120 children overall, 33 percent of the salary for the site-level administrative staff is assigned as a CERDEP cost.

Staff Compensation

Table C.2 shows the assumed salary levels for the classroom and administrative staff positions in Table C.1. The salaries for the baseline model are shown the first column, with panel (a) pertaining to public programs and panel (b) to private programs (when parity is not assumed). The sensitivity analysis employs lower- and higher-cost salary assumptions corresponding to the second and third columns in Table C.2.

Table C.2. Assumed Occupational Salaries for CERDEP Cost Model, Baseline and Alternative Scenarios (2017 dollars)

Staff Role	Baseline Median: $ for 50th Percentile	Lower Cost: $ for 25th Percentile	Higher Cost: $ for 75th Percentile	BLS Category (Code)/Notes
a. School-district programs				
Classroom staff				
Lead teacher	51,430	41,000	61,710	Kindergarten teachers, except special education (25-2012)
Assistant teacher / floater	20,920	18,050	25,070	Teacher assistants (25-9041)
Administrative staff				
District ECE coordinator	83,870	71,040	97,740	Education administrators, elementary and secondary school (11-9032)
School principal	83,870	71,040	97,740	Same as above
School ECE director	62,903	53,280	73,305	75% of school principal
Office manager	47,990	37,970	61,250	First-line supervisors of office and administrative support workers (43-1011)
Administrative assistant	26,230	20,840	31,900	Office clerks, general (43-9061)
b. Private Centers				
Classroom staff				
Lead teacher	23,060	18,650	30,770	Preschool teachers, except special education (25-2011)
Assistant teacher / floater	19,030	17,350	22,410	Childcare workers (39-9011)
Administrative staff				
Center director	53,280	43,091	62,903	Modified school ECE director (see text)
Center associate director	45,288	36,627	53,467	Modified school ECE director (see text)
Office manager	37,970	30,709	47,990	Modified school office manager (see text)
Administrative assistant	20,840	19,000	26,230	Modified school administrative assistant (see text)

SOURCE: Authors' assumptions and BLS (undated).
NOTES: BLS data for South Carolina are for May 2017. – = not applicable.

- Our salary assumptions are drawn from BLS data on occupational wages for South Carolina as of May 2017 (BLS, undated). We use the median estimates, where available, for the closest occupation code to each staff position. In contrast, for the lead teacher in a private center, we used the BLS occupational category for preschool teachers, which had a South Carolina median of about $23,000, reflecting the lower salaries in private programs. Other notable assumptions are as follows: We use the BLS occupational category for teacher assistants for assistant teachers and floaters in public school programs, with a median South Carolina salary of almost $21,000. For private programs,

we use the BLS category of child care workers for the assistant teacher and floater positions, with a median salary in South Carolina of about $19,000.

- For the administrative staff positions in the type A public school programs, we use the BLS education administrators category for the district ECE coordinator and school principal, with a South Carolina median of nearly $84,000. Because there is no category for a school ECE director, we assume their salary is 75 percent of the principal's salary (or about $63,000).[41] The office manager and administrative assistant positions are based on the closest BLS occupational category (see Table C.2), with median salaries for South Carolina of about $48,000 and $26,000, respectively.
- For the administrative staff positions in private centers, there is no corresponding BLS occupational category. Thus, we modify the salaries assumed for public providers. Essentially, we take the salary at the 25th percentile of the public school salary distribution, based on the BLS data, and assume that value as the median (50th percentile) for the private providers. Thus, for example, the 25th percentile value for the school ECE director of $53,280 is assigned as the median salary for the private center director. This salary is consistent with the salaries recorded for the illustrative private center cases in Chapter 2.[42] The center's associate director is assumed to have a salary equal to 80 percent of the director. A similar downward shift in the salary distribution is made for the office manager and administrative assistant, again with resulting salaries that are consistent with our observed Chapter 2 cases. A final assumption concerns the salary for an associate-level lead teacher for type D private providers. In that case, we assume the salary is 90 percent of the level for a private center bachelor's-level teacher under Type C.

Other Unit Prices

Table C.3 displays the cost per unit of other cost components beyond classroom and administrative staff. Unit prices are organized according to major cost categories of professional development, classroom resources, meals, transportation, occupancy, and other operating costs. In most of these categories, there are cost subcomponents. Unit costs are denominated either on a per-staff, per-pupil, per-square foot, or per-site basis, as shown in the last column of Table C.3. These unit costs include associated staffing costs, as relevant, such as meal preparers in the case of food costs, and drivers in the case of transportation costs.

[41] We do not have access to salary data across school districts, hence the need to make assumptions. For this salary item, with our assumptions, the per-child cost is about $520. Thus, if the salary level were 10 percent higher or 10 percent lower, this would affect per pupil cost by about plus or minus $50.

[42] We use the 50th percentile value for public programs as the 75th percentile for private programs, and impute a value for the 25th percentile based on the 25th/50th percentile ratio for private program lead teachers. Essentially, we use a downward-shifted salary distribution for private providers relative to public providers.

The baseline unit cost estimates in the first column of Table C.3 are based on the PCQC estimates for South Carolina (U.S. Department of Health and Human Services, Office of Child Care, undated). Some adjustments were made based on the cost patterns for the illustrative providers (e.g., transportation cost per pupil was not included in the PCQC). Because the number of children, rooms, and sites are the same across provider types A to D, the baseline costs per pupil are the same regardless of provider context. That is also true under the alternative scenarios involving lower and higher costs. The one exception is the cost per pupil for professional development. As shown in Table C.3, the assumed costs under the baseline and alternative cost structures is on a per staff basis. Because of the slight differences in the assumed FTE staffing for the public provider (type A) versus the private providers (types B, C, and D), there is a small difference in the per-pupil cost for professional development across the public versus private settings.

Table C.3. Assumed Unit Prices for CERDEP Cost Model, Baseline and Alternative Scenarios (2017 Dollars)

	Unit Cost ($)			
Cost Component	Baseline	Lower Cost	Higher Cost	Unit
Professional development	200.00	185.00	215.00	Per staff
Classroom materials and supplies				
Education equipment, curricula	100.00	92.50	107.50	Per pupil
Education supplies	50.00	46.25	53.75	Per pupil
Meals				
Food and food preparation	1,000.00	925.00	1,075.00	Per pupil
Kitchen supplies	50.00	46.25	53.75	Per pupil
Transportation	250.00	231.25	268.75	Per pupil
Occupancy [a]				
Rent, lease, mortgage	13.65	12.63	14.67	Per square foot
Utilities	2.19	2.03	2.35	Per square foot
Building insurance	1.34	1.24	1.44	Per square foot
Maintenance, repair, cleaning	2.85	2.64	3.06	Per square foot
Other operating costs				
Office supplies	30.00	27.75	32.25	Per pupil
Office equipment	22.00	20.35	23.65	Per pupil
Insurance (e.g., liability, accident)	75.00	69.38	80.63	Per pupil
Postage	24.00	22.20	25.80	Per pupil
Advertising	25.00	23.13	26.88	Per pupil
Telephone and internet	24.00	22.20	25.80	Per site
Audit	50.00	46.25	53.75	Per site
Fees and permits	8.33	8.33	8.33	Per site
Miscellaneous	15.00	13.88	16.13	Per pupil

SOURCE: Based on PCQC (U.S. Department of Health and Human Services, Office of Child Care, undated).
[a] For occupancy costs, the model assumes each CERDEP room is 1,280 square feet.

Appendix D. Data Collection Instruments

This appendix includes the two instruments used for the collection of CERDEP program and expenditure information for school districts and private centers.

RAND Corporation
Evaluation of the South Carolina Early Reading Development and Education Program (CERDEP)

Interview with CERDEP School Districts

Provider ID: _____

Date of Interview: _____ / _____ / _____
Month Day Year

Interview Start Time: _____ : _____ AM / PM

Interview Stop Time: _____ : _____ AM / PM

Provider ID: _____

Interview Topics and Respondents

This interview will cover the topics listed in the table below. We also indicate potential documentation that may be useful to bring to the interview.

As indicated in the table, the program director may be the most knowledgeable person to respond to the first three topics. For the remaining topics, the best respondent will be the school or program staff member most familiar with program revenue sources and expenditures for the most recent completed fiscal year.

Topic	**Potential Documentation**	**Likely Most Knowledgeable Respondent**
Program structure (operating hours, days, and weeks per year; ages of children served; number of classrooms)	Program records	Program director
Child enrollment by age and part- or full-time status	Program records	Program director or director of admissions
Staffing structure	Program records	Program director
Sources of income/revenue	Annual audit, annual financial report, tax return	Chief financial officer, bookkeeper
Expenditures for the last competed fiscal year: staff wages and benefits, facilities, education materials, food service, transportation, other materials, supplies, and services	Annual audit, annual financial report, tax return	Chief financial officer, bookkeeper
Donated labor, space, and other materials	Program records	Chief financial officer, bookkeeper

Provider ID: _____

QUESTIONNAIRE

A. GENERAL SCHOOL/CENTER INFORMATION

A1. What is the beginning and ending date of the district's most recent completed fiscal year?

START: Month_____ Year_____ END: Month _____ Year_____

This will be the reference program year in describing your CERDEP program (e.g., operating structure, enrollment, staffing, expenditures).

A2. How many sites (schools or other facilities) did your CERDEP program operate in the most recent completed fiscal year? Please list the name of each site.

SITE 1: _____

SITE 2: _____

SITE 3: _____

SITE 4: _____

SITE 5: _____

SITE 6: _____

SITE 7: _____

SITE 8: _____

Provider ID: _____

We would like to collect some information about the CERDEP program in each site in your district (e.g., school or other facility). Please describe the program as it operated in the most recent completed fiscal year. [*IF A RESPONSES FOR A GIVEN QUESTION IS THE SAME ACROSS SITES, FILL IN THE FIRST COLUMN AND NOTE "SAME" ACROSS THE REMAINING COLUMNS. USE AN ADDITIONAL PAGE IF MORE THAN 6 SITES.]*

	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6
A3. In what type of building or facility is the CERDEP program at this site located? *[SEE CODES ON THE BOTTOM OF THE PAGE.]*	_____ [code]	_____ [code]	_____ [code]	_____ [code]	_____ [code]	_____ [code]
A4. Is the CERDEP program at this site accredited by the National Association for the Education of Young Children (NAEYC) or by any other organization (e.g., American Montessori Society [AMS], Association for Montessori Internationale [AMI])? *[SELECT ONE RESPONSE.]*	YES, by _____ NO	YES, by _____ NO	YES, by _____ NO	YES, by _____ NO	YES, by _____ NO	YES, by _____ NO
A5. How many days of the week is the CERDEP program at this site at the site regularly open?	_____ DAYS	_____ DAYS	_____ DAYS	_____ DAYS	_____ DAYS	_____ DAYS
A6. What hours of the day is the CERDEP program at this site typically open Monday through Friday?	OPEN: ____AM/PM CLOSE: ____AM/PM	OPEN: ____AM/PM CLOSE: ____AM/PM	OPEN: ____AM/PM CLOSE: ____AM/PM	OPEN: ____AM/PM CLOSE: ____AM/PM	OPEN: ____AM/PM CLOSE: ____AM/PM	OPEN: ____AM/PM CLOSE: ____AM/PM
A7. How many days does the CERDEP program at this site operate during the academic year?	_____ DAYS	_____ DAYS	_____ DAYS	_____ DAYS	_____ DAYS	_____ DAYS
A8. If applicable, how many days does the CERDEP program at this site operate during the summer months? *[ENTER ZERO IF THERE IS NO SUMMER PROGRAM.]*	_____ DAYS	_____ DAYS	_____ DAYS	_____ DAYS	_____ DAYS	_____ DAYS

CODES FOR A3. SITE BUILDING OR FACILITY

A PUBLIC SCHOOL 1	A PUBLIC LIBRARY 6
A PRIVATE SCHOOL 2	ITS OWN BUILDING 7
A COLLEGE OR UNIVERSITY 3	A PLACE OF EMPLOYMENT OR BUSINESS 8
A COMMUNITY CENTER 4	MORE THAN ONE PLACE 9
A CHURCH, SYNAGOGUE OR OTHER PLACE OF WORSHIP 5	SOME OTHER PLACE, [SPECIFY] _____ 10

Provider ID: _____

Please continue to describe the program as it operated in the <u>most recent completed fiscal year</u>. *USE AN ADDITIONAL PAGE IF NEEDED.]*

	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6
A9. How many classrooms at this site serve 4K children with CERDEP funding?	_____ ROOMS	_____ ROOMS	_____ ROOMS	_____ ROOMS	_____ ROOMS	_____ ROOMS
A10. What is the enrollment of 4K CERDEP children in these CERDEP classrooms? *If enrollment levels varied across the year, please use the approximate enrollment as of November 15.*	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER
A11. What is the enrollment of 4K nonCERDEP children in these CERDEP classrooms?	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER
A12. How many other classrooms at this site serve 4K children <u>but do not use CERDEP funding</u>?	_____ ROOMS	_____ ROOMS	_____ ROOMS	_____ ROOMS	_____ ROOMS	_____ ROOMS
A13. What is the enrollment of 4K children in these other classrooms?	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER
A14. Across the CERDEP and nonCERDEP classrooms (if any), what was the enrollment of children identified with special needs? By special needs, we mean children with a physical disability (including hearing or sight problems), mental disabilities, or emotional disabilities. (Identified means with an IEP or IFSP.)	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER
A15. For the most recent completed fiscal year, were there families who were waiting to enroll their preschool-age child but you could not admit at that time? That is, did you have a waiting list children? *[SELECT ONE RESPONSE.]*	YES NO → A17	YES NO → A17	YES NO → A17	YES NO → A17	YES NO → A17	YES NO → A17
A16. For the most recent completed fiscal year, what was the maximum number of 4K children that were on your waiting list?	_____ NUMBER → A18	_____ NUMBER → A18	_____ NUMBER → A18	_____ NUMBER → A18	_____ NUMBER → A18	_____ NUMBER → A18
A17. For the most recent completed fiscal year, what was the maximum number of 4K slots that were unfilled?	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER	_____ NUMBER

Provider ID: _____

The following questions refer to the 4K sites across your district during the most recent completed fiscal year.

A18. Across the sites in your district with 4K programs, do any of your sites offer the following programs for 4K children? By full-day program, we mean programs operating more than 30 hours per week and at least five days per week. *[SELECT ALL THAT APPLY.]*

- CERDEP funded full-day program 01
- CERDEP funded extended-day program 02
- CERDEP funded summer program 03
- CERDEP funded extended-year program 04
- District or public school funded full-day 4K program 05
- District or public school funded part-day 4K program 06
- Head Start sponsored full-day program 07
- Head Start sponsored part-day program 08
- Other full-day 4K program (e.g., paid for by parent fees or other subsidies) 09
- Other part-day 4K program (e.g., paid for by parent fees or other subsidies) 10
- Part day extended care before, during, or after the 4K program 11
- Summer camp programs for preschoolers 12
- Evening care 13
- Weekend care 14
- Sick care 15
- 24-hour care 16
- Bilingual program 17
- Other (specify: _____) 18

A19. Across the sites in your district with 4K programs, please indicate whether any of the programs provide the services listed below. Not all programs would be expected to provide all of these services. *[SELECT ALL THAT APPLY.]*

- Vision screening 01
- Hearing screening 02
- Dental screening 03
- Measurement of height and weight annually 04
- Speech screening 05
- Speech services 06
- Developmental assessments 07
- Counseling services for children and parents (other than routine parent conferences) 08
- Referral for parents to social services such as obtaining food stamps, financial aid, housing, or medical care 09
- Transportation services from home to the program 10
- Transportation services from the program to home 11
- Meals for children provided by the program 12
- Other (specify): _____ 13

Provider ID: _____

B. STAFFING POLICY, QUALIFICATIONS, AND BENEFITS

The questions in this section refer to the staffing policy and staffing benefits for the CERDEP sites across your district as they applied during the most recent completed fiscal year.

Do you use different titles than teacher, assistant teacher or aide, teacher-director, and administrative director for the staff positions in your district?

Teacher: _____

Assistant Teacher/Aide/Instructional Assistant/Floater: _____

Teacher-Director: _____

Administrative Director: _____

Other (Specify_____)

Are there any other regular staff who work directly with the CERDEP children (e.g., music teacher, swim instructor, van drivers, nurse)? If yes, please indicate their titles. *(Include these titles together as 'other' in the following questions.)*

_____

B1. For the following categories of staff, do you provide any in-service training or require continuing education (other than staff meetings), either at or away from the program, beyond the professional development provided and paid for by CERDEP? *[SELECT ALL THAT APPLY.]*

Teachers..... 1
Assistant teachers/aides..... 2
Teacher-directors 3
Administrative directors 4
Other..... 5

B2. Which of the following do you provide for your paid full-time teachers and assistant teachers or aides, and to your part-time employees? *[SELECT ALL THAT APPLY IN EACH ROW.]*

	FULL-TIME TEACHERS	PART-TIME TEACHERS	ASST. TEACHERS
a. Reduced child care fees	01	02	03
b. Compensation for overtime	01	02	03
c. At least partially paid retirement plan	01	02	03
d. Fully paid health insurance	01	02	03
e. Partially paid health insurance	01	02	03
f. Paid health insurance for dependents	01	02	03
g. At least partially paid dental insurance	01	02	03
h. Paid sick leave or personal leave	01	02	03
i. Paid vacations	01	02	03
j. Paid to attend staff meetings	01	02	03
k. Paid to attend professional development	01	02	03

Provider ID: _____

B3. What is your definition for part-time for defining benefits?

_____Hours/Week = Part time _____No distinction for benefits

B4. Now I would like to ask you about staff qualifications for defined as classroom teachers (lead or co-lead teachers).

	NUMBER IN CERDEP CLASSROOMS	NUMBER IN OTHER 4K CLASSROOMS
a. How many classroom lead/co-lead teachers have a four-year college degree or graduate degree and are certified in early childhood education?	_____	_____
b. How many classroom lead/co-lead teachers have a four-year college degree or graduate degree but <u>are not certified in</u> early childhood education?	_____	_____
c. How many classroom lead/co-lead teachers have at most a two-year associate's degree in early childhood education, child development, or a related field?	_____	_____
d. How many classroom lead/co-lead teachers have none of the above degrees/credentials but have a Child Development Associate (CDA) credential?	_____	_____
e. How many classroom lead/co-lead teachers have none of the above degrees/credentials?	_____	_____

CHECK: Total number of teachers in CERDEP and other classrooms should sum to all lead or co-lead teachers.

B5. Do teachers and/or assistant teachers/aides in your program work under a collective bargaining agreement negotiated by a union? [*SELECT ONE RESPONSE*.]

YES 1

NO 2

Provider ID: _____

C. REVENUE SOURCES FOR MOST RECENT FISCAL YEAR

REVENUE SOURCES

C1. For the most recent completed fiscal year, please indicate if you had any revenue from each of the following public or private sources for your sites with CERDEP classrooms. [*SELECT ONE RESPONSE PER ROW.*]

Public Sources

		YES	NO	DON'T KNOW
a.	CERDEP 4K new provider funds for equipment and supplies	1	2	D
b.	CERDEP 4K per child reimbursement for instruction	1	2	D
c.	CERDEP 4K per child reimbursement for transportation	1	2	D
d.	CERDEP 4K funds for program expansion	1	2	D
e.	Education Improvement Act Child Development Program (EIA 4K) funds	1	2	D
f.	Head Start or Migrant Head Start grant funds	1	2	D
g.	U.S.D.A. Child Care Food Program funds	1	2	D
h.	Individual with Disabilities Act (IDEA) Part B or Part C funds	1	2	D
i.	District Title I funds	1	2	D
j.	Funds from school district / LEA other than shown in (a) to (i)	1	2	D
k.	Program service fees paid by SC Vouchers	1	2	D
l.	Municipal, state, or federal gov't contributions other than shown in (a) to (k) (specify): _____	1	2	D

Private Sources

m.	Program service fees paid by parents	1	2	D
n.	Monetary contributions from sponsoring agency	1	2	D
o	Subsidies/contributions from local community groups (United Way, Kiwanis, etc.)	1	2	D
p.	Monetary contributions from parents' employers	1	2	D
q.	Special events and fund raising efforts	1	2	D
r.	Private donations	1	2	D
s.	Investment income	1	2	D
t.	Other private revenue source (specify): _____	1	2	D

Provider ID: _____

D. ANNUAL EXPENDITURES FOR MOST RECENT FISCAL YEAR

We would like to know how much your district spent on each major category of direct and indirect expenses to operate CERDEP classrooms in order to calculate your total CERDEP costs. **All expenditures should be for the most recent completed fiscal year** (referenced in A1).

We begin with expenditures specific to the classrooms with CERDEP funding (D1 – D2) or for all 4K classrooms (CERDEP and other 4K classooms; D3 – D5). Use the table on the next page to record the following:

D1. *Wages and Salaries for CERDEP Classroom Staff.* In the last completed fiscal year, what was the total expenditure on wages and salaries (before deductions for taxes or employee benefit contributions) for all CERDEP classroom staff including lead teachers, assistant teachers, aids, floaters, or other specialized staff working with children in the classroom? If staff are shared with other non-CERDEP classrooms in your program (e.g., art, music, or physical education teacher), please prorate their wages/salary based on the share of their time working with children in the CERDEP classrooms. Amounts may be recorded in aggregate for D1 or by specific staff or staff categories in the additional rows under D1.

D2. *Non-wage Benefits for CERDEP Classroom Staff.* What was the program's total expenditure on non-wage employee benefits for the staff in the CERDEP classrooms who were included in D1? Include only the employer's contribution. This category includes the types of expenses listed below:

- FICA or equivalent (only the employer's matching amount; employee's share should be in D1)
- Unemployment insurance (total federal and state insurance costs)
- Worker's Compensation
- Disability Insurance (net of any contributions by employees)
- Health/Dental/Vision Insurance (net of any contributions by employees)
- Life Insurance for Staff (net of any contributions by employees)

You may need to estimate this amount based on the ratio of non-wage benefits to salaries for your program as a whole.

D3. *Wages and Salaries for 4K Program Staff.* In the last completed fiscal year, what was the total expenditure on wages and salaries (before deductions for taxes or employee benefit contributions) for all staff who support the 4K classrooms (CERDEP and other 4K classrooms) including 4K administrative directors, curriculum directors, other 4K administrative staff, 4K food preparation staff, 4K bus or van drivers, and other non-contract 4K employees? Exclude classroom staff already accounted for in D1.

D4. *Non-wage Benefits for 4K Program Staff.* What was the program's total expenditure on non-wage employee benefits for the 4K program staff included in D3? *Refer to D2 for the types of non-wage benefits to include. As with D2, you may need to estimate this amount based on the ratio of non-wage benefits to salaries for your program as a whole.*

D5. *4K Staff Education/Training Costs*. What was the total expenditure for the year for all 4K teaching and administrative staff for their education or training? Include the following items:

- Fees for workshops or non-college courses
- Conferences
- In-service on site
- Offsite fees at college or university
- State professional or public training
- Travel allowances (for training only)

Provider ID: _____

Use this grid to fill in the information requested on the prior page for D1 to D5 for the CERDEP classrooms/4K program at each site in your district or for all CERDEP classrooms/4K programs combined across sites, aggregated to the district level.

	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	OR	ALL SITES COMBINED
D1. Wages and salaries for CERDEP classroom staff								
D2. Non-wage benefits for CERDEP classroom staff								
D3. Wages and salaries for all 4K program staff (not in D1)								
D4. Non-wage benefits for all 4K program staff								
D5. All 4K staff education and training								

11

Provider ID: _____

The next set of expenditures are for the 4K program as a whole at each site, both CERDEP classrooms and any other 4K classrooms. These are expenditures specifically and exclusively for the 4K program at each site that can be readily identified. Please exclude any expenditures you can identify that did not support the 4K classrooms (e.g., those supporting only younger or older children at each site). We will record later any costs that apply site-wide (i.e., school-wide) to all ages, including 4K classrooms, but which cannot be easily segregated to the 4K classrooms (e.g., general administrative staff such as a school principal). **Again, all expenditures should be for the most recent completed fiscal year** (referenced in A1).

Use the table on the next page to record the following:

D6. *4K Sub-Contractors*. What was your total expenditure on 4K contract workers for the year (i.e., people who work for you on a more irregular basis for whom you do not pay benefits)? You may have contracted out work for 4K substitutes or specialized 4K classroom teachers (e.g., music or art).

D7. *4K Food Service*. What was the cost of food services for the 4K classrooms, excluding personnel costs, for the last fiscal year? Do not include donated food or food reimbursements.

D8. *4K Transportation*. What was the cost of transportation services for children in the 4K classrooms, excluding personnel costs, for the last fiscal year?

D9. *4K Classroom Materials and Supplies*. What was the cost of materials and supplies for use in the 4K classrooms for the last fiscal year?

D10. *Other 4K Expenditures*. What was the cost of any other expenditures that were exclusively tied to the 4K classrooms for the last fiscal year? Please specify the types of expenditures included. These might include field trips, marketing costs, or other specific 4K expenditures not already listed.

If any of the expenditures for items D6 to D9 cannot be separately identified for 4K classrooms, the second grid on the next page provides a place to record expenditures at the site level in those categories.

Provider ID: _____

Use this grid to fill in the information requested on the prior page for D6 to D10 for the 4K classrooms at each site in your district or for all 4K classrooms combined across sites, aggregated to the district level. If you are not able to separately identify expenditures in any of D6 to D9 for 4K classrooms only, provide the expenditure in that category at the site level in the second grid below.

	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	OR	ALL SITES COMBINED
D6. 4K subcontractors								
D7. 4K food service								
D8. 4K transportation								
D9. 4K classroom materials and supplies								
D10. Other 4K expenditures, specify_____ _____ _____								

Use this grid to fill in D6 to D9 at the site level if the expenditures specifically for 4K classrooms is not known. A share of these site-level costs will be allocated to the 4K/CERDEP classrooms.

	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	OR	ALL SITES COMBINED
D6S. Site-level subcontractors								
D7S. Site-level food service								
D8S. Site-level transportation								
D9S. Site-level classroom materials and supplies								

13

Provider ID: _____

The final set of expenditures are for all other site-level expenditures that support 4K classrooms and other classrooms at the same site. These are typically thought of as general overhead expenditures that are shared across all classrooms. This category also includes any district-level overhead expenditures that support all 4K classrooms in the district. We will allocate a portion of these site- and district-level expenditures to the 4K/CERDEP classrooms. **As before, all expenditures should be for the most recent completed fiscal year** (referenced in A1). Use the table on the next page to record the following site-level costs:

D11. *Facilities Cash Costs*. What were your total facilities costs for the last fiscal year, including the following:

- Rent or mortgage
- Utilities (gas & electric, water, trash removal)
- Cleaning, repair, and maintenance (e.g,, janitorial, buildings and grounds, etc.)

D12. *Insurance*. What was your total cost of insurance last fiscal year? Include all forms of insurance: for the facility, which might include liability, fire, theft, flood, earthquake; vehicle; accident for children, staff or others; child abuse, etc. Do not include health insurance or any insurance programs, which are part of employee benefits.

D13. *Other Operating Costs*. For site-level costs not already captured in earlier line items, we would like to capture the annual cost of supplies, materials, and equipment. For our purposes we will use the following definitions:

- SUPPLIES are consumables that are used up right away.
- MATERIALS are replaced within a year.
- EQUIPMENT is something that is repaired, lasts more than 1 year and costs over $100.00.

As part of operating costs we want to estimate the cost of equipment used during the year. The best estimate is the total depreciation costs charged off for the fiscal year.

These other costs may be recorded in aggregate or itemized to reflect categories A to L below. (It is fine if some categories are combined). If only a total is provided, please add a check mark in the final column in the grid below to indicate which types of expenditures are include in the other operating costs.

A.	Non-classroom supplies (e.g., office, facilities, maintenance)	
B.	Non-classroom materials (e.g., items with short lifetime, not depreciated)	
C.	Equipment rental and maintenance	
D.	Depreciation on equipment (e.g., purchased items with longer lifetime, e.g., computer)	
E.	Travel (including business mileage)	
F.	Telephone and postage	
G.	Marketing, advertising, public relations	
H.	Photocopying, printing, publications	
I.	Licensing and fees	
J.	Dues and subscriptions	
K.	Interest payments and bank service charges	
L.	Miscellaneous (specify): _____	

D14. *District-Level Dedicated 4K Expenditures*. Were there any district-level expenditures specifically to support the 4K program at the CERDEP sites? Include for example, the wages and salaries, as well as benefits, of a district-level 4K program director or other district-level staff who administer the CERDEP/4K program.

.

Provider ID: _____

Use this grid to fill in the information requested for D11 to D13 for the site-level administrative overhead expenditures for staff and other resources that support 4K classrooms and all other classrooms at each site in your district or for all 4K classrooms combined across sites, aggregated to the district level. Also record any district-level 4K program expenditures in D14.

	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	OR	ALL SITES COMBINED
D11. Site-level facilities cost								
D12. Site-level insurance cost								
D13. Other site-level cost TOTAL or itemize below								
A. Non-classroom supplies								
B. Non-classroom materials								
C. Equipment rental and maintenance								
D. Depreciation on equipment								
E. Travel								
F. Telephone and postage								
G. Marketing, advertising, PR								
H. Photocopying, printing, publications								
I. Licensing and fees								
J. Dues and subscriptions								
K. Interest payments / bank fees								
L. Miscellaneous (specify): _____ _____								

	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	DISTRICT
D14. District-level 4K program expenditures							

15

Provider ID: _____

A final set of questions concerns the use of any space, food, supplies/materials, equipment, or labor for the CERDEP classrooms that were donated or otherwise subsidized. **As before, the reference is to resources used in the most recent completed fiscal year (referenced in A1).**

Use the table on the next page to record a yes/no response to the following for each site or for the district as a whole:

D15. *Donated Facilities*. In the last fiscal year did the CERDEP classrooms receive any subsidy/donation for facilities-related costs (e.g., rent, utilities, or costs for services such as janitorial, maintenance, repairs)?

D16. *Donated Food*: In the last fiscal year did the CERDEP classrooms receive any donated food?

D17. *Donated Supplies and Materials*. In the last fiscal year did the CERDEP classrooms receive any donated supplies and materials?

D18. *Donated Equipment*. In the last fiscal year did the CERDEP classrooms receive any donated equipment?

D19. *Donated Labor*. In the last fiscal year did the CERDEP classrooms make use of regular volunteers in the classroom, both parent and non-parent volunteers (e.g., unpaid interns) who work regularly at least 4 hours per month?

Thank you for all your help! The information you have provided will be invaluable to our study.

Provider ID: _____

Use this grid to fill in the information requested for D15 to D19. For each site, or for all sites combined, indicate if any of the resources for the CERDEP classrooms were donated or otherwise partially or fully subsidized.

	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	OR	ALL SITES COMBINED
D15. Full or partially subsidized facilities cost (rent or utilities)?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO		YES NO
D16. Donated food?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO		YES NO
D17. Donated supplies and materials?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO		YES NO
D18. Donated equipment?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO		YES NO
D19. Donated (volunteer) labor?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO		YES NO

Provider ID: _____

E. FOR INTERVIEWER'S USE ONLY, AFTER COMPLETION OF THE INTERVIEW

E1. On a scale from 1 (poor) to 5 (very good) how do you rate the respondent's articulateness?

Poor				Very Good
1	2	3	4	5

E2. *Assessment of the Quality of Financial Data Collected:* Please evaluate the quality of the expenditure data you have collected. Which of the following assessments best describes the quality?

Poor. The program does not have complete records for the whole fiscal year. in many cases we had to make year end estimates from incomplete monthly estimates and recollection, about which I am not very confident.....1 → GO TO D3

Reasonably Good. For instance, year-end cost summaries were not available, but I collected monthly data from well maintained records and I am reasonably confident about estimates we had to construct from recollection.....2

Very good. The program maintains complete records and most data was collected from these records 3

E3. If you answered (1) to E2, circle the subcategories of data which are most problematic. If all were problematic, circle them all.

Wages and hours of staff..... 1
Personnel costs 2
Occupancy costs 3
Food service costs..... 4
Operating costs 5
In-kind donations 6
Other (specify_____)..... 8

RAND Corporation
Evaluation of the South Carolina Early Reading Development and Education Program (CERDEP)

Interview with Private Center-Based Providers

Provider ID: _____

Date of Interview: _____ / _____ / _____
Month Day Year

Interview Start Time: _____ : _____ AM / PM

Interview Stop Time: _____ : _____ AM / PM

Provider ID: _____

Interview Topics and Respondents

This interview will cover the topics listed in the table below. We also indicate potential documentation that may be useful to bring to the interview.

As indicated in the table, the program director may be the most knowledgeable person to respond to the first three topics. For the remaining topics, the best respondent will be the school or program staff member most familiar with program revenue sources and expenditures for the most recent completed fiscal year.

All information listed below should pertain to the most recent completed fiscal year.

Topic	**Potential Documentation**	**Likely Most Knowledgeable Respondent**
Program structure (operating hours, days, and weeks per year; ages of children served; number of classrooms)	Program records	Program director
Child enrollment by age and part- or full-time status	Program records	Program director or director of admissions
Staffing structure	Program records	Program director
Sources of income/revenue	Annual audit, annual financial report, tax return	Finance director, bookkeeper
Expenditures for the last competed fiscal year: staff wages and benefits, facilities, education materials, food service, transportation, other materials, supplies, and services	Annual audit, annual financial report, tax return	Finance director, bookkeeper
Donated labor, space, and other materials	Program records	Finance director, bookkeeper

Provider ID: _____

QUESTIONNAIRE

A. GENERAL SCHOOL/CENTER INFORMATION

In this first section, we ask questions about the general structure and features of your program. The first group of questions has to do with how the program is organized.

A1. What is the beginning and ending date of the program's last complete fiscal year?

START: Month_____ Year_____ END: Month _____ Year_____

This will be the reference program year in describing your CERDEP program (e.g., operating structure, enrollment, staffing, expenditures).

A2. I'd like to begin by asking about the structure and organization of your program. Is your program non-profit, for-profit, or public? [*SELECT ONE RESPONSE*.]

NON-PROFIT 1
FOR-PROFIT 2
PUBLIC 3

A3. In what type of building or facility is your program located? Is it located in a religious building, school, workplace, or in its own building? [*SELECT ONE RESPONSE*.]

A PUBLIC SCHOOL 1
A PRIVATE SCHOOL 2
A COLLEGE OR UNIVERSITY 3
A COMMUNITY CENTER 4
A CHURCH, SYNAGOGUE OR OTHER PLACE OF WORSHIP 5
A PUBLIC LIBRARY.....6
ITS OWN BUILDING 7
A PLACE OF EMPLOYMENT OR BUSINESS.....8
MORE THAN ONE PLACE 9
SOME OTHER PLACE, [SPECIFY] _____ 10

A4. Is your program part of a local multi-site organization or chain, a national multi-site organization or chain, or is it independently owned and operated? [*SELECT ONE RESPONSE*.]

LOCAL MULTI-SITE ORGANIZATION OR CHAIN 1
NATIONAL MULTI-SITE ORGANIZATION OR CHAIN.....2
NOT A MULTI-SITE ORGANIZATION 3

A5. Is your program independent or is it sponsored by another organization, such as a church or community agency? [*SELECT ONE RESPONSE*.]

INDEPENDENT .....1 ➔ GO TO A7
SPONSORED 2

Provider ID: _____

A6. Now I'd like to ask about sponsorship of your program. By sponsorship, we mean an organization that provides governance and/or financial support for your program. Is your program sponsored by a….[*SELECT ONE RESPONSE PER ROW.*]

		YES	NO	DON'T KNOW
a.	Public school / Board of Education?	1	2	D
b.	Church or religious group?	1	2	D
c.	Parochial private school?	1	2	D
d.	Non-parochial private school?	1	2	D
e.	College or university?	1	2	D
f.	Private company or individual?	1	2	D
g.	Social service organization or agency? [SPECIFY]_____	1	2	D
h.	Non-government community organization (e.g., YMCA)? [SPECIFY]_____	1	2	D
i.	State or local government? [SPECIFY] _____	1	2	D
j.	Some other type of sponsoring agency? [SPECIFY]_____	1	2	D

A7. Is your program/center accredited by the National Association for the Education of Young Children (NAEYC) or by any other organization (e.g., American Montessori Society [AMS], Association for Montessori Internationale [AMI])? [*SELECT ONE RESPONSE.*]

YES, ACCREDITED BY (specify):_____ ...1
NO ACCREDITATION.....2

A8. Do you have a grant through Head Start (including Early Head Start) or Migrant Head Start? [*SELECT ONE RESPONSE.*]

YES 1
NO 2

A9. Do you accept children with SC Vouchers (i.e., government assistance) to pay for their child care? [*SELECT ONE RESPONSE.*]

YES 1
NO 2

A10. How many days of the week is your program regularly **open**?

NUMBER OF DAYS: _____

Provider ID: _____

A11. What hours of the day is your program typically **open** Monday through Friday?

OPENS: _____ AM/PM CLOSES: _____ AM/PM

A12. How many weeks of the year is your program **closed**? *(Enter 0 if the program is open 52 weeks a year. Please provide a copy of the school/center calendar with days off.)*

NUMBER OF WEEKS: _____

A13. What is the legal maximum number of children which can be present in your program at one time according to your license? That is, what is the legal capacity of your program?

Maximum number of infants (Under 24 months old): ....._____

Maximum number of toddlers (24-35 months old): ....._____

Maximum number of preschool-age children (3-5 years old): ....._____

Maximum number of school-aged (attending K or higher): ....._____

*Maximum total number of children: ....._____

The following questions refer to the program year that corresponds to your most recent fiscal year.

A14. For the most recent completed fiscal year, how many hours per day did you consider to be (mark "NA" if option is not available):

a. A part day for a typical preschooler? _____ hours

b. A full day for a typical preschooler? _____ hours

c. A maximum day for a typical preschooler? _____ hours

A15. For the most recent completed fiscal year, please indicate the number of classrooms in your program by age group and CERDEP status (using the part, full, and maximum day hours recorded in A14). indicate separately rooms used to operate two or more sessions per day versus rooms used for only one session per day.

Type of classrooms	**Number with 1 session per day**	**Number with 2 sessions per day**
4K classrooms with children funded by CERDEP		[cell should be zero]
4K classrooms with children funded by other sources		[cell should be zero]
3K classrooms		
Toddler classrooms		
Infant classrooms		
Mixed age classrooms, specify_____		
Mixed age classrooms, specify_____		
Mixed age classrooms, specify_____		

Provider ID: _____

A16. For the most recent completed fiscal year, please indicate the total enrollment of preschool-age children in your program by age group and CERDEP status (using the part, full, and maximum day hours recorded in A14). If enrollment levels varied across the year, please use the approximate enrollment on or about November 15. If enrollment for an individual child varied across the week, categorize the child by the type of enrollment that applied for the majority of the days during the week.

Type of enrollment	**Number of infants to 3-year-olds**	**Number of 4-year-olds (4K)**	**Of the 4-year-olds, the number funded by CERDEP**
Number of part-day enrollees			[cell should be zero]
Number of full-day enrollees			
Number of extended-day enrollees			
Number of summer enrollees			
Number of extended-year enrollees			

A17. For the most recent completed fiscal year, how many identified children with special needs were enrolled in the CERDEP classrooms? By special needs, we mean children with a physical disability (including hearing or sight problems), mental disabilities, or emotional disabilities. (Identified means identified by parents and center staff, and possibly, but not necessarily, by an outside agency.)

NUMBER OF SPECIAL NEEDS CHILDREN ENROLLED _____

A18. For the most recent completed fiscal year, were there families who were waiting to enroll their four-year-olds but you could not admit at that time? That is, did you have a waiting list of children for your 4K program? *[SELECT ONE RESPONSE.]*

YES……1
NO……..2 → GO TO A20

A19. For the most recent completed fiscal year, what was the maximum number of four-year-old children that were on your waiting list?

MAXIMUM NUMBER OF 4-YEAR-OLD (4K) CHILDREN ON WAITING LIST _____ → GO TO A21

A20. For the most recent completed fiscal year, what was the maximum number of four-year-old slots that were unfilled?

MAXIMUM NUMBER OF 4-YEAR-OLD (4K) SLOTS THAT WERE UNFILLED _____

Provider ID: _____

A21. What are the programs you offer in this program for preschool-age children? By full-day program, we mean programs operating more than 30 hours per week and at least five days per week. *[SELECT ALL THAT APPLY.]*

- CERDEP funded full-day program 01
- CERDEP funded extended-day program 02
- CERDEP funded summer program 03
- CERDEP funded extended-year program 04
- District or public school funded full-day program 05
- District or public school funded part-day program 06
- Early Head Start / Head Start sponsored full-day program 07
- Early Head Start / Head Start sponsored part-day program 08
- Other full-day program (e.g., paid for by parent fees or other subsidies) 09
- Other part-day program (e.g., paid for by parent fees or other subsidies) 10
- Part day extended care before, during, or after the preschool program 11
- Summer camp programs for preschoolers 12
- Evening care 13
- Weekend care 14
- Sick care 15
- 24-hour care 16
- Bilingual program 17
- Other (specify: _____) 18

A22. Please indicate whether your program provides each of the services listed below. Not all programs would be expected to provide all of these services. *[SELECT ALL THAT APPLY.]*

- Vision screening 01
- Hearing screening 02
- Dental screening 03
- Measurement of height and weight annually 04
- Speech screening 05
- Speech services 06
- Developmental assessments 07
- Counseling services for children and parents (other than routine parent conferences) 08
- Referral for parents to social services such as obtaining food stamps, financial aid, housing, or medical care 09
- Transportation services from home to the program 10
- Transportation services from the program to home 11
- Meals for children provided by the program 12
- Other (specify): _____ 13

Provider ID: _____

B. STAFFING POLICY, QUALIFICATIONS, AND BENEFITS

In this next section I will ask general questions about your staffing policy and staffing benefits.

Do you use different titles than teacher, assistant teacher or aide, teacher-director, and administrative director for the staff positions in your center?

Teacher: _____

Assistant Teacher/Aide/Instructional Assistant/Floater: _____

Teacher-Director: _____

Administrative Director: _____

Other (Specify_____)

Are there any other regular staff who work directly with children (e.g., music teacher, swim instructor, van drivers, nurse)? If yes, please indicate their titles. *(Include these titles together as 'other' in the following questions.)*

_____

B1. For the following categories of staff, do you provide any in-service training or require continuing education (other than staff meetings), either at or away from the program, beyond what is required by licensing regulations or what is provided by First Steps? *[SELECT ALL THAT APPLY.]*

Teachers..... 1
Assistant teachers/aides..... 2
Teacher-directors 3
Administrative directors 4
Other..... 5

B2. Which of the following do you provide for your paid full-time teachers and assistant teachers or aides, and to your part-time employees? *[SELECT ALL THAT APPLY IN EACH ROW.]*

	FULL-TIME TEACHERS	PART-TIME TEACHERS	ASST. TEACHERS
a. Reduced child care fees	01	02	03
b. Compensation for overtime	01	02	03
c. At least partially paid retirement plan	01	02	03
d. Fully paid health insurance	01	02	03
e. Partially paid health insurance	01	02	03
f. Paid health insurance for dependents	01	02	03
g. At least partially paid dental insurance	01	02	03
h. Paid sick leave or personal leave	01	02	03
i. Paid vacations	01	02	03
j. Paid to attend staff meetings	01	02	03
k. Paid to attend professional development	01	02	03

Provider ID: _____

B3. What is your definition for part-time for defining benefits?

_____Hrs/Wk = Part time _____No distinction for benefits

B4. Now I would like to ask you about staff qualifications for defined as classroom teachers (lead or co-lead teachers).

	NUMBER IN CERDEP CLASSROOMS	NUMBER IN OTHER 4K CLASSROOMS
a. How many classroom lead/co-lead teachers have a four-year college degree or graduate degree and are certified in early childhood education?	_____	_____
b. How many classroom lead/co-lead teachers have a four-year college degree or graduate degree but are not certified in early childhood education?	_____	_____
c. How many classroom lead/co-lead teachers have at most a two-year associate's degree in early childhood education, child development, or a related field?	_____	_____
d. How many classroom lead/co-lead teachers have none of the above degrees/credentials but have a Child Development Associate (CDA) credential?	_____	_____
e. How many classroom lead/co-lead teachers have none of the above degrees/credentials?	_____	_____

CHECK: Total number of teachers in CERDEP and other classrooms should sum to all lead or co-lead teachers.

B5. Do teachers and/or assistant teachers/aides in your program work under a collective bargaining agreement negotiated by a union? [*SELECT ONE RESPONSE*.]

YES 1

NO 2

Provider ID: _____

C. REVENUE SOURCES FOR MOST RECENT FISCAL YEAR

C1. For the most recent completed fiscal year, please indicate if you had any revenue from each of the following public or private sources for your early childhood program. [*SELECT ONE RESPONSE PER ROW*.]

Public Sources

		YES	NO	DON'T KNOW
a.	CERDEP 4K new provider funds for equipment and supplies	1	2	D
b.	CERDEP 4K per child reimbursement for instruction	1	2	D
c.	CERDEP 4K per child reimbursement for transportation	1	2	D
d.	CERDEP 4K funds for program expansion	1	2	D
e.	Education Improvement Act Child Development Program (EIA 4K) funds	1	2	D
f.	Head Start (including Early Head Start) or Migrant Head Start grant funds	1	2	D
g.	U.S.D.A. Child Care Food Program funds	1	2	D
h.	Individual with Disabilities Act (IDEA) Part B or Part C funds	1	2	D
i.	District Title I funds	1	2	D
j.	Funds from school district / LEA other than shown in (a) to (i)	1	2	D
k.	Program service fees paid by SC Vouchers	1	2	D
l.	Municipal, state, or federal gov't contributions other than shown in (a) to (k) (specify): _____	1	2	D

Private Sources

m.	Program service fees paid by parents	1	2	D
n.	Monetary contributions from sponsoring agency	1	2	D
o	Subsidies/contributions from local community groups (United Way, Kiwanis, etc.)	1	2	D
p.	Monetary contributions from parents' employers	1	2	D
q.	Special events and fund raising efforts	1	2	D
r.	Private donations	1	2	D
s.	Investment income	1	2	D
t.	Other private revenue source (specify): _____	1	2	D

Provider ID: _____

D. ANNUAL EXPENDITURES FOR MOST RECENT FISCAL YEAR

We would like to know how much you spent on each major category of expenses in order to calculate your total costs. If you have records of last fiscal year's expenses we can get this information from these reports. This information would be on any kind of annual report summarizing costs such as a cash flow statement, audit, profit and loss statement, purchase or expenditure record, operating cost record, or your current annual budget if it shows expenses for the last fiscal year.

We begin with expenditures specific to the classrooms with CERDEP funding. Use the table below to record the following types of expenditures either for each CERDEP classroom OR for all CERDEP classrooms combined.

D1. *Wages and Salaries for CERDEP Classroom Staff.* In the last completed fiscal year, what was the total expenditure on wages and salaries (before deductions for taxes or employee benefit contributions) for all CERDEP classrooms staff including lead teachers, assistant teachers, aids, floaters, or other specialized staff working with children in the classroom? If staff are shared with other non-CERDEP classrooms in your program (e.g., art, music, or physical education teacher), please prorate their wages/salary based on the share of their time working with children in the CERDEP classrooms. *Amounts may be recorded in aggregate for D1 or by specific staff or staff categories in the additional rows under D1.*

D2. *Non-wage Benefits for CERDEP Classroom Staff:* What was the program's total expenditure on non-wage employee benefits for the staff in the CERDEP classrooms who were included in D1? Include only the employer's contribution. *This category includes the types of expenses listed below:*

- *FICA or equivalent (only the employer's matching amount; employee's share should be in D1)*
- *Unemployment insurance (total federal and state insurance costs)*
- *Worker's Compensation*
- *Disability Insurance (net of any contributions by employees)*
- *Health/Dental/Vision Insurance (net of any contributions by employees)*
- *Life Insurance for Staff (net of any contributions by employees)*

You may need to estimate this amount based on the ratio of non-wage benefits to salaries for your program as a whole.

	CERDEP ROOM 1	**CERDEP ROOM 2**	**CERDEP ROOM 3**	**ALL CERDEP ROOMS**
D1. Wages and salaries for classroom staff				
D2. Non-wage benefits for classroom staff				

Provider ID: _____

The remaining expenditures are for the program as a whole. Please exclude any expenditures you can identify that did not support the CERDEP classrooms (e.g., those supporting only younger or older children in your program.) We will allocate a share of these expenditures to the CERDEP classrooms.

D3. *Wages and Salaries for Program-Level Staff.* In the last completed fiscal year, what was the total expenditure on wages and salaries (before deductions for taxes or employee benefit contributions) for all program-level staff who support the CERDEP classrooms including administrative directors, other administrative staff, food preparation staff, and other non-contract employees? *Amounts may be recorded in aggregate for D3 or by specific staff or staff categories in the additional rows under D3.*

D4. *Non-wage Benefits for Program-Level Classroom Staff:* What was the program's total expenditure on non-wage employee benefits for the program-level staff included in D3? *Refer to D2 for the types of non-wage benefits to include. As with D2, you may need to estimate this amount based on the ratio of non-wage benefits to salaries for your program as a whole.*

D5. Staff Education/Training Costs: What was the total expenditure for the year for all teaching staff for their education or training? Include the following items:

- Fees for workshops or non-college courses
- Conferences
- In-service on site
- Offsite fees at college or university
- State professional or public training
- Travel allowances (for training only)

D6. Staff Fee Discounts. If you have staff members whose children are enrolled in the center, please estimate the loss in fee revenue from staff discounts.

D7. Sub-Contractors: What was your total expenditure on contract workers for the year (i.e., people who work for you on a more irregular basis for whom you do not pay benefits)? You may have contracted out work in the following areas: accounting, legal services, clerical support, or substitutes.

	PROGRAM-LEVEL ANNUAL TOTAL
D3. Wages and salaries for program-level staff	
D4. Non-wage benefits for program-level staff	
D5. Staff education and training costs	
D6. Lost fees from staff discounts for their children	
D7. Subcontractors	

Provider ID: _____

FACILITIES

The next questions deal with your annual costs for space and the facility the program occupies. We are interested in the parts you pay cash for as well as any in-kind donations related to rent, utilities, maintenance, etc.
(Record only the annual expenses below. If the center is part of a larger system, occupancy costs may not be included in the center records, but will have to be collected from the central office.)

D8. *Building Cash Costs*. What were your total annual facilities costs, including the following: *(Interviewer: If the subcategories listed below are available, record them in the space provided as well as the total. You may have to check school records or you will need to estimate by square footage.)*

Rent or Mortgage *(note if interest and principal are included)* _____

Utilities (Gas & Electric, Water, Trash Removal) _____

Repair and maintenance (such as lawn service, janitorial service, etc.) _____

Other _____

TOTAL YEAR'S OCCUPANCY CASH COSTS: [ ]

D9. *Occupancy Donations.* Do you use donated space or do you receive any kind of financial help on rent which reduces facility costs below (e.g., space and utilities donated) what they would be if you had to pay the market rate? [SELECT ONE RESPONSE.]

YES 1

NO ..... 2 → GO TO D12

D10. Which of the following is true?

a. All space is donated [*SELECT ONE RESPONSE*.]

YES ..... 1 → GO TO D11

NO ..... 2 → GO TO D10b

b. Part of space is donated [*SELECT ONE RESPONSE*.]

YES 1

NO ..... 2 → GO TO D12

c. We receive a rent discount of _____(Square Foot/Year) [$ or %] → GO TO D12

(If they can only give the discount, like 50 percent off, then note that and we should be able to calculate the value in square feet per year knowing what they do pay in rent and the square footage of the facility.)

D11. (If the space is donated) Do you know the annual rental value per square feet of the space? (If the interviewee does not know, don't ask for a guess. We will get an independent estimate. Complete D11a and D11b or D11c.)

a. # SQUARE FEET DONATED _____

AND

b. ESTIMATED RENT PER SQUARE FOOT _____

OR

c. VALUE OF DONATED SPACE (D11a x D11b) _____

Provider ID: _____

D12. If utilities are donated, please estimate the annual value of donated utilities. (Write 0 if there is no donation.)

TOTAL YEAR'S VALUE OF DONATED UTILITIES _____

D13. If any services related to occupancy are donated (e.g., janitorial, lawn care, repairs), please estimate the total annual value.

TOTAL YEAR'S VALUE OF DONATED SERVICES _____

FOOD SERVICE

This section is about costs for serving meals and snacks to the children. *(Other food costs including the cost of food for events like fundraising carnivals and board meetings should be calculated and included under operating costs in E17 below. Record only the annual expenses below. If the center is part of a larger system, occupancy costs may not be included in the center records, but will have to be collected from the central office.)*

D14. Do you participate in a subsidized food program (e.g., U.S.D.A.)? [SELECT ONE RESPONSE.]

YES 1

NO 2

D15. Please give me the cost of food services, excluding personnel costs, for the last fiscal year. Also, do not include donated food or food reimbursements. (Centers will either have full food service preparation on site, or they will hire a catering service.)

TOTAL YEAR'S FOOD SERVICE COSTS (excluding personnel wages) _____

D16. *Value of Donated Food*: Was any food donated to the center or did you receive any cash reimbursement for money you spent on food during the last fiscal year? If so, what was the total value of donated food for the year (including value of subsidized food program)?

TOTAL YEAR'S VALUE OF DONATED FOOD _____

OTHER OPERATING COSTS

Finally, we want to collect data on other operating costs such as insurance and the cost of supplies, materials and equipment. For our purposes we will use the following definitions:

- SUPPLIES are consumables that are used up right away.
- MATERIALS are replaced within a year.
- EQUIPMENT is something that is repaired, lasts more than 1 year and costs over $100.00.

As part of operating costs we want to estimate the cost of equipment used during the year. The best estimate is the total depreciation costs charged off for the fiscal year. If the program charges depreciation on equipment, write the amount in "Depreciation on Equipment" below.

D17. *Insurance*: What was your total annual cost of insurance last fiscal year? Include all forms of insurance: for the facility, which might include liability, fire, theft, flood, earthquake; vehicle; accident for children, staff or others; child abuse, etc. Do not include health insurance or any insurance programs, which are part of employee benefits.

a. TOTAL YEAR'S INSURANCE COSTS _____

b. TOTAL YEAR'S VALUE OF DONATED INSURANCE _____

Provider ID: _____

D18. What are your operating expenses for the following kinds of items for the past fiscal year?

a.	Office Supplies	
b.	Children's Toys and Materials	
c.	Maintenance supplies	
d.	Equipment Rental and Maintenance	
e.	Non-depreciated equipment (e.g., items with short lifetime: bathroom supplies)	
f.	Depreciation on equipment (e.g., items with longer lifetime: computer)	
g.	Transportation and travel (incl. business mileage)	
h.	Telephone	
i.	Postage	
j.	Marketing, advertising, public relations	
k.	Photocopying, printing, publications	
l.	Licensing and fees	
m.	Dues and subscriptions	
n.	Interest payments and bank service charges	
o.	Miscellaneous (specify): _____	
p.	Total for fiscal year	

D19. *Donated Equipment:* In the last fiscal year did the center receive any donated equipment? If you did receive such donations, please give me a list of the donated items. For each item, I'd like to know its condition and its replacement value.

TOTAL YEAR'S VALUE OF DONATED EQUIPMENT: _____

D20. *Donated Supplies and Materials*: In the last fiscal year did your center/FCC home/preschool receive any donated supplies and materials? If so, please list each item. For each, give me an estimate of the market value.

TOTAL YEAR'S VALUE OF DONATED SUPPLIES AND MATERIALS _____

D21. *Total Annual Overhead Costs*: How much are you charged in overhead costs, as a contribution for the costs of operating your larger system of centers/sites? (This question is relevant only for programs which are part of a large system of centers or are part of a larger sponsoring agency which provides services to the center.)

TOTAL YEAR'S OVERHEAD COSTS _____

D22. *Total Annual Volunteer Labor*: If your program makes use of regular volunteers in the classroom, both parent and non-parent volunteers (e.g., unpaid interns) who work regularly at least 4 hours per month, please estimate the total annual hours contributed by these volunteers.

TOTAL YEAR'S VOLUNTEER HOURS _____

Provider ID: _____

Thank you for all your help! The information you have provided will be invaluable to our study.

Provider ID: _____

E. FOR INTERVIEWER'S USE ONLY, AFTER COMPLETION OF THE INTERVIEW

E1. On a scale from 1 (poor) to 5 (very good) how do you rate the directors' articulateness?

Poor				Very Good
1	2	3	4	5

E2. *Assessment of the Quality of Financial Data Collected:* Please evaluate the quality of the expenditure data you have collected. Which of the following assessments best describes the quality?

Poor. The program does not have complete records for the whole fiscal year. in many cases we had to make year end estimates from incomplete monthly estimates and recollection, about which I am not very confident.....1 → GO TO D3

Reasonably Good. For instance, year-end cost summaries were not available, but I collected monthly data from well maintained records and I am reasonably confident about estimates we had to construct from recollection.....2

Very good. The program maintains complete records and most data was collected from these records 3

E3. If you answered (1) to D2, circle the subcategories of data which are most problematic. If all were problematic, circle them all.

Wages and hours of staff..... 1
Personnel costs 2
Occupancy costs 3
Food service costs..... 4
Operating costs 5
In-kind donations 6
Other (specify_____)..... 8

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