



District of Columbia
Office of the State Superintendent of Education

Modeling the Cost of Child Care in the District of Columbia 2021

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Executive Summary

Quality, supply and affordability of child care are goals the District of Columbia is constantly working to address, through a robust array of early childhood programs, policies and funding. The ability of child care providers to operate financially viable, sustainable business models is an essential condition to realize these goals. While District of Columbia policies have long sought to support effective business practices in child care providers, the COVID-19 public health emergency that began in March 2020 has made the importance of sustainable child care business models more clear than ever.

At the onset of the coronavirus (COVID-19) pandemic, 88 percent of District of Columbia child development facilities closed. Although many resumed operations in the summer and fall of 2020, health and safety guidance required them to operate at reduced capacity through May 2021. Closures and reduced operating capacity had a significant financial impact on the District's child care sector. The District was able to offset this impact for child care providers who participate in the District's child care subsidy program by continuing subsidy payments regardless of operating status through October 2020, and subsequently through flexible attendance policies and an increased subsidy reimbursement rate (Public Health Emergency Rate).¹ The District also funded multiple rounds of emergency relief grants to most licensed child care providers (subsidy and non-subsidy). While these policies and funding—as well as the resourcefulness of the District's child care leaders and educators—have enabled the child care sector to persevere through the public health emergency to date, the hardships encountered during the public health emergency illustrate the underlying challenges of child care business models and the need for public policies and funding that support financial viability of child care.

One of the District's most important policy levers to support access, quality, affordability and sustainability of child care is paying child care providers in the District's child care subsidy program reimbursement rates that cover their costs to provide care. Through the subsidized child care program, the District helps pay for child care for children from low-income families who are working, enrolled in education or training, or are categorically eligible. Child care providers may choose whether to enter into a contract with the Office of the State Superintendent of Education (OSSE) to accept child care subsidies; currently about half of the District's child care providers do so.

To support child care providers in maintaining financial sustainability in an evolving market, OSSE regularly uses a cost estimation model to analyze and understand the costs for providers to deliver care at different levels of quality for different ages of children in child care homes, expanded homes and centers. This approach also meets federal requirements for OSSE, as the District's lead agency for the Child Care and Development Fund (CCDF), to collect, review and use information and data to set subsidy rates that support equal access to quality care for children participating in the District's child care subsidy program. OSSE first used a cost estimation model to analyze the costs to deliver care in 2015, subsequently updated the model and analysis in 2018, and has again refined and used the model to update the estimated cost of care for 2021. This report explains the methodology and assumptions behind the cost model, presents the findings of the updated cost model analysis, and identifies potential implications for subsidy reimbursement rates.

Summary of Findings

The 2021 cost modeling analysis surfaced several key findings that can inform the District's and child care providers' and stakeholders' understandings of the current costs to deliver child care, factors that drive

¹ 5A DCMR 203.13-17

variation in the costs of child care, the relationship between provider revenues and the costs to deliver care, and factors that enhance business sustainability of child care providers:

Costs to deliver child care and factors that affect variation in costs

- The **average cost to deliver child care** in the District of Columbia **increased approximately 16 percent** from fiscal year 2018 (FY18) to FY21, although the degree to which costs increased varied across age groups and quality designations.
- The average **salary for child care workers** increased significantly from 2018 to 2021; this increase is a major driver of the increase in costs to deliver care.
- The cost to deliver **infant and toddler care** is higher than the costs to deliver other types of care; conversely, the cost to deliver **school-aged care** is lower than other types of care.

Relationship between revenues and costs

- In most scenarios and levels of quality, a provider's **estimated cost to deliver early care and education services exceeds the revenue** generally available to provide care, when taking into account child care subsidy reimbursement rates in effect in FY21.
- **FY21 subsidy rates** meet the estimated average cost of care for High-Quality centers, as well as for school age children across all quality levels but are lower than the estimated average costs to deliver care for other age groups and designations.
- **Tiered reimbursement** improves the sustainability of higher quality programs. Providers that earn higher quality designations in Capital Quality, the District's tiered Quality Rating and Improvement System (QRIS) receive higher subsidy reimbursement rates, which the cost modeling analysis shows offset the costs of additional resources required to operate at higher levels of quality.

Provider characteristics and practices can enhance business sustainability

- Accessing **multiple funding streams** is key to strengthening a provider's financial sustainability. Providers that serve mixed ages and participate in the District's publicly funded pre-K program are estimated to receive more revenue than those that do not have any other funding streams.
- **Size matters.** Compared to smaller programs at the same quality designation, larger programs have lower costs per child and improved financial viability.
- Maintaining **full or nearly full enrollment** is crucial to provider financial sustainability. The cost modeling analysis projects significant revenue losses for centers and homes that are not fully enrolled, confirming that maintaining nearly full enrollment is critical to a provider's financial sustainability.

The cost estimation model is a powerful tool that the District will continue to use to inform policy decisions as the District moves into and through recovery from the public health emergency, in order to support child care providers in maintaining financial sustainability and ensure equitable access to quality care for children participating in the District's child care subsidy program. The results of this cost modeling analysis will also be used to inform subsidy reimbursement rates for FY22. OSSE is committed to working with providers, policymakers, and other stakeholders to align incentives that advance excellence in early care and education for those learners most in need and that eliminate barriers to equal access.

I. Background

Providing equal access to stable, high-quality child care for low-income children is a key principle of the Child Care and Development Block Grant Act (CCDBG Act), the federal legislation that authorizes funding for child care. In service of that goal, state lead agencies that receive federal CCDF funds, including OSSE, must collect and analyze data every three years to inform the setting of subsidy reimbursement rates that provide equal access. This can be done through either a market rate survey (of the prices that child care providers charge) or an “alternative methodology,” such as a cost estimation model. Since 2015, the District of Columbia has used a cost estimation model as its alternative methodology to meet federal CCDF requirements. Prior to 2015, the District’s reimbursement rates were determined using a statistically valid and reliable survey of the market rates. Research shows, however, that prices charged in the child care market do not always reflect the actual cost of providing care, but are correlated with the resources parents have to pay for care, perpetuating inequities in access and quality. The District uses a cost estimation model because research shows that cost modeling provides a more equitable way to inform subsidy rates that reflect the true costs of care. As the first (and in 2015 and 2018 only) state to receive approval from the federal Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services (HHS) to use an approved alternative methodology, the District has been a national leader in the use of cost modeling to inform subsidy rates.

A cost estimation model is a flexible financial model that estimates the costs to deliver care by incorporating both data and assumptions to project the expected costs incurred by child care providers under a variety of different scenarios and policy conditions. OSSE developed its initial cost estimation model with assistance of national experts in child care finance. This interactive model uses Capital Quality, the District’s tiered-rate reimbursement framework, to estimate the cost of quality care for children of all ages in child development centers, expanded homes and homes across Capital Quality designations. OSSE has subsequently updated and refined the model assumptions and data inputs with support from national experts and input from local stakeholders.

Unlike a market rate survey, which looks only at prices, this interactive model allows OSSE to examine how various factors affect provider revenues, expenses and net revenues (i.e., profit or loss). OSSE has used the model to better understand how both provider characteristics (such as program size and ages of children served) and policy and external factors (such as group sizes and ratios and staff qualification requirements) affect the cost to deliver care. Further, in contrast to a narrow cost analysis, the District’s cost estimation model takes into account not only factors that influence provider costs, but also those that influence revenues and thereby overall provider financial sustainability. This deeper understanding of how multiple provider and policy decisions influence both costs and revenues enables OSSE to analyze how various policy and funding decisions affect child care costs and provider financial viability and can also inform efforts to strengthen child care provider business models.

OSSE has used this understanding to inform policy and funding decisions, including subsidy reimbursement rates, design of financial incentive packages, and programs and policies to support effective business practices. In FY18, for example, OSSE raised the toddler reimbursement rate to align with the infant rate, because OSSE’s licensing regulations require the same adult to child ratios for both infants and toddlers, and the cost estimation model revealed that toddlers, along with infants, are the most expensive age group to serve. Similarly, OSSE used results of the 2018 cost estimation model, combined with increased federal and local funding, to significantly increase subsidy rates in FY19 across all age groups and QRIS designations. In 2020, during the public health emergency, OSSE used the cost estimation model to estimate the impact of health and safety guidance on providers’ costs and revenues

and implemented the Public Health Emergency Subsidy Rate to increase payments to providers in response to these findings.

The 2021 cost estimation model analysis employs assumptions and data to capture the universe of providers in the DC child care market including:

- child development homes, expanded home and centers
- providers serving infants, toddlers, preschool and school-aged children
- providers at different levels of quality (as defined by Capital Quality designation)

The cost estimation model also takes into account the effects of participation in different programs or quality initiatives (e.g., Pre-K Enhancement and Expansion Program [PKEEP], Quality Improvement Network [QIN]), as well as variation in other factors that affect provider revenues, including enrollment efficiency, fee collectability, and the percentage of subsidy and private pay children served.

This report presents the findings of the 2021 cost estimation model analysis, conducted as part of the District of Columbia's fiscal years 2022-2024 CCDF state plan submission to HHS. It describes the methodology and process, including the input provided by stakeholders that informs the analysis, and estimates the cost to support child care providers' implementation of health, safety, quality, and staffing requirements defined by the District's Child Development Facility Licensing Regulations and at different levels of quality defined by Capital Quality.

II. Early Care and Education Landscape in the District

The District of Columbia is a national leader in early childhood education. Passage of the historic pre-K Enhancement and Expansion Amendment Act of 2008 elevated early learning as a centerpiece of the District's education reform agenda and established a goal to make publicly funded pre-Kindergarten universally available to all 3- and 4-year-old children who reside in the District by 2014. During the 2018-19 school year, the District served 89 percent (7,363) of its 4-year-old children and 72 percent (6,405) of its 3-year-old children in publicly funded pre-K programs, a higher percentage than any other state.²

Early childhood education in the District of Columbia is delivered through a mixed delivery system that includes child development homes, expanded homes and centers as well as pre-K programs in public and public charter schools in the District. Although the majority of District 3- and 4-year-olds attend pre-K operated by public schools, more than 1,000 publicly funded pre-K slots are available in community-based child development centers participating in PKEEP. In addition to publicly funded pre-K, the District of Columbia supports access to early learning and development programs through the subsidized child care program, which helps pay for child care for children from low-income families who are working, enrolled in education or training, or are categorically eligible (e.g., children in foster care or experiencing homelessness). Licensed child development facilities may choose whether or not to enter into a contract with OSSE to provide care for children receiving subsidies.

As of July 2021, the District has 370 licensed child development centers and 108 child development homes and expanded homes, with a licensed capacity to serve more than 26,000 children ranging from ages 6

² District of Columbia Office of the State Superintendent of Education, Fiscal Year 2019 Pre-K Report. (Washington, DC: June 2020) osse.dc.gov/sites/default/files/dc/sites/osse/publication/attachments/OSSE%20Annual%20Pre-K%20Report%202019.pdf.

weeks to 13 years of age. Of the 478 licensed facilities, 234 (49 percent) provide subsidized early care and education services to children across the District. However, all children enrolled in these facilities are not necessarily receiving subsidies. Many facilities serve a mix of subsidy and private pay children. The District only has one geographic area for the purpose of subsidy rate setting.

Table 1. Licensed Capacity by Age and Ward (July 2021)

| Ward | Infant and Toddler | Pre-school | School Age | Total Capacity by Ward | Percentage |
|--------------|--------------------|---------------|--------------|------------------------|-------------|
| 1 | 217 | 702 | 453 | 1,372 | 5% |
| 2 | 2,208 | 1,674 | 205 | 4,087 | 16% |
| 3 | 1,192 | 1,766 | 158 | 3,116 | 12% |
| 4 | 1,588 | 1,520 | 765 | 3,873 | 15% |
| 5 | 1,168 | 974 | 885 | 3,027 | 12% |
| 6 | 1,344 | 1,167 | 714 | 3,225 | 12% |
| 7 | 1,119 | 966 | 596 | 2,681 | 10% |
| 8 | 1,613 | 1,758 | 1,329 | 4,700 | 18% |
| Total | 10,449 | 10,527 | 5,105 | 26,081 | 100% |

Building on its national leadership in pre-K, the District has implemented a variety of initiatives to improve access to high-quality early care and education for infants and toddlers, particularly those from low-income families.

As of 2018, the District of Columbia fully implemented Capital Quality, the District’s redesigned QRIS. Capital Quality has three components: a designation that is determined by the use of research-based metrics, a continuous quality improvement plan (CQIP) that is aligned with research-based quality standards and a quality profile to support families in selecting an early care and education setting that best meets their child’s needs. All facilities participating in Capital Quality receive one-on-one support and technical assistance from a quality facilitator and participate in monthly community of practice meetings. Child development facilities that accept child care subsidies are required to participate in Capital Quality, and other licensed facilities may do so on a voluntary basis.

Legislation passed in 2014 established the QIN, which created hubs to assist child development facilities (both centers and homes) participating in the District’s child care subsidy program to meet Early Head Start standards, thereby expanding access to high-quality infant and toddler care. The QIN is a pioneering program that layers federal, local, and private funding to provide family engagement, coaching, nutrition, and other supports in a quality child care setting, to enable more children and families to benefit from early, continuous, intensive, and comprehensive child development and family support services. Children enrolled in the QIN have continuous subsidy eligibility from the time they enroll in the QIN until they are old enough for pre-K, which provides a reliable revenue stream for QIN providers. Child development homes, expanded homes and centers who are participating in the QIN receive a QIN-specific reimbursement rate that does not depend on their Capital Quality designation, as well as additional supports and job-embedded, practice-based coaching to enhance the quality and financial health of the

program. Currently, 14 centers and 18 homes participate in the QIN, which has capacity to serve more than 700 infants and toddlers.

The District’s Shared Service Business Alliance (SSBA) is a network of small early care and education centers and family child care homes sharing costs and administrative and program services. The SSBA reduces operating costs through economies of scale in business functions such as payroll, benefits management, banking, janitorial services, food services, and bulk purchasing. Participation in SSBA also helps providers enhance revenue through increased automation, improved fee collections and higher enrollment. As an incentive to join the SSBA, participating child development facilities receive the full subsidy reimbursement rate per child (the co-payment is not deducted), which also increases revenues. The SSBA also impacts program quality by supporting homes in recruiting and retaining qualified staff; sharing coaching, training and mentoring positions across a group of homes; and accessing support staff for release time to complete trainings and carry out quality activities. The District’s SSBA is currently expanding to include more small centers and child development homes to expand these benefits to additional facilities.

All these initiatives seek to improve the quality of early learning programs in child development facilities while also strengthening their businesses. Providers participating in these initiatives have access to enhanced revenue opportunities, through higher reimbursement rates or ability to collect and retain parent co-pays; increased efficiencies by accessing common services and supports and business supports and coaching. By simultaneously promoting both the quality and sustainability of care, these initiatives seek to increase access to high-quality care and education for children and families in the District and particularly for young children living in low-income households.

Recent District investments

The District has made significant financial investments in early childhood. From FY18 through FY21, local funding for child care subsidies increased by \$26.6 million, a 54 percent increase over FY17 funding levels. These increased funds enabled the District to fully implement Capital Quality and increase subsidy reimbursement rates across all provider types, ages of children served, and quality tiers. From 2018 to 2020, the District invested an additional \$11 million in the Access to Quality Child Care Fund, Mayor Bowser’s initiative to increase the supply of child care. This fund provided \$9 million in facilities grants to enable child care providers to create 1,244 new infant and toddler child care slots in all eight wards and \$2 million to assist early care and education professionals in obtaining postsecondary education and credentials.

In response to the COVID-19 pandemic, the District appropriated \$5 million in local funds to support and sustain the child care sector and has also received significant federal relief funds for child care. By the end of FY21, the District will distribute nearly \$25 million in federally and locally funded emergency relief to child care, and will distribute an additional \$38 million in FY22.

Table 2. Locally Appropriated Subsidized Child Care Funding

| FY17 | FY18 | FY19 | FY20 | FY21 |
|--------------|--------------|--------------|--------------|--------------|
| \$49,190,629 | \$55,849,629 | \$65,414,560 | \$74,712,624 | \$75,814,774 |

III. Methodology

Beginning in 2015, the District worked with an external fiscal consultant to model the cost of delivering child care services in the District, using an interactive approach based on the Provider Cost of Quality Calculator (PCQC), an online cost modeling tool. The PCQC is a dynamic, web-based tool that calculates the cost of quality care based on site-level provider data, allowing users to change data inputs to estimate the cost of care in their operating context. It was developed and tested by national experts with support from the ACF as a resource to support state leaders and child care programs in estimating costs to deliver care.

Working with the external fiscal consultant and input from local stakeholders, OSSE adapted the PCQC model to build an Excel-based modeling tool with assumptions customized to the District context, including the District's child care licensing and Capital Quality standards. The resulting tool, the DC Child Care Cost Estimation Model, can be used to run multiple scenarios to estimate the cost per child to deliver care in child care settings with various program characteristics and quality levels. Given the differences in business models and cost drivers for child care centers and child care homes, the DC Child Care Cost Estimation Model comprises two separate Excel-based tools: the Cost Estimation Model for Child Development Centers ("Center Model") and a Cost Estimation Model for Child Development Homes and Expanded Homes ("Home Model"). Both the Center Model and Home Model allow for assumptions and data inputs to be adjusted to reflect additional program characteristics or quality variables. The DC Child Care Cost Estimation Model is a dynamic tool that OSSE can use to inform the process of setting child care subsidy rates, by creating scenarios that reflect the current child care landscape. This approach allows comparisons across different settings and a range of different scenarios of facility size, composition of children's ages, Capital Quality designation and participation in specific revenue-driving OSSE programs, such as the PKEEP, the QIN and SSBA.

The DC Child Care Cost Estimation Model is designed to incorporate data on the following factors that impact the cost of providing care:

- Health, safety, quality, staffing and licensure requirements, including required staff qualifications and trainings;
- Higher-quality care, as defined by OSSE's redesigned tiered QRIS, Capital Quality;
- Curriculum and supplies;
- Staff time for family engagement or child assessment;
- Enrollment levels;
- Ratios;
- Group size;
- Facility size; and
- Staff compensation (salary and benefits).

The DC Child Care Cost Estimation Model also embeds the following revenue sources:

- Parent tuition/fees;
- Third party funding (e.g., subsidy, Head Start, pre-K);
- Participation in the United States Department of Agriculture (USDA) Child and Adult Care Food Program (CACFP) and other incremental revenue sources;
- Full collection of revenues; and
- Enrollment efficiency.

Taking into account not only factors that influence provider costs but also those that influence revenues is important because it enables OSSE to model the relationship between costs of providing care and providers' overall financial viability. Some choices that increase a provider's costs (such as employing pre-K teachers with bachelor's degrees) may also increase their revenues (by enabling them to participate in the District's publicly funded pre-K program). The dynamic nature of the cost model enables OSSE to better understand the holistic impact of this interplay of cost and revenue effects on a provider's overall financial viability. This in turn enables stakeholders and policymakers to better understand the economic incentives that different initiatives create for providers and inform policy and program design in response.

The DC Child Care Cost Estimation Model incorporates adjustable assumptions about the proportion of families that are eligible for state and federal funding, as part of the program configuration inputs, which supports analysis of how different mixes of revenue streams affect providers' ability to cover their operating costs.

Finally, the DC Child Care Cost Estimation Model takes into account additional operating assumptions:

- Full collection of revenues
- Enrollment efficiency

The DC Child Care Cost Estimation Model incorporates adjustable assumptions about bad debt percentage and enrollment levels because research shows that these factors have a major impact on overall program financial well-being. Bad debt is defined as uncollected revenue.

In 2018 and 2021, OSSE worked with an external fiscal consultant and consulted local stakeholders to review the assumptions embedded in the modeling tool and update assumptions and data inputs, as discussed further below. Using the updated model, OSSE then ran a variety of scenarios to update estimates of the cost to deliver care in the District of Columbia, and compare those costs to current child care subsidy rates.

Goals and Objectives for the 2021 Cost Modeling Analysis

The District uses cost modeling to address the following goals and objectives:

- Meet the federal requirements of the CCDBG Act by routinely modeling the costs associated with the delivery of child care to evaluate the relationship between costs and payment rates as part of a strategic, long-term approach to rate setting that supports equal access to care. The cost modeling analysis and this report meet federal requirements for an "alternative methodology" to inform subsidy rate setting that supports equal access.
- Deepen stakeholders' and policymakers' understanding of the variances between price and the cost of delivering care, information which supports the setting of rates.
- Identify the fiscal impact of the District of Columbia's licensing regulations and Capital Quality standards and requirements.
- Identify key cost drivers that cut across all Capital Quality designations.
- Deepen understanding of the differential cost to deliver care at different levels of quality.
- Deepen understanding of the difference in costs to deliver care for children of different ages (e.g., infants, toddlers, preschools and school-aged).
- Identify the factors that increase or decrease provider-level financial viability to inform strategies to support sustainable provider business models.
- Use this information to test a range of alternative rate-setting and policy recommendations with a clear understanding of the fiscal impact of these decisions.

Development of the 2021 Cost Modeling Analysis

In spring 2021, OSSE employed several strategies to gather information and ensure the assumptions embedded in the DC Child Care Cost Estimation Model and the data inputs for different scenarios accurately reflected the District of Columbia provider experience. Specific strategies included:

- OSSE carefully reviewed available data on early childhood education programs throughout the District, including publicly available data and OSSE’s own administrative data.
- OSSE conducted focus groups with representatives of organizations representing caregivers, teachers and directors, including the District of Columbia Association for the Education of Young Children, Director’s Exchange, DC Head Start Association, DC Family Child Care Association, Multilingual Spanish Speaking Providers Association, and DC Action, as well as conducting follow-up conversations with individual program leaders to solicit additional information and feedback on key assumptions or data points.
- OSSE also reviewed the cost model’s working assumptions and key data inputs with the DC Child Care Recovery Working Group, a group of child development facility leaders representing the diversity of settings within the District’s child care ecosystem that OSSE convened in summer 2020 to advise OSSE in planning for and supporting child care facilities in reopening and recovery following COVID-related closures, and whom OSSE continues to engage as an informal advisory group on key policy, programmatic and other questions facing the agency and child development facilities.
- OSSE worked closely with a fiscal consultant through the BUILD consortium to update the cost model assumptions and data inputs for the 2021 cost estimation analysis.

In each focus group or meeting, OSSE presented detailed descriptions of cost drivers (personnel and non-personnel) and revenue sources and consulted child care providers, directors and stakeholders on the accuracy of these cost drivers and revenue sources. The focus group attendees provided input to OSSE on many of the inputs and cost drivers including: the inclusion of health benefits at all quality designations, a provider salary as a cost driver in the home and expanded home model, additional staff in the expanded home scenarios, personnel assumptions included in the center model, the estimated enrollment and exposure/bad debt assumptions, and the cost per square foot of facility space in the District. OSSE fully considered all the input and incorporated many suggestions into the cost model assumptions.

Based on this process, the 2021 DC Child Care Cost Estimation Model analysis incorporates updated assumptions about and data inputs for the cost for delivering services, and the likely revenues, for programs of varying sizes, type of setting and quality tier specific to providers in the District of Columbia. Table 3 summarized key model assumptions.

Table 3. Center-Based Assumptions

| Center-Based Assumptions | |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Assumed Cost Drivers</i> | |
| Staffing Assumptions | <ul style="list-style-type: none"> • Adult to child ratio required by licensing standards. • Increased staff coverage during opening and closing (assuming a 10-hour day) and daily breaks. • Increased staff coverage at Quality and High-Quality designations to reflect planning, individualization for children’s learning needs and coaching. |

| Center-Based Assumptions | |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assumed Cost Drivers | |
| | <ul style="list-style-type: none"> Increased staff coverage to account for paid time to attend training, based on the District’s licensing requirements. Additional staff (e.g., janitor, receptionist, office manager, eligibility coordinator, family engagement specialist and health care specialist) depending on program size and characteristics, including participation in early childhood programs such as PKEEP or the QIN. |
| Staff Compensation Assumptions | <ul style="list-style-type: none"> Directors’, lead teachers’ and assistant teachers’ salaries based on Bureau of Labor Statistics (BLS) Occupational Employment Statistics Occupational Employment and Wage Estimates for the Metropolitan Washington Area. Salaries vary by Capital Quality designation; the detailed table can be found in Appendix 2. Employer paid health and retirement benefits for all quality designations. Data inputs for additional staff wages are set based on BLS data for the Washington Metropolitan area for relevant occupational codes. All staff wages are set to meet or exceed the DC minimum wage of \$15.20 in effect on July 1, 2021. |
| Non-Personnel Cost Assumptions | <p>The model incorporates non-personnel costs to operate, calculated as per child, per classroom or program costs, depending on the cost. Non-personnel costs are based on national industry norms and adjusted for the District where necessary for the following:</p> <ul style="list-style-type: none"> Per-child costs: includes costs such as food, supplies, equipment and office costs. Per-classroom costs: includes utilities, building insurance, maintenance, repair, cleaning, and rent or lease costs. Program costs: includes costs that support the entire program such as telephone, internet, audit expenses and fees. |
| Assumed Revenue Drivers | |
| Reimbursement Rates | FY19 rates, effective Oct. 1, 2018 |
| CACFP Reimbursement Rates | All the scenarios modeled assume the provider participates in CACFP, because this is a requirement of the District’s subsidy agreement for providers participating in the District’s subsidy program. CACFP reimbursement rates were updated to reflect increases effective July 1, 2020. |
| Pre-K | Some scenarios reflect provider participation in PKEEP, in which providers receive funding equal to the District’s Uniform per Student Funding Formula (USPFF) per enrolled PKEEP student. The USPFF revenue input was updated to the 2020-21 School Year rates for 3- and 4-year-olds, including at-risk funds allocated for PKEEP students in foster care, who are homeless, or on TANF or SNAP. |
| Private Pay Tuition | Based on OSSE 2018 Market Rate Survey of all licensed providers, updated using the Consumer Price Index (CPI) through April 2021. |

| Center-Based Assumptions | |
|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Assumed Cost Drivers | |
| Operating Assumptions | |
| All operating assumptions are variable inputs; the scenarios modeled in this report reflect the following assumptions: | |
| Income Mix of Children | 80 percent of enrolled children are subsidy eligible and 20 percent are private pay. |
| Enrollment Efficiency | 90 percent enrollment for Level I providers and 95 percent enrollment for Level II providers. |
| Uncollected Revenue | 3 percent bad debt (proportion of revenue, e.g., tuition, fees and copayments, that is uncollectable), which is industry standard. |

Table 4. Home-Based Assumptions

| Home-Based Assumptions | |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assumed Cost Drivers | |
| Staffing and Compensation Assumptions | <ul style="list-style-type: none"> Includes a salary for the provider/teacher in a child development home. Includes a salary for the provider/teacher and an assistant teacher in a child development expanded home. Includes, if necessary, because of adult-to-child ratio, a floater/teacher aide wage. Salaries vary by Capital Quality designation; the detailed table can be found in Appendix 2. |
| Non-Personnel Cost Assumptions | <p>The model incorporates non-personnel costs to operate; calculated as per child, annual home operating or other direct costs, depending on the cost. Non-personnel costs are based on the national industry norms and adjusted for the District where necessary for the following:</p> <ul style="list-style-type: none"> Per-child costs: includes costs such as food, supplies, equipment and office supplies. Annual home operating costs: includes rent or mortgage, utilities, home or renter's insurance, and home maintenance and repairs. Other annual direct costs: includes telephone, internet, accountant or tax preparation, and fees and permits. |
| Assumed Revenue Drivers | |
| Reimbursement Rates | FY19 rates, effective Oct. 1, 2018 |
| CACFP Reimbursement Rates | All the scenarios modeled assume the provider participates in CACFP, because this is a requirement of the District's subsidy agreement for providers participating in the District's subsidy program. CACFP reimbursement rates were updated to reflect program increases effective July 1, 2020. |
| Private Pay Tuition | Estimate based on OSSE 2018 Market Rate Survey of all licensed providers, updated using the Consumer Price Index (CPI) through April 2021. |
| Operating Assumptions | |
| All operating assumptions are variable inputs; the scenarios modeled in this report reflect the | |

| Home-Based Assumptions | |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Assumed Cost Drivers | |
| following assumptions: | |
| Income Mix of Children | 80 percent of enrolled children are subsidy eligible and 20 percent are private pay. |
| Enrollment Efficiency | 85 percent enrollment. |
| Uncollected Revenue | 15 percent bad debt (proportion of revenue, e.g., tuition, fees and copayments, that is uncollectable), which is industry standard. |
| Number of children | Six children enrolled in a child development home and nine children enrolled in an expanded home. |

Some of the assumptions and inputs described above were specifically updated in the 2021 cost models as follows:

- **Increases in wage requirements.** The 2021 model inputs reflect the District’s minimum wage, which became \$15.20/hour on July 1, 2021. Other staff salaries were updated based on BLS data, which showed increases in market wages for most positions.
- **Market increases to non-personnel costs.** The 2021 model inputs increased the estimated rent per square foot to \$50 per square foot, based on input from the Low Income Investment Fund (LIIF) and the Washington DC Economic Partnership on current real estate prices in the District.
- **Health care for all employees.** The 2021 model assumptions were updated based on child care provider and stakeholder input to include health benefits for employees at all Capital Quality designations, a change from the 2018 models, which included health benefits only for the Quality and High-Quality designations.
- **Child care home provider salary.** The 2021 model assumptions were updated based on child care provider and stakeholder input to include a salary for the child care home provider/lead teacher. This is a change from the 2018 model, which did not include a salary for the provider/owner as an expense, but considered any revenue earned from the child development home as the provider’s salary.
- **COVID-19 considerations.** The 2021 model assumptions account for increased expenses for cleaning, sanitation, and personal protective equipment (PPE) due to the public health emergency. Even as the District moves into and through recovery from the public health emergency, child care providers are likely to continue to face increased costs for cleaning and supplies for the foreseeable future.

After incorporating these updates to both the Center Model and the Home Model assumptions to accurately reflect a provider’s current cost experiences, OSSE analyzed how changing different variables would financially impact specific scenarios. OSSE explored how the following specific cost drivers impacted the cost of care and the associated revenues across a variety of scenarios:

- **Implementation of health, safety, quality, and staffing requirements.** Child care programs must sustain robust health, safety, quality, and staffing standards, including ratios and group size requirements, due to the CCDBG and District licensing laws. These requirements influence program costs for compensation required to hire and retain sufficient staff who meet staff qualification requirements as well as provide release time for teaching staff. The 2021 model assumptions also include more substitute days to provide coverage for staff to participate in at least 40 hours of professional development annually, which aligns with Capital Quality recommendations.

- **Higher-quality care.** Capital Quality is a tiered designation system that reflects an increase in quality care standards. The revised system has four quality designations—Developing, Progressing, Quality and High-Quality—as well as a Preliminary designation for providers new to Capital Quality or the District’s subsidy system, who have not yet earned another quality designation. The higher-quality designations translate into increased costs for wages, additional positions, and additional training and staff support time that are reflected in cost estimation model scenarios to inform tiered reimbursement rates for subsidy providers.
- **Increased staff for family engagement and coaching.** Stronger family engagement and additional coaching support are core features of higher-quality child care settings, and the cost model incorporates expenses for family engagement and coaching specialist positions at the High-Quality designation to understand the combined impact of higher reimbursements and increased expenses on net provider revenue.
- **Program configuration.** The cost estimation model enables OSSE to analyze how program configuration factors affect costs and revenues, including: the income mix of families enrolled (e.g., private pay, subsidy); total program size (e.g., small or large enrollments); and age groups of children served. For instance, the analysis compared costs and net revenue for programs serving only preschool children, only birth-to-age 3, and birth-to-age 5.

The dynamic nature of the DC Child Care Cost Estimation Model enables OSSE to model a potentially unlimited number of variations in program configuration and quality designations. For purposes of the 2021 cost modeling analysis, OSSE focused on modeling and comparing the net revenue across five center-based scenarios for centers that: (1) primarily serve infants and toddlers, (2) serve a mix of ages birth to 5, (3) include classrooms for school-age children, (4) participate in early childhood initiatives such as QIN or pre-K, and (5) is a Level II provider who conducts child care eligibility on-site. OSSE also modeled scenarios for facilities that offers services in child development homes and expanded homes, including: (1) membership in the SSBA and (2) participation in the QIN program, in addition to (3) participation in none of these initiatives.

By considering several different funding configuration scenarios as part of the cost model analysis, OSSE can better understand the most efficient and beneficial revenue mix for providers.

IV. Results of 2021 Cost Estimation Model Analysis

Child Development Center Analysis

After updating model assumptions and data and reviewing input from stakeholders, OSSE modeled several scenarios at each quality designation that incorporate different funding programs for child development centers, serving children birth to 5, birth to 3 only and preschool-aged children only. OSSE reviewed licensed capacity for subsidized child care facilities to determine average size and common program configurations. Based on this review, the most common configurations are:

- Center serving birth-to-5: 64 children (one infant room, two toddler rooms and two preschool rooms)
- Center serving birth-to-5 with school-aged before/after care: 94 children, same as above with the addition of one school-age room
- Center serving birth to three: 44 children (two infant rooms and three toddler rooms)
- Center serving preschool aged children: 72 children (two 3-year-old classrooms and two 4-year-old classrooms)

Using these configurations as a starting point, OSSE calculated the following scenarios:

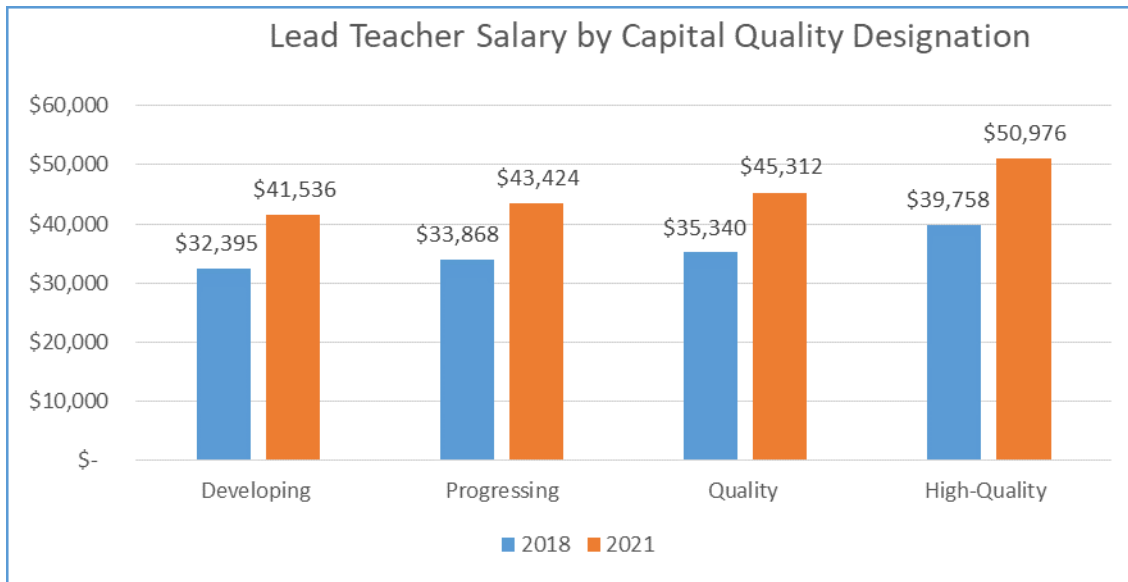
Table 5. Center-Based Cost Model Scenarios

| Center Configuration | Number of Classrooms | Scenarios Modeled |
|----------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Birth to 5 | 5 | <ul style="list-style-type: none"> • Developing • Progressing • Quality • High-Quality • Quality, Level II • Quality, Level II and pre-K • Quality, Level II, pre-K and QIN • High-Quality, Level II, pre-K and QIN |
| Birth to 5 with School Age | 6 | <ul style="list-style-type: none"> • Quality • Quality with Level II and pre-K programs |
| Infants and Toddlers Only | 4 | <ul style="list-style-type: none"> • Developing • Progressing • Quality • High-Quality |
| Preschool Only | 4 | <ul style="list-style-type: none"> • Quality, Level II and pre-K • High Quality, Level II and pre-K |

Based on these scenarios and the child care reimbursement rates in effect in FY21, OSSE has made the following findings:

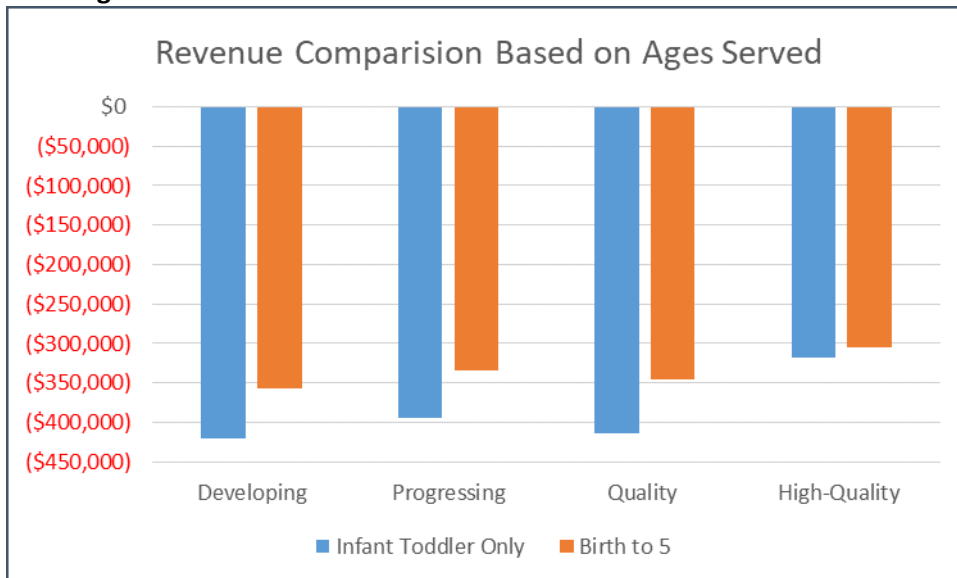
Cost to deliver care increased from FY18 to FY21: On average, across all quality designation levels and configurations, the cost modeling analysis showed that the cost to deliver care increased by approximately 16 percent from FY18 to FY21, although the degree to which costs increased varied across age groups and quality designations. Several changes to cost model assumptions and data inputs contribute to increase costs. Based on the BLS wage data, average salaries for child care workers increased 28 percent from 2018 to 2021. OSSE used this data to increase assumptions for lead teacher and assistant teacher salaries in the 2021 cost modeling analysis, which are further differentiated to reflect higher compensation at higher-quality designations. Because mandatory benefits are calculated as a percentage of wages, increased wages also increase estimated benefits costs. The 2021 model assumptions include health benefits for all staff at all levels of quality, while the previous model assumptions only included health benefits for the top two quality designations (Quality and High-Quality). Additionally, the 2021 model assumptions reflect increased release time for professional development—40 hours annually, per Capital Quality recommendations, up from the minimum requirements of 21 hours. Collectively, these changes significantly increase estimated personnel costs for all center scenarios. The most significant non-personnel increase for centers is the increase in price per square foot for rent from \$42 per square foot to \$50 per square foot.

Chart 1. FY18 and FY21 Comparison of Lead Teacher and Teacher Assistant Salary Assumptions



Infants and toddlers continue to be the most expensive age group to serve. The biggest gap between costs and available revenues occurs in small centers that primarily serve infants and toddlers. Chart 2, which compares the net revenue (i.e., profit or loss) for an infant- and toddler-only center and a birth-to-five center at four Capital Quality designations, indicates greater losses for an infant- and toddler-only center at all quality designations, under FY21 rates. Conversely, school-aged care is the least expensive group to serve. Offering school-aged care programs significantly increases providers’ revenues, as shown in Chart 6 below, and reduces gaps between costs and available revenues.

Chart 2. Age of Children in Cost of Care



Tiered reimbursement makes an impact. The District has established tiered reimbursement rates through its redesigned QRIS, Capital Quality. Each level within the QRIS directly increase the cost drivers of staff qualifications, compensation and staff release time or substitutes associated with quality activities and

required trainings. Across program models, the total expenses increase at each designation (see example in Chart 3). However, the daily rate reimbursed per child also increases as program quality increases. This tiered reimbursement narrows the gap between costs and available revenue, as indicated by Chart 4, below, although providers still experience a revenue gap under the child care subsidy reimbursement rates in effect in FY21.

Chart 3. Total Estimated Expenditures by Capital Quality Designation for a Birth-to-5 Center with Five Classrooms and 64 Children

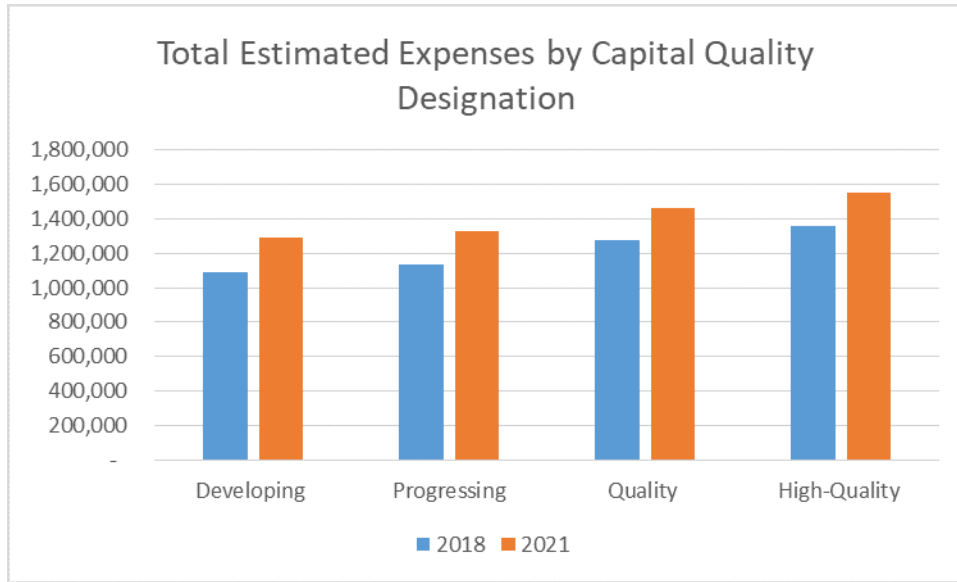
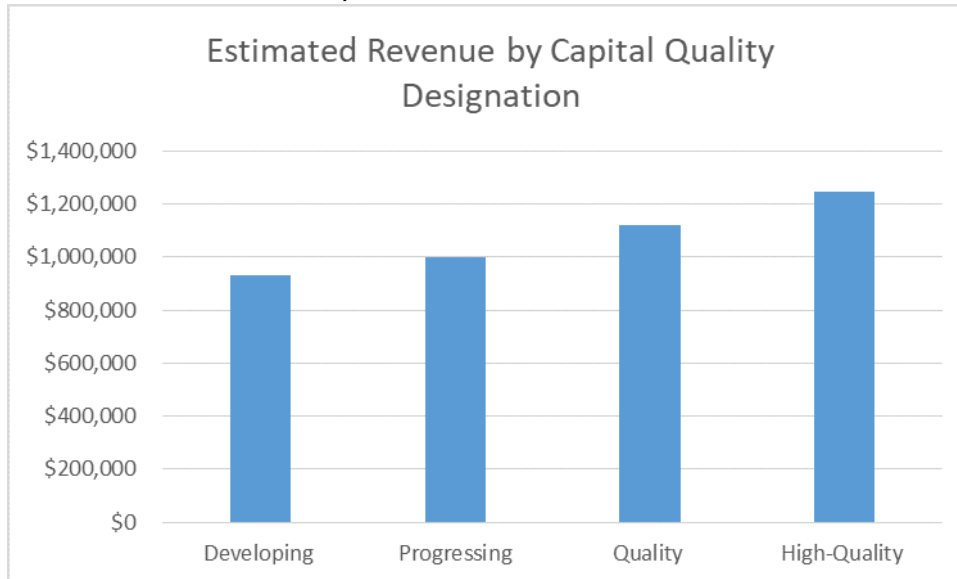


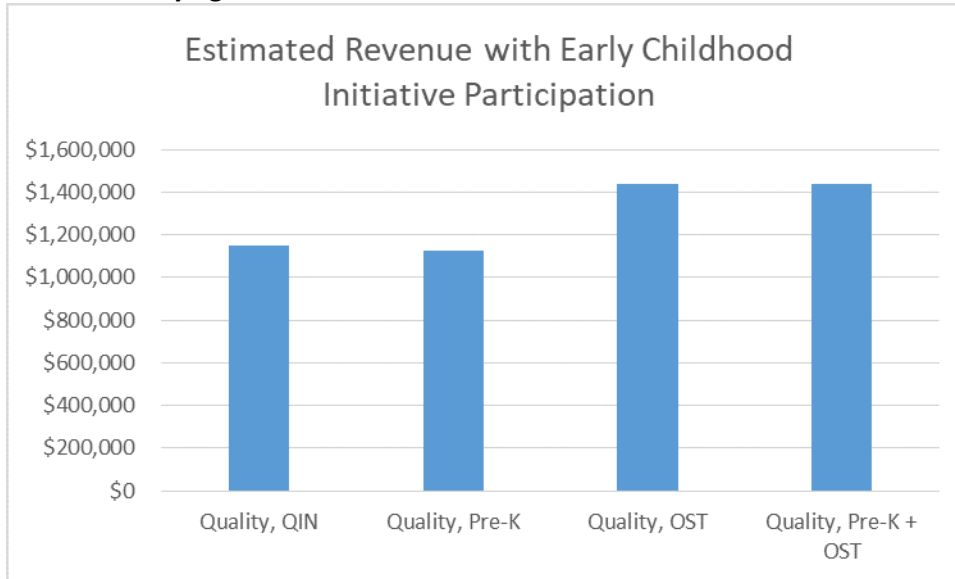
Chart 4. Total Estimated Revenue by Capital Quality Designation for a Birth-to-5 Center with Five Classrooms and 64 Children, at FY21 Reimbursement Rates



Diversifying revenue streams improves the bottom line. Programs that serve mixed ages and receive District pre-K funding for 3- and 4-year-old children or participate in the QIN have increased revenue estimates while meeting quality standards. Programs must maximize the types of revenue supports they

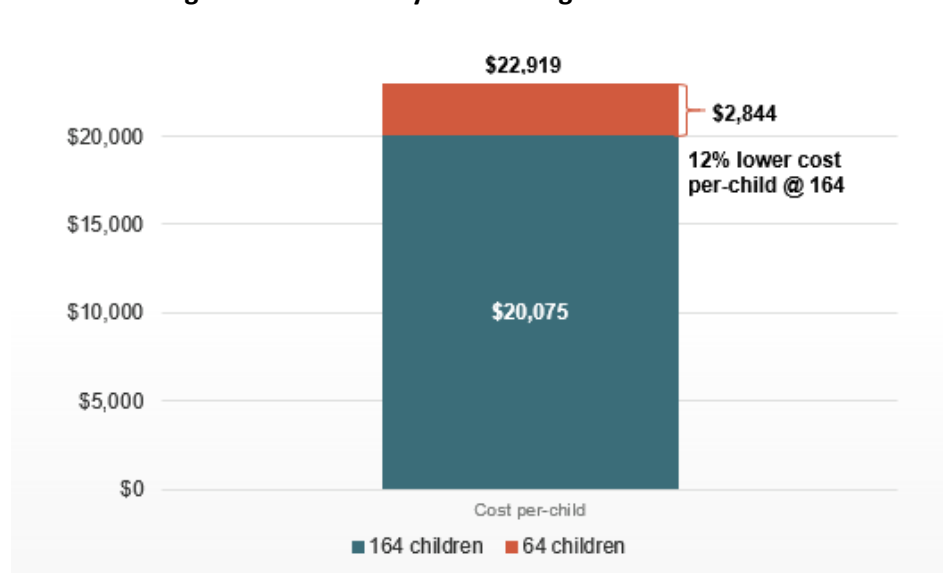
draw on to cover costs. For instance, the addition of pre-K funding and school-age programs in varying scenarios increases revenue for a center designated as Quality, as indicated in Chart 5. Revenues are also increased for Level II providers, as they receive the full reimbursement rate per child as well as the assigned family co-payments.

Chart 5. Diversifying Revenue Streams



There is a right size to maximize revenue. Across quality designations, the average cost per child decreases as a center size increases, due to the ability to realize economies of scale for some expenses. For a center serving children birth to 5 with a QRIS Quality designation, a program of 164 children has an average cost per child of \$20,075, while a smaller center of 64 children has an average cost per child of \$22,919. This 12 percent difference in costs per child translates to significant differences in net revenues across the program as a whole.

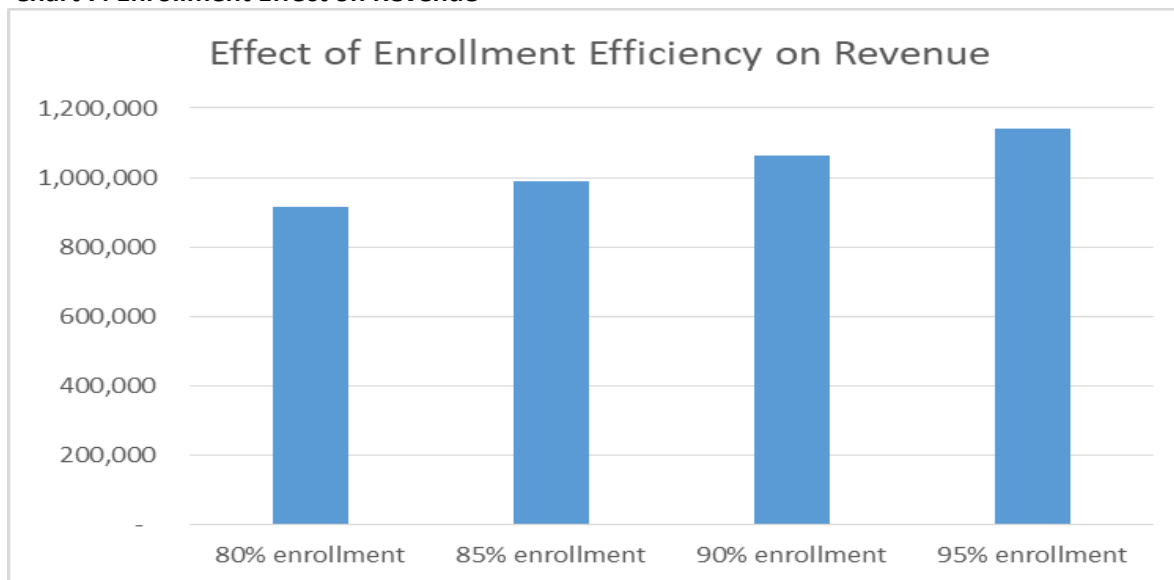
Chart 6. Average Cost Per Child by Size of Program



Maintaining full enrollment increases revenue. A center with five classrooms and 64 children that maintains 95 percent enrollment will experience an approximate \$224,000 per year gain in revenue compared to a center that maintains 80 percent enrollment. As noted by the ACF, “enrollment efficiency is expressed as the percentage of a provider’s capacity that is currently filled. Achieving 100 percent enrollment efficiency is unattainable even for a provider with high demand supported by extensive waiting lists; such a provider might achieve 95 percent enrollment efficiency. The industry standard is to keep enrollment at or above 85 percent of desired capacity.³” Although 85 percent is the industry standard, this standard is based on national averages that include a mix of urban, rural and suburban areas with different supply/demand conditions. Because the District, which is an urban area that has historically had shortages of child care for some populations, offers a robust child care subsidy program and allows Level II providers to determine a child’s eligibility, it is appropriate to assume higher enrollment efficiency in the cost model.

This finding is particularly important in the current context, because child care providers were forced to operate at reduced enrollment during the public health emergency, and many have not yet returned to full enrollment due to a variety of operational, family demand, and health and safety considerations. If the extended impacts of the public health emergency continue to reduce enrollment efficiency for some providers as the District moves through the COVID-19 recovery, this could negatively affect providers’ revenues. Additional strategies may be needed to help providers increase enrollment, adjust their businesses, or offset the increased costs of operating at reduced enrollment.

Chart 7. Enrollment Effect on Revenue



³ Administration for Children and Families. (2014). *Early Care and Education Program Characteristics: Effects on Expenses and Revenues*. Washington, DC: U.S. Department of Health and Human Services. Available: childcareta.acf.hhs.gov/sites/default/files/public/241_1411_pcqc_ece_characteristics_final.pdf [October 2018].

Child Development Home Model Analysis

The District of Columbia licenses both child development homes (which serve up to six children with one caregiver) and expanded homes (which may serve up to 12 children with at least two caregivers). The cost estimation model for child development homes is designed to be inclusive of both homes and expanded homes, with assumptions that can be adjusted to model several scenarios of quality levels and participation in different funding programs, such as the QIN and SSBA, across both homes and expanded homes. Although licensing regulations allow child development homes and expanded homes to operate with a variety of mixes of ages of children served and staffing configurations, the cost modeling scenarios focuses on two configurations that are most common:

- Child development home serving six children (two infants, two toddlers and two preschoolers or two infants, two toddlers, one preschooler and one school-age child).
- Expanded child development home serving nine children (three infants, three toddlers and three preschoolers, or three infants, three toddlers, two preschoolers and one school-age child).

Table 6. Home-Based Cost Model Scenarios

| Model Type | Number of children | Number of adults | Scenarios modeled |
|----------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Child Development Home (CDH) | 6 | One provider/lead teacher and a floater/substitute to provide coverage for professional development. | <ul style="list-style-type: none"> • Developing • Progressing • Quality • Quality with school-aged programs • Quality, QIN • Quality, SSBA |
| Child Development Expanded Home (CDX) | 9 | One provider/lead teacher, one assistant teacher, and a floater/substitute to provide coverage for professional development. | <ul style="list-style-type: none"> • Developing • Progressing • Quality • Quality with school-aged programs • Quality, QIN • Quality, SSBA |

Creating a reliable cost estimation model for homes is complex because of the highly variable cost of delivering quality services in home-based settings. For example, most home providers are small business owners who are working out of their homes, with significantly varying mortgages or rents.⁴ As a result, child development home owners may not receive a salary the same way other child care employees do, and it is difficult to partition the costs of the home provider’s use of the home as a home and the part used as the child development facility. However, based on feedback and discussion from stakeholders, the FY21 model includes assumptions regarding a salary for the provider/lead teacher for homes, as well as an assistant teacher and part-time floater/teacher aide for expanded homes and costs of mandatory benefits for all staff (calculated as a percentage of wages). This approach enables the cost estimation model to account for the costs of the child development home owner’s time, regardless of how she

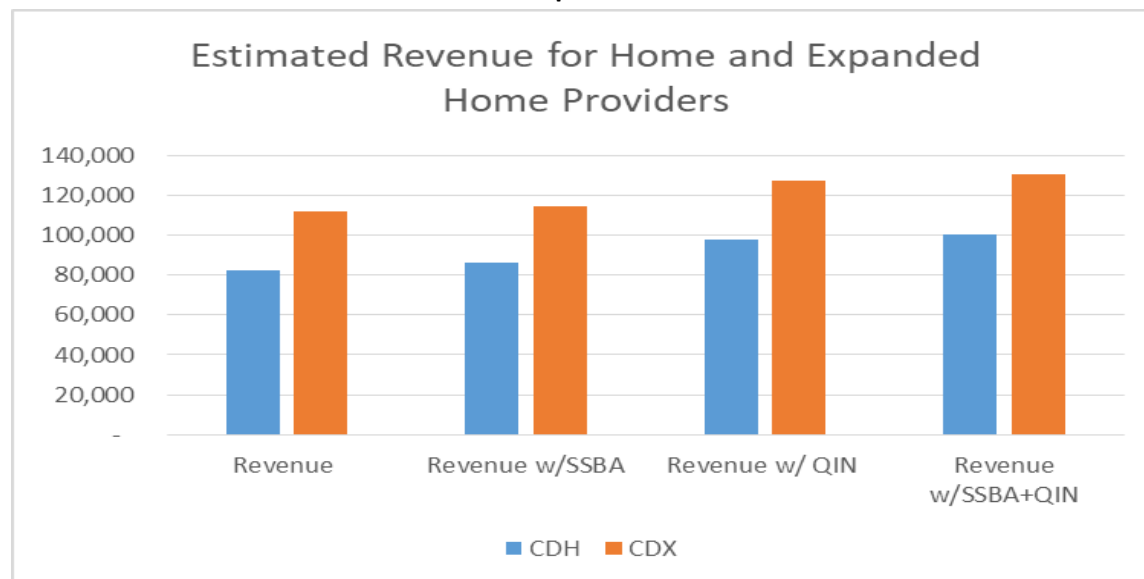
⁴ “Estimating the Cost of High-Quality Early Care and Education.” National Academies of Sciences, Engineering, and Medicine. 2018. *Transforming the Financing of Early Care and Education*. Washington, DC: The National Academies Press (pg. 158) (Available here: www.nap.edu/catalog/24984/transforming-the-financing-of-early-care-and-education).

actually pays herself. These changes significantly increase the estimated average cost per child produced by the 2021 cost estimation model analysis, particularly for expanded homes.

As noted above, the District has implemented strategies, including the QIN and SSBA, to strengthen the business sustainability of child care providers while also helping them improve quality. Many of these initiatives specifically target smaller centers and homes.

As shown in Chart 8, participation in the SSBA and QIN can increase revenue for a child development home or expanded home, compared to non-participating homes and expended homes with the same assumptions and QRIS designation level.

Chart 8. Home Provider Revenue with Participation in SSBA and QIN



V. Implications of the 2021 Cost Estimation Model Analysis

Federal regulations⁵ require that the District use the results of the 2021 approved alternative methodology to inform child care provider reimbursement rates that consider the cost of providing higher quality child development services, including the costs associated with each level of quality. These regulations also require that rates are sufficient to enable child development providers to meet health, safety, quality and staffing requirements, and responsive to variations in geographic location, age of children in care and type of care.

As noted above, the cost modeling analysis shows that the costs to deliver child care increased from FY18 to FY21. The District used the DC Child Care Cost Estimation Model to estimate the average cost of care and compared that cost to the average cost of care from the 2018 cost estimation analysis, as well as the child care subsidy reimbursement rates for infants and toddlers in effect in FY21. This analysis suggests that the FY21 rates (which were set in FY19 following the last cost modeling analysis) are lower than the increased cost to deliver care.

⁵ 45 C.F.R. § 98.45(f)(2)(iii)

Table 7. Average Cost of Care for Centers

| | Base Daily Infant-Toddler Subsidy Rate FY19-21 | Average Cost of Care (Based on FY18 Analysis) | Average Cost of Care (Based on FY21 Analysis) | Daily Equivalent of Average Cost of Care (Based on FY21 Analysis) |
|---------------------|-------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------|
| Developing | \$65.43 | \$17,011 | \$20,132 | \$77.43 |
| Progressing | \$68.32 | \$17,763 | \$20,801 | \$80.00 |
| Quality | \$76.78 | \$19,963 | \$22,919 | \$88.15 |
| High-Quality | \$93.91 | \$24,416 | \$24,239 | \$93.22 |

Table 8. Average Cost of Care Compared to District Annual Rates for Child Development Homes

| | Base Daily Infant-Toddler Subsidy Rate FY19-21 | Average Cost of Care for Child Development Homes (Based on the FY21 Analysis) | Daily Equivalent of Average Cost of Care (Based on FY21 Analysis) |
|---------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Developing | \$50.46 | \$11,687 | \$44.95 |
| Progressing | \$55.02 | \$12,952 | \$49.82 |
| Quality | \$59.78 | \$10,288 | \$54.69 |
| High-Quality | \$69.78 | \$16,165 | \$62.17 |

**The base payment is calculated by multiplying the tier reimbursement rate for a full-time infant or toddler by 260 days per year.*

Table 8 does not include the average cost of care from the FY18 model due to differences in the model assumptions between the 2018 and 2021 cost modeling analysis. In the FY21 analysis, personnel expenditures were included as costs for both homes and expanded homes, which is different from the FY18 assumptions, which did not include child care owner’s compensation as a cost, but treated net revenue as the provider’s income. As a result, the per-child costs estimated in the FY18 and FY21 analyses reflect fundamentally different assumptions and cost inputs and thus are not comparable.

Comparing average per-child costs to deliver care between 2018 and 2021 can help the OSSE and other District stakeholders understand trends in providers’ costs to deliver care over time, as well as factors that contribute to increased costs. But it is important to recognize that average costs are just that—an average—and that individual providers’ costs may be higher or lower depending on program configuration, the extent to which a provider implements business practices that enhance revenues or reduce costs and a variety of other program-level characteristics and decisions. This is particularly true for home-based providers, since cost modeling analysis shows that expanded homes have higher expenses than other child development homes, which need to be taken into account in setting reimbursement rates.

Cost modeling analysis also enables OSSE and other stakeholders to better understand how costs to deliver care vary across ages of children served, quality designation and other characteristics, and this information can inform both subsidy rate setting and other strategies and investments to support quality improvement and provider business practices.

For example, cost modeling analysis shows that the costs to deliver care for infants and toddlers are substantially higher than those to serve preschool- and school-aged children, and that small providers serving primarily infants and toddlers face the greatest challenges in covering their costs. Currently, child care providers that serve preschool-aged children have the option to increase their revenues by participating in the PKEEP program, and cost modeling analysis shows that participating in PKEEP improves child care providers' bottom line and overall business sustainability. However, there is no similar option for child care providers serving infants and toddlers to increase their revenues. This contributes to the shortage of infant and toddler care in the District that previous research has identified.⁶

This suggests that, as the District considers subsidy rate changes to reflect the increased costs to deliver care, new investments should prioritize increasing payment rates for infant and toddler care, and increasing rates paid for infant and toddler care *relative to* preschool- and school-aged care rates. Increased payment rates for infant and toddler care are a necessary complement to other investments the District has made in facilities and initiatives to increase the supply of infant and toddler slots.

Similarly, cost modeling analysis shows that the District's tiered reimbursement rates are sufficient to offset the increased expenses that child care providers incur to deliver care at higher levels of quality. But the factors that have contributed to increasing child care providers' costs to deliver care from 2018 to 2021 affect costs for providers at all levels of quality—and providers at lower quality designations have experienced larger percentage increases in costs. This analysis suggests that continuing tiered reimbursement payment policies is important to reflect the added expense of delivering higher-quality care, but that there is a greater need to increase reimbursement rates at Developing, Progressing and Quality designations than at the High-Quality designation, and to decrease the difference between the High-Quality rate and the Developing, Progressing and Quality rates.

In addition to informing subsidy rate setting, the findings of the cost modeling analysis can also inform other policies and initiatives to support access, quality and affordability of child care across the District's child care sector as well as child care recovery from the impacts of the COVID-19 pandemic. As noted previously, only half of the District's child care providers accept subsidy payments, but the cost drivers and assumptions included in the cost model apply across both subsidy and non-subsidy programs.

For example, the cost modeling analysis shows that participating in the SSBA improves the revenues of child development homes. OSSE has allocated federal emergency relief funds for child care to expand the SSBA to make this opportunity available to all child development homes as well as Level I subsidy providers. Cost modeling analysis also underscores the importance of maintaining full or near full enrollment for businesses' sustainability. During the public health emergency and recovery, however, some providers have experienced reduced enrollment, first due to health and safety guidance and, in some cases, changes in families' needs for or comfort with formal child care arrangements. While demand for child care is likely to eventually return to pre-COVID levels, as the District moves through the pandemic recovery it may be necessary to provide additional supports—not linked to child attendance or enrollment—for child care providers in parts of the District where child care demand has been most affected by the pandemic. This recognition—and cost modeling data showing the impact of differing levels of enrollment efficiency on child care providers' bottom line—informed the design of Back 2 Work Child

⁶ Reinvestment Fund, "Early Learning Supply and Demand in the District of Columbia," (Washington, DC: Bainum Family Foundation. 2018) bainumfdn.org/wp-content/uploads/2018/10/Bainum_EL-Supply-Demand-Report_FNL_Nov-2018.pdf

Care grants, included in Mayor Bowser’s FY22 budget to provide additional supplemental assistance to child care providers experiencing decreased enrollment during the COVID-19 recovery.

Mayor Bowser’s FY22 budget also includes funding for an additional round of Access to Quality grants, which provide funding that child care providers can use to acquire, expand, or improve facilities to increase the number of quality and high-quality infant and toddler slots. In addition to meeting families’ needs for access to quality infant and toddler care, these grants can help child care providers increase the resiliency and sustainability of their businesses, by allowing them to grow to a larger scale where they can benefit from economies of scale that lower per-child operating costs. Insights from cost modeling analysis can help inform both child care providers’ growth plans and OSSE’s approach to implementing new Access to Quality funding.

Finally, child care program leaders themselves can use the insights generated through this cost modeling analysis to inform their own efforts to maximize the quality and sustainability of their businesses and programs.

Conclusion

OSSE recognizes that financially sustainable subsidy providers are fundamental to realizing the District’s goals for child care access, quality and affordability for all children and families in the District, but are particularly important in expanding access to quality care for low-income families. This cost model analysis helps inform OSSE’s efforts to support sustainable and thriving child care businesses. By modeling a variety of scenarios, it shows how a combination of policy choices and individual provider characteristics and practices shift the expenses and revenues of child care providers, resulting in very different net revenue outcomes. Adequate subsidy rates that cover providers’ costs to deliver care are crucial, and OSSE will use the results of this analysis to inform setting of subsidy rates for FY22. But the choices and practices of child care providers also have a powerful effect on expenses and revenues. Serving mixed age groups, diversifying revenues, increasing scale (for child care centers), and maintaining full or nearly full enrollment all enhance providers’ net revenues. These strategies enable providers to implement high-quality programs while minimizing costs and can enable programs to increase staff compensation. Policies and supports that help child care providers realize cost and revenue efficiencies—such as the QIN, SSBA, Capital Quality and Access to Quality facilities grants—are an important part of the District’s toolkit for enhancing child care quality and access. Additionally, the District is using federal COVID-19 relief funds to expand access to these programs as part of the 2022-2024 CCDF Plan.

Sustainable child care business models are particularly important as the District moves to and through the recovery phases of the public health emergency. In the coming months, OSSE will begin distributing more than \$38 million in federal Child Care Stabilization Funds for child care providers. These funds, which will reach the vast majority of licensed providers in the District, offer a powerful opportunity for child care providers not only to offset costs and revenue losses incurred during the public health emergency, but to use one-time funds to make capacity and programmatic investments that enhance their quality and long-term financial sustainability. OSSE is partnering with intermediary organizations to couple distribution of relief funds with enhanced business and planning supports to help child care providers make the most of this opportunity. By drawing on the results of this cost model analysis and other resources, the District can support thriving child care businesses and advance the well-being of the District’s child, families and child care workforce.

Appendix 1: Definitions

The definitions for common terms used throughout this report that are provided below may be found in DC Code § 4-401 or 5A DCMR §§ 199 and 299.

Bad Debt: the proportion of revenue (tuition, fees, copayments) that is uncollectable.

Child Development Center: A child development facility located on premises other than a dwelling occupied by the operator of the facility.

Child Development Home: A child development facility located in a private dwelling occupied by the operator of the facility. “Child Development Home” also includes those facilities classified as “Expanded Child Development Home.”

Extended Day Full-time: Six to 14 hours where at least one hour of care is in the morning before 7 a.m. or in the afternoon after 6 p.m. and the majority of hours are between 7 a.m. and 6 p.m., Monday through Friday.

Extended Day Part-time: Less than 6 hours where at least one hour of care is in the morning before 7 a.m. or in the afternoon after 6 p.m. and the majority of hours are between 7 a.m. and 6 p.m., Monday through Friday.

Full-time Traditional: Six 11 hours between 7 a.m. and 6 p.m., Monday through Friday.

Level II Center: A child development facility that is authorized by OSSE to determine initial eligibility and to re-determine eligibility of families and children for subsidized child care services.

Non-traditional Full-time: Six to 11 hours between 6 p.m. and 7 a.m., Monday through Friday; or 6 to 11 hours on Saturday or Sunday, regardless of the time of day.

Non-traditional Part-time: Less than 6 hours between 6 p.m. and 7 a.m., Monday through Friday; or less than 6 hours on Saturday or Sunday, regardless of the time of day.

Part-time Traditional: Less than 6 hours of care between 7 a.m. and 6 p.m., Monday through Friday.

Quality Improvement Network: A hub-based quality improvement system for infant and toddler child development providers in the District of Columbia.

Quality Rating and Improvement System: The District’s Capital Quality system establishes four different designations for early care and education facilities that participate in the subsidy program. The quality of each facility is evaluated using observations, which are used to calculate each facility’s rating. These ratings are scored along a continuum, which are progressively associated with four Capital Quality designations (Developing, Progressing, Quality and High-Quality). Each designation is associated with different tiered reimbursement rates. Capital Quality has three components, a designation which is determined by the use of research-based metrics, a continuous quality improvement plan (CQIP) that is aligned with research-based quality standards and a quality profile to support families in selecting an early care and education facility that best meets their child’s needs. The previous QRIS system, Going for the Gold, was based on national accreditation.

Subsidized Child Care Provider: Licensed child development facilities that have a contract with the Office of the State Superintendent of Education to provide care for eligible children under the Subsidized Child Care Program; however, all children enrolled at these facilities are not necessarily participants in the subsidy program.

School Age Programs: Afterschool programs that allow students to participate in academic and extracurricular enrichment activities and to develop new hobbies and skills.

Pre-K Center: A Quality rated center that meets the requirements and high-quality standards as outlined in the Pre-K Enhancement and Expansion Funding regulations. These centers receive funding at the Uniform per Student Funding Formula (UPSFF) for eligible 3- and 4-year-old children.

Shared Services Alliance: Program that provides administrative and business support functions to child development homes and small centers.

Appendix 2: Key Cost Modeling Assumptions

The tool used to model costs is based on a set of assumptions about the cost for delivering services, and the likely revenues, for programs of varying sizes specific to providers in the District of Columbia, including:

- **Cost driver updates that accounted for**
 - The District’s licensing regulations (increased health and safety training requirements and increased staff requirements);
 - Additional staff for High Quality scenarios;
 - Increased living wage, minimum wage, and the implementation of the paid family leave tax; and
 - Updates to salary estimates based on the Bureau of Labor Statistics (BLS) Occupational Employment and Wage Estimates for the District of Columbia.
- **Revenue updates included**
 - Increases to the Child and Adult Care Food Program (CACFP) reimbursement rates, Uniform per Student Funding Formula (UPSFF) increases for pre-K students, including at-risk funds;
 - Market rates based on results of 2018 survey of providers; and
 - Increases to child care subsidy reimbursement rates in FY17 and FY18.
- **Staffing assumptions**
 - **District licensing regulations:** The number of teachers per classroom is based on the staff to child ratios required by District child development facility licensing regulations. Adult to child ratio were amended in 2016, limiting infant capacity to eight infants per classroom, and requiring a 4:1 teacher child ratio for toddlers up to age 30 months.
 - **Cost estimation model positions:** The model uses comparable positions from the Bureau of Labor Statistics Occupations Employment Statistics position categories for the child care positions included in the model.

Table 9. Description of Positions Used in the Cost Estimation Model

| Child Care Estimation Model Position | BLS category | Description |
|---------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Director | 11-9031 Education and Child Care Administrators, Preschool and Daycare | Plan, direct or coordinate academic or nonacademic activities of preschools or child care centers and programs, including before- and after-school care. |
| Lead Teacher, Assistant Teacher | 39-9011 Child Care Workers | Attend to children at schools, businesses, private households and child care institutions. Perform a variety of tasks, such as dressing, feeding, bathing and overseeing play. |

- **Salary estimates:** the model uses the Bureau of Labor Statistics (BLS) Occupational Employment Statistics Occupational Employment and Wage Estimates for the Metropolitan Washington Area.

Table 10. Salary Estimates Used in the Cost Estimation Model

| | Developing | Progressing | Quality | High-Quality |
|----------------------------------------|-------------|-------------|-------------|--------------|
| Director | \$53,216.00 | \$66,520.00 | \$79,824.00 | \$93,128.00 |
| Assistant Director | \$48,320.00 | \$57,984.00 | \$67,648.00 | \$67,648.00 |
| Office Manager | \$42,607.50 | \$44,311.80 | \$51,129.00 | \$51,129.00 |
| Receptionist | \$31,616.00 | \$31,616.00 | \$31,616.00 | \$31,616.00 |
| Healthcare Consultant | - | - | \$55,720.00 | \$55,720.00 |
| Eligibility Coordinator | - | - | \$48,288.50 | \$48,288.50 |
| Coach | - | - | - | \$67,648.00 |
| Family Engagement Specialist | - | - | \$53,692.50 | \$53,692.50 |
| Janitor | \$35,070.00 | \$35,070.00 | \$35,070.00 | \$35,070.00 |
| Lead Teacher | \$41,536.00 | \$43,424.00 | \$45,312.00 | \$50,976.00 |
| Teacher Assistant | \$39,648.00 | \$41,536.00 | \$43,424.00 | \$43,424.00 |
| Out of School Time Teacher | \$31,616.00 | \$31,616.00 | \$31,616.00 | \$31,616.00 |
| Teacher Aide | \$31,616.00 | \$31,616.00 | \$31,616.00 | \$31,616.00 |
| Child Development Home Provider | \$41,536.00 | \$43,424.00 | \$45,312.00 | \$50,976.00 |

Methodology

The cost estimation model is an Excel-based tool based on the methodology used in the Provider Cost of Quality Calculator, an online tool from the U.S. Office of Child Care. The excel model is customized for District of Columbia’s specific context. The specifics of the model are detailed below.

Ratio and Group Size

The cost model uses ratio and group size data from the District of Columbia’s child care licensing regulations as detailed below. At all levels of quality in Capital Quality, the ratios and group size remain the same.

Table 11. District of Columbia Ratio and Group Size

| | All Levels of Quality | |
|--------------------|-----------------------|------------|
| | Ratio | Group size |
| Infant | 1:4 | 8 |
| Toddler I | 1:4 | 8 |
| Toddler II | 1:4 | 12 |
| 3 years | 1:8 | 16 |
| 4 years | 1:10 | 20 |
| Out of School Time | 1:15 | 30 |

Two types of family child care programs, called child development homes, are included in the model. A child development home can serve up to six children, with no more than two infants unless an additional

educator is present. An expanded child development home can serve up to 12 children, with two educators, including up to four infants.

Staffing and Personnel Expenses

The personnel calculations are based on a standard staffing pattern typical of most centers, with the following assumptions built in:

- Non-teaching staff
 - Director (1 full time)
 - Assistant Director (0.5 FTE if fewer than 94 children, 1 FTE if 94 children enrolled)
 - Office Manager (1 FTE if 94 children enrolled)
 - Receptionist (0.5 FTE if fewer than 64 children, 1 FTE if 64 children enrolled)
 - Janitor (0.5 FTE if fewer than 64 children, 1 FTE if 64 children enrolled)

- At Quality and High-Quality, the following additional non-teaching staff are built into the model:
 - Healthcare Consultant (Quality or High-Quality levels, 1 FTE if 94 children enrolled)
 - Coach (High-Quality level, .25 FTE if <44 children, .5 FTE if <94 children, then FT)
 - Family Engagement Specialist (Quality or High-Quality levels, 44 children, 1 FTE; 64 children, 1.5FTE; 94 children, 2FTE; 128 children, 2.5FTE; 188 children, 3 FTE; 232, 3.5FTE; 276 children, 4 FTE)

Classroom Staff

The number of teachers and assistant teachers is driven by the District of Columbia's ratio and group size regulations. Each classroom has a lead teacher, with additional staff counted as assistant teachers in order to meet ratio requirements. In out of school time classrooms, teaching staff are calculated at 60 percent salary to account for summer and before/after school care only.

In addition, the model includes an additional 0.2 FTE per classroom teaching staff to allow for coverage throughout the day for breaks and opening/closing. This reflects that the program is open more than 40 hours per week so to always maintain ratios, additional staffing capacity is needed.

Child Development Homes

In licensed homes, the owner/lead educator is the only staff member unless more than two infants are present, in which case an assistant is added. In group homes, an assistant teacher is included at all times.

Mandatory and Discretionary Benefits

Mandatory benefits are included for all salaried staff, including FICA-Social Security at 6.2 percent, Medicare at 1.45 percent, unemployment insurance at 0.5 percent and workers compensation at 2 percent.

By default, 10 days paid sick leave and 10 days paid leave is included for all staff. This is captured as an expense by including the cost to pay a substitute teacher to provider classroom coverage.

If the health insurance option is selected in the model, an annual amount of includes \$5,000 per FTE. This benefit is included in the model as a dollar amount, which individual providers could choose to deploy in different ways, including health insurance contribution, retirement contribution or other discretionary benefits. Health insurance modeling includes selecting the percentage the employer pays of the annual amount and the percentage of employees covered by the health insurance option.

Non-Personnel Expenses

Non-personnel costs are aggregated into four categories:

- **Education Program for Children and Staff**, which includes:
 - **Education/Program—Child:** Food/food related, classroom/child supplies, medical supplies, postage, advertising, field trips, family transportation, child assessment materials, and transportation
 - **Education/Program—Staff:** Professional consultants, training, professional development, conferences, and staff travel
- **Occupancy:** Rent/lease or mortgage, real estate taxes, maintenance, janitorial, repairs and other occupancy-related costs
- **Program Management and Administration:** Office supplies, telephone, internet, insurance, legal and professional fees, permits, fundraising, memberships and administration fees

Values for each of these non-personnel categories is based on data validated from provider stakeholder meetings during the initial alternative methodology study, updated for inflation, compared to new non-personnel data expenses in the PCQC. The table below provides the values used in the default scenario (Center: six classrooms, serving children birth through school age; child development home: six children, expanded CDH: 12 children)

Table 12. Annual Expenditure by Non-Personnel Expense Category

| Expense Category | Child Development Center - Annual amount | Child Development Home – Annual Amount |
|---------------------------------------|-------------------------------------------------|-----------------------------------------------|
| Education/Program – Child | \$1,912 per child | \$1,853 per child |
| Occupancy | \$66,938 per classroom | \$27,511 per home (shared pro-rated expenses) |
| Program Management and Administration | \$475 per child | \$4,827 per child |

In addition to these expenses, the model also allows for a 5 percent contribution to an operating reserve, a practice that contributes to long-term financial sustainability, and helps programs survive unexpected interruptions to their revenue or unanticipated one-time expenses.

Adjustments to Anticipated Revenue

The model takes into account the reality of how providers operate. No program is 100 percent full all the time and as such the model adjusts the expected revenue to account for classrooms not operating at full capacity. By default, this enrollment efficiency is set at 85 percent, which is the industry standard, meaning that the cost per child calculations are based on the program needing to cover its expenses when only collecting revenue from 85 percent of the total licensed capacity.

In addition, the model also accounts for uncollected, or bad, debt. This reflects the reality that programs are not always able to collect full tuition from families, or families leave the program while still owing tuition. This also account for uncollected subsidy co-payments. The model uses the industry default of 3 percent bad debt.

Revenue

For the purposes of understanding the sufficiency of current revenue streams to support the cost of quality child care, the model includes revenue data. The following revenue data is included:

- **Child Care Subsidy – federal Child Care and Development Block Grant funding**

Current subsidy rate data is used, including quality differentials for Capital Quality levels. Current daily subsidy rates are detailed in Table 13 below.

Table 13: Child Care Subsidy Daily Reimbursement Rates as of FY21

| Child Development Centers | | | | | | |
|------------------------------------|------------------|-----------------|------------------|-----------|------------------------------------|------------------|
| Capital Quality Designation | Full-time | | | | Full-time | Part-time |
| | Infants | Toddlers | Preschool | 4s | School Age Before AND After | |
| Developing | \$65.43 | \$65.43 | \$48.87 | \$48.87 | \$36.06 | \$21.64 |
| Progressing | \$68.32 | \$68.32 | \$50.96 | \$50.96 | \$36.06 | \$21.64 |
| Quality | \$76.78 | \$76.78 | \$57.05 | \$57.05 | \$36.06 | \$21.64 |
| High-Quality | \$93.91 | \$93.91 | \$61.49 | \$61.49 | \$36.06 | \$21.64 |

| Child Development Homes | | | | | | |
|------------------------------------|------------------|-----------------|-----------|-----------|------------------------------------|--|
| Capital Quality Designation | Full-time | | | | Full-time | |
| | Infants | Toddlers | 3s | 4s | School Age Before and After | |
| Developing | \$50.46 | \$50.46 | \$30.84 | \$30.84 | \$28.00 | |
| Progressing | \$55.02 | \$55.02 | \$34.34 | \$34.34 | \$28.00 | |
| Quality | \$59.78 | \$59.78 | \$39.20 | \$39.20 | \$28.00 | |
| High-Quality | \$69.78 | \$69.78 | \$43.18 | \$43.18 | \$28.00 | |

Private Tuition

Tuition data is included in the model and the model adjusts rates based on the Capital Quality level selected, as defined in the 2018 market rate survey. Tuition data is based on the market prices detailed in the 2018 market rate survey, adjusted for inflation to April 2021.

Child and Adult Care Food Program

The cost estimation model accounts for revenue from the federal Child and Adult Care Food Program (CACFP). The federal food program provides reimbursement to providers for meals served to children, with different rates based on family eligibility level. The most recent CACFP rates are included and the model assumes that all children eligible for subsidy are also eligible for CACFP.ⁱ

Adjustments Based on Capital Quality Level

The cost estimation model accounts for additional expenses at each level of the District of Columbia Capital Quality, the District's QRIS. The fiscal consultant analyzed the child care licensing standards and the requirements of Capital Quality to develop a quality frame to estimate the financial impact of requirements.

The impact of higher quality on the cost of operating a program is seen in the following areas:

- Increased professional qualifications
- Additional training/professional development and planning release time

The impact of increased professional qualifications at higher quality levels is captured through higher salaries being included in the model as the quality levels increase. The expense related to additional quality variables is realized through the inclusion of substitute staff to provide release time for educators and/or program directors to engage in the activities required at higher quality levels.

Other Quality Variables

Additional there are other programming enhancements included in the District of Columbia child care system. These are built in to the model as optional, each of these has cost drivers or revenue implications.

- Level II, programs must be Quality or High-Quality level on Capital Quality, to become a Level II site. Level II sites have an eligibility coordinator and are reimbursed for the parent co-payment, in addition to receiving it from the parent.
- QIN, only programs at Quality level qualify to be a QIN site. QIN programs have a family engagement specialist. QIN programs receive a higher daily reimbursement rate for the infants and toddlers in their care. The rate is between that of infant and toddler reimbursement at Quality and High-Quality.
- Pre-K, programs must be Quality or High-Quality level to become a DC pre-K provider. Pre-K sites are also Level II providers and thus have an eligibility coordinator. They also have a family engagement specialist.

ⁱ www.federalregister.gov/documents/2020/07/22/2020-15765/child-and-adult-care-food-program-national-average-payment-rates-day-care-home-food-service-payment