# Massachusetts Child Care Cost Models

## Report on 2024 Cost Research and Cost Model Updates

Amanda Danks, Maya Escueta, Isaac Kaplan,
Austin Gragson, David Loeb, Ashley Darang

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# Executive Summary

Historically, states' child care subsidy programs have used market rates, or tuition charged by providers, to set subsidy rates that support income-eligible families in accessing child care services. However, the market rate is often based on what families in a specific community can afford to pay, not necessarily what it actually costs to provide the early education and child care services. The result is constrained resources for basic operational expenses including educator and staff compensation and an unsustainable business structure. Recent guidance from the federal Office of Child Care gives states the opportunity to apply for permission to use an alternative model to set child care subsidy rates and encourages states to consider using cost-based information to inform these rates.[1] Massachusetts was committed to this approach and subsequently approved to use an alternative methodology (i.e., cost modeling) in early 2024 to set Child Care Financial Assistance (CCFA) reimbursement rates. The Massachusetts child care cost models are designed to estimate the value of the resources used to provide early education and child care across the Commonwealth. The models must be updated periodically to represent the most current information, including resources used and resource prices.

The Massachusetts Department of Early Education and Care (EEC) contracted with the American Institutes for Research® (AIR®) to update its child care cost models that will be used to inform funding and policy decisions, including CCFA rates. The work to update the cost models was divided into two phases, with Phase 1 (completed September 2024) focused on updating all inputs from the 2022 model to reflect 2024 prices and inform fiscal year 2025 (FY25) CCFA rates. Phase 2 (to be completed by June 2025) will further refine and expand the cost models to inform longer-term funding and policy decisions in FY26 and beyond. This report summarizes the updates made in Phase 1 of the work, including data sources and findings, and executes the cost-based methodology approved by the Office of Child Care. The report concludes with recommendations for EEC and a preview of additional research that will take place by June 2025.

A key focus of this work is to estimate the cost of current care (i.e., the value of all resources used to provide the current level of care) and the cost of aspirational care (i.e., the value of all resources that would be needed to provide an ideal or higher quality level of child care). In Phase 1, AIR refined three cost models, representing (a) the cost of current care in child care centers, (b) the cost of aspirational care in child care centers, and (c) the cost of care in family child care programs (FCCs), which assumes that a FCC educator is compensated at the average salary of a center-based director (for FCC owners) or assistant teacher (for FCC assistants), which is

[1] For more information about the federal guidance on alternative market rate methodologies, see https://childcareta.acf.hhs.gov/alternative-methodologies.

likely considerably higher than the current level of compensation for many FCC providers.[2] AIR is also in the process of conducting a tuition study to provide EEC with updated information about how tuition rates vary by setting, region, and age.

Findings about the per-child cost estimated from the 2024 models are summarized below. More details are presented in the body of the report.

**The estimated per-child cost increased between 14% and 26% for center-based programs and between 12% and 19% for FCCs between 2022 and 2024, depending on the region of the state and child age.**

- The most substantial price increases are in staff compensation (a 7%–9% increase depending on the region of the state), facilities (a 28%–29% increase, depending on region), and the per-child cost of food (estimated at $1,000 increase per child annually across regions).
- There was a relatively larger percentage increase in the estimated per-child cost of care for preschool and school-aged children, which was mostly driven by the increase in per-child cost of food (approximately $3.83 per day, per child).

**The 2024 Phase 1 cost models show that FY24 CCFA rates cover between 69% and 125% of the estimated per-child cost of current care in centers and between 63% and 110% in FCCs, depending on the region and age of the children served.**

- The FY24 CCFA rate for centers covers the lowest proportion (depending on region) of the estimated cost of current care for infants (between 69% and 78%) and toddlers (between 69% and 90%).
- In the Metro and Metro Boston regions, the current FY24 CCFA rate for centers exceeds the estimated per-child cost of care for preschoolers (125% and 123%, respectively), as many programs often use that revenue to cross-subsidize the age groups that are more expensive to serve.
- FY24 CCFA center-based rates exceed the per-child cost for school-aged children in all regions (between 106% and 111%, depending on region).
- The FY24 CCFA rate for FCCs covers a lower proportion of the estimated cost for children ages 2-5 years old compared to children under 2 years old (between 63% and 73%, depending on region).
- In the Metro and Metro Boston regions, the FY24 CCFA rate for FCCs exceeds the estimated cost for children under 2 years old (110% and 104%, respectively).

[2] There is currently an absence of reliable statewide data about the salaries and benefits that family child care (FCC) owner/operators receive through their child care businesses. Therefore, for the time being, the FCC cost model assumes the region-specific average salary and benefits of a center director (for owner/operator) and center-based teaching assistant (for FCC assistant).

Data leveraged for this work included information provided by programs via applications for the Commonwealth Cares for Children (C3) program and surveys of C3 participants.[3] The C3 data was used to understand more about the resources (such as staff and materials) used to provide the current level of care, and the prices of those inputs. To further inform the cost model and its assumptions, AIR also conducted program interviews with early educators and program directors and listening sessions with various stakeholders from the early education and afterschool and out-of-school time sector. Lastly, AIR used other publicly available data to value (i.e., assign prices to) all inputs in the cost models (e.g., commercial real estate databases, Housing and Urban Development data, and the Provider Cost of Quality Calculator [PCQC]).

This analysis led to several key recommendations regarding future funding and policy decisions for early education and care programs, as follows:

- Target CCFA rate increases to regions, settings, and age groups for which the gaps between the FY24 CCFA rates and the 2024 per-child cost estimates are the greatest.
- Analyze the statistical differences among per-child cost across regions to inform decisions about any potential regional rate structure changes.
- Consider tuition rates as an additional benchmark to inform targeted rate increases, as tuition is a key piece of what sustains the early education and care market.
- Consider a future analysis of child care demand and the density of CCFA reliance by region to help inform decisions around additional funding and programmatic supports.

In January 2025, EEC's Board of Early Education and Care approved CCFA rate increases based on the updated cost model findings and with consideration of the above recommendations from AIR. The FY25 state budget appropriated $22.5 million for CCFA rate increases. These resources were used to target center-based and FCC CCFA rates for specific regions and age groups that were farthest from the cost of care and built on previous efforts to address geographic inequities. In recognition of rising costs for all programs across the state, a cost-of-living adjustment to all rates was also incorporated. As a result, EEC's CCFA rates are now at least 67% of the cost of care compared to 63% before the increases. Moving forward, EEC will continue to adjust CCFA rates based on the cost of care methodology and as state appropriations allow.

The next steps in the cost research include further refinement and expansion of the cost models by the end of June 2025. Additionally, AIR will explore the components of comprehensive services in early education and care programs and what assumptions to include to reflect those services in the cost models.

[3] As of July 2024, 8,500 programs were eligible for C3 funding, compared to the 8,603 licensed and funded programs in the state (as of September 2024).

# Introduction

Historically, states' child care subsidy programs have used market rates, or tuition charged by providers, to set subsidy rates that support income-eligible families in accessing child care services. However, the market rate is often based on what families in a specific community can afford to pay, not necessarily what it actually costs to provide early education and child care services. The result is constrained resources for basic operational expenses including educator and staff compensation and an unsustainable business structure. Recent guidance from the federal Office of Child Care gives states the opportunity to apply for permission to use an alternative model to set child care subsidy rates. It encourages states to consider using cost-based information to inform subsidy rates. Massachusetts was committed to this approach and subsequently approved by the federal Office of Child Care in early 2024 to use an alternative model (i.e., a cost model) to set Child Care Financial Assistance (CCFA) reimbursement rates. The Massachusetts child care cost models are designed to estimate the value of the resources used to provide early education and child care across the Commonwealth. The models must be updated periodically to represent the most current information, including resources used and resource prices.

The Massachusetts Department of Early Education and Care (EEC) contracted with the American Institutes for Research® (AIR®) to update its child care cost models in two phases. Phase 1 (completed September 2024) uses the 2022 cost models as a base, makes a comprehensive update to the models based on 2024 prices, and is intended to support near-term CCFA rate changes in fiscal year 2025 using the cost methodology pre-approved by the federal Office of Child Care. Phase 2 (to be completed by June 2025) will further refine and expand the model to support EEC and other stakeholders in making policy, program, and funding decisions in the future. This report describes the updates made to the cost models in Phase 1 along with the associated recommendations and next steps.

A key component of this research is the refinement of models that represent the cost of care as it stands currently and models that represent the cost of an aspirational (or ideal or higher-quality) level of care. Throughout this work, we seek to understand what resources are needed to provide an aspirational level of care, including staff (e.g., different child-to-staff ratios or staff qualifications needed for additional services), professional learning opportunities, materials and equipment, and other necessary resources.

AIR refined three cost models for Phase 1, which include (a) the cost of current care (centers), (b) the cost of aspirational care (centers), and (c) the cost of care in family child care programs (FCCs). The cost of current care (center) model represents the typical value of all the resources

currently used to provide child care in centers in Massachusetts. The cost of aspirational care (center) model represents the value of all the resources that would be needed to provide an aspirational (or ideal) level of child care in centers. A key difference between the cost of current care and cost of aspirational care center-based models is staff compensation, with a higher salary and additional benefits (i.e., an increase in health insurance and the addition of retirement benefits) included in the cost of aspirational care model.[4] The FCC model is a hybrid that includes the value of all the non-personnel resources used currently to provide care in FCCs across Massachusetts and uses the region-specific center director salary as the salary for the FCC owner/operator.[5]

This report summarizes the Phase 1 updates to the 2022 models and details the per-child cost estimates by age, region, and setting for the 2024 cost of current care model (centers only), 2024 cost of aspirational care model (centers only), and 2024 FCC model. This report also summarizes key differences between 2022 and 2024 cost estimates and differences between 2024 cost estimates and fiscal year 2024 (FY24) CCFA rates. This report also provides an overview of the methodology used to make the updates and refinements, with a full description (along with data sources used to update model inputs) in Appendix D. The recommendations for CCFA rate adjustments based on these analyses can be found starting on page 12, along with the next steps for future work beginning on page 13.

## Methodology and Data Summary

The first step in the process of updating the cost models was to comprehensively review the 2022 models to understand their structure and the assumptions included in their development. AIR reviewed the final reports and associated presentations from the Center for Early Learning Funding Equity (the developer of the 2022 cost models), the cost models themselves, and available Commonwealth Cares for Children (C3) program data and other administrative data sources to understand all the inputs and assumptions that generated the 2022 per-child cost estimates.[6] The objectives of these reviews were to (a) identify the full list of inputs used in the existing models and whether any important inputs might be missing, (b) understand the data sources and analyses used to generate the values of each input, and (c) understand the calculations underlying the final cost estimates in the 2022 models.

[4] This report focuses on the center-based cost of current care and the FCC hybrid model. However, additional information about the center-based aspirational model can be found in Appendix A.
[5] There is an absence of reliable data about the salaries and benefits that family child care (FCC) owner/operators receive through their child care businesses. Therefore, the FCC cost model uses the region-specific salary and benefits of a center director (for owner/operator) and center-based teaching assistant (for FCC assistant) as a target or goal for FCC compensation.
[6] The Center for Early Learning Funding Equity cost models drew from data sources that largely reflected 2022 prices.

The AIR team applied the ingredients approach (Levin et al., 2018) when identifying components of the 2022 model that needed updating. The ingredients approach is a method widely used in social science fields to produce comprehensive cost estimates and involves identifying all resources (or ingredients) used to perform a certain activity (in this case, to provide child care). For each identified resource (personnel and non-personnel), information about its quality (e.g., staff credentials, facility specifications) is used to identify a market price. Further data collection (described in the next section) is then used to understand the quantity of each resource (e.g., number of staff hours, size of classrooms) used to provide child care. The product of price and quantity then produces cost estimates for the resources used in the provision of child care. This approach was used to determine whether any inputs to the 2022 model were missing or extraneous and whether assumptions around how to quantify and value (i.e., assign a market price) the inputs needed adjustment.

## Stakeholder Engagement

The AIR team conducted interviews with child care program staff representing center-based and FCC programs, out-of-school time programs, and programs that serve children with special needs. Geographically, program interview participants represented five of the six CCFA subsidy regions. The AIR team also held listening sessions with other early education and care leaders and stakeholders in the state to understand more about the quantities and qualities of resources that are currently used to provide care, and what would be needed to provide their ideal level of care (to inform the "aspirational" cost model). Listening session participants included child care umbrella agencies, Head Start agencies, resource and referral agencies, FCC systems, representatives from state associations, and advocacy and policy organizations.

Information was gathered in both program interviews and listening sessions to learn more about the resources currently used to provide child care, and the resources that would be needed to provide an aspirational level of care. These details helped us update assumptions in the cost models to more accurately reflect costs. For example, all program interviewees expressed a need for increased wages to attract and retain staff at all levels and a desire to provide health care and retirement benefits, which informed assumptions around compensation in the aspirational model. Discussions in program interviews and listening sessions around the amount of program reserves that are typical in center-based and FCC programs informed the inputs in the cost of current care model (more information about the stakeholder engagement process and findings can be found in Appendix D).

## Extant Data

A variety of data sources were used to identify the appropriate price for each resource, based on the resource quality and regional factors that may influence prices. Data sources included a

C3 survey[7] and C3 application data, publicly available data about the cost of benefits and facilities, and data about inflation, among other sources. Appendix D describes the methodology more fully and outlines each data source used in the updates to and refinement of all three cost models (cost of current care for centers, cost of aspirational care for centers, and cost of care in FCC programs).

Information from stakeholder engagement activities and extant data were used to update the center-based cost of current care model, the center-based cost of aspirational care model, and the FCC hybrid model. The following sections summarize the estimated per-child costs of current care for centers and the hybrid model for FCCs. The per-child cost estimates of the center-based cost of aspirational care model can be found in Appendix A.

## Per-Child Cost Estimates of Care

The cost models produce cost estimates at the child, classroom, and program levels that can inform Massachusetts policy, program, and funding decisions. This section presents a summary of the per-child cost estimates, a detailed comparison of 2022 and 2024 cost estimates, and a comparison of per-child cost estimates to the FY24 CCFA rates for the center-based cost of current care model and the FCC hybrid model.

### Estimates of the Per-Child Daily Cost of Care

Exhibit 1 summarizes the daily estimated per-child cost of child care in the 2024 Phase 1 cost of current care model for centers, by region, and age. The cost of current care model represents the cost of resources currently used to provide child care in center-based settings by age and region.

**Exhibit 1. Estimated Per-Child Daily Cost of Current Care in Centers, by Age and Region**

| Age | Western | Central | Northeast | Metro | Southeast | Metro Boston |
|---|---|---|---|---|---|---|
| Infants | $134 | $137 | $147 | $154 | $140 | $156 |
| Toddler | $105 | $107 | $114 | $120 | $110 | $122 |
| Preschool | $57 | $58 | $61 | $64 | $59 | $65 |
| School age (before and after school) | $39 | $40 | $41 | $43 | $39 | $43 |
| School age (full day) | $44 | $45 | $47 | $49 | $45 | $49 |

[7] The full C3 survey can be found here: https://www.mass.gov/doc/c3-survey-questions-august-2024/download

Exhibit 2 summarizes the per-child daily estimated cost for FCC programs by age and region. The FCC model includes the cost of resources currently used to provide child care and sets a specific salary for the FCC owner/operator that is equivalent to a center director salary (and a salary for an FCC assistant equivalent to an assistant teacher in a center for model scenarios with eight or more children) for each respective geographic region.

**Exhibit 2. Estimated Per-Child Daily Cost of Care in Family Child Care Programs, by Age and Region**

| Age | Western | Central | Northeast | Metro | Southeast | Metro Boston |
|---|---|---|---|---|---|---|
| Under age 2 | $67 | $68 | $74 | $80 | $69 | $84 |
| Ages 2–5 | $67 | $68 | $74 | $80 | $69 | $84 |
| School age (before and after school) | $40 | $41 | $44 | $47 | $41 | $50 |
| School age (full day) | $67 | $68 | $73 | $79 | $69 | $83 |

## Per-Child Cost Estimate Comparisons

Comparisons between 2022 and 2024 cost estimates and CCFA rates can help identify where Massachusetts EEC may want to focus additional resources and/or CCFA rate increases (e.g., for specific age groups or regions). This section describes those differences and highlights where gaps between FY24 CCFA rates and 2024 cost model estimates are the greatest, with a focus on the estimated per-child costs of *current* care for centers and the hybrid FCC model described above (i.e., with salaries set to be the equivalent of those of center-based staff, which is on average a more aspirational compensation level than many providers currently experience).

### *Comparison of 2022 and 2024 Estimated Costs*

**There are notable increases in input prices between 2022 and 2024.** The most substantial price increases between 2022 and 2024 are in compensation, which includes wages and benefits (increased between 7% and 9%, depending on the region), facilities (increased between 28% and 29%, depending on the region), and food (increased by $1,000 per child annually). These price increases impacted all estimated per-child costs, regardless of the setting, region, or age.

**The larger relative percentage increase in estimated per-child cost from the 2022 model to the 2024 model for preschool and school-aged children is mostly driven by increases in prices for food and facilities.** For centers, the largest per-child cost increases were for preschool and school-aged children (compared with those for infants and toddlers). These differences are largely driven by the substantial increases in prices for food and facilities, which represent a larger percentage of the overall cost for these age groups, given their lower overall per-child

cost estimate. For example, food prices increased by nearly $1,000 per child annually from 2022 to 2024, which amounts to $3.83 per child per day. That $3.83 is a larger percentage of a base cost estimate of $30 per day for school-aged children relative to $50 and $115 per day for preschoolers and infants, respectively. This same pattern exists for FCC programs as well. Exhibits 3 and 4 show the 2024 per-child cost and the percentage of change from the 2022 estimates for centers and FCCs.

Tables showing the 2024 estimated per-child costs of current care compared to 2022 estimated costs can be found in Appendix B.

### Exhibit 3. 2024 Per-Child Daily Costs and Percentage Increase From 2022 Model for Centers, by Age and Region

| Region | Infant | Toddler | Preschool | School age (full day) | School age (before/after) |
|---|---|---|---|---|---|
| **Western** | $134 *(+16%)* | $105 *(+17%)* | $57 *(+22%)* | $44 *(+21%)* | $39 *(+26%)* |
| **Central** | $137 *(+16%)* | $107 *(+16%)* | $58 *(+21%)* | $45 *(+20%)* | $40 *(+25%)* |
| **Northeast** | $147 *(+17%)* | $114 *(+17%)* | $61 *(+20%)* | $47 *(+23%)* | $41 *(+25%)* |
| **Metro** | $154 *(+15%)* | $120 *(+15%)* | $64 *(+19%)* | $49 *(+18%)* | $43 *(+23%)* |
| **Southeast** | $140 *(+17%)* | $110 *(+18%)* | $59 *(+21%)* | $45 *(+20%)* | $39 *(+21%)* |
| **Metro Boston** | $156 *(+14%)* | $122 *(+15%)* | $65 *(+19%)* | $49 *(+20%)* | $43 *(+24%)* |

*Note.* Costs here represent those estimated in the cost of current care model.

### Exhibit 4. 2024 Per-Child Daily Costs and Percentage Increase From 2022 Model for FCC Programs, by Age and Region

| Region | Under 2 | Ages 2–5 | School age (full day) | School age (before/after) |
|---|---|---|---|---|
| **Western** | $67 *(+14%)* | $67 *(+14%)* | $67 *(+18%)* | $40 *(+18%)* |
| **Central** | $68 *(+12%)* | $68 *(+12%)* | $68 *(+15%)* | $41 *(+15%)* |
| **Northeast** | $74 *(+13%)* | $74 *(+13%)* | $73 *(+16%)* | $44 *(+17%)* |

| Region | Under 2 | Ages 2–5 | School age (full day) | School age (before/after) |
|---|---|---|---|---|
| **Metro** | $80<br>*(+14%)* | $80<br>*(+14%)* | $79<br>*(+17%)* | $47<br>*(+17%)* |
| **Southeast** | $69<br>*(+13%)* | $69<br>*(+13%)* | $69<br>*(+17%)* | $41<br>*(+17%)* |
| **Metro Boston** | $84<br>*(+16%)* | $84<br>*(+16%)* | $83<br>*(+19%)* | $50<br>*(+19%)* |

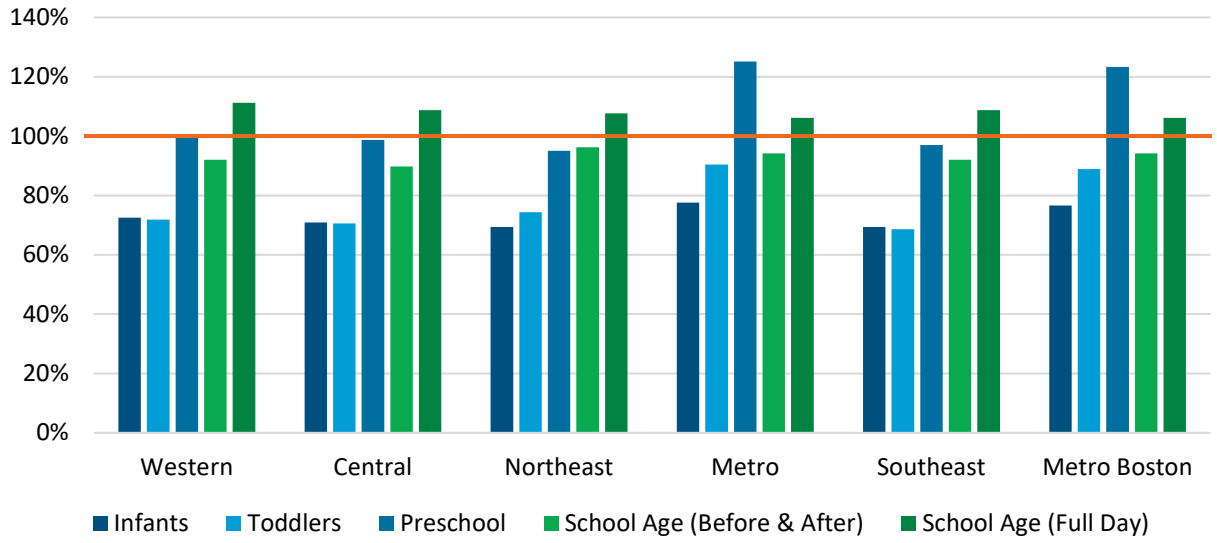
*Note.* FCC = family child care.

### *Comparison of 2024 Estimated Costs and FY24 CCFA Rates*

**The FY24 CCFA rates for center programs cover between 69% and 125% of the estimated cost of current care, depending on the region and age.** The FY24 CCFA rates for infants in the Northeast region and infants and toddlers in the Southeast region are furthest from the estimated cost of current care (FY24 CCFA rates cover 69% of the estimated costs for both regions and age groups). FY24 CCFA rates for preschoolers in the Metro region exceed the estimated costs (125%). CCFA rates that are greater than the estimated cost of care should be interpreted with the understanding that many programs use revenue from these age groups to cover the higher cost of serving infants and toddlers. Tables showing all FY24 CCFA rates compared to the 2024 estimated per-child cost of current care can be found in Appendix C.

Exhibit 5 illustrates the variation in how much of the estimated per-child cost of care is covered by the FY24 CCFA rates for centers. This exhibit shows that within each region, depending on the age, FY24 CCFA rates cover between 69% and 125% of the estimated cost of current care for centers. The bold orange line represents what CCFA rates would need to be to cover 100% of the estimated cost of care.

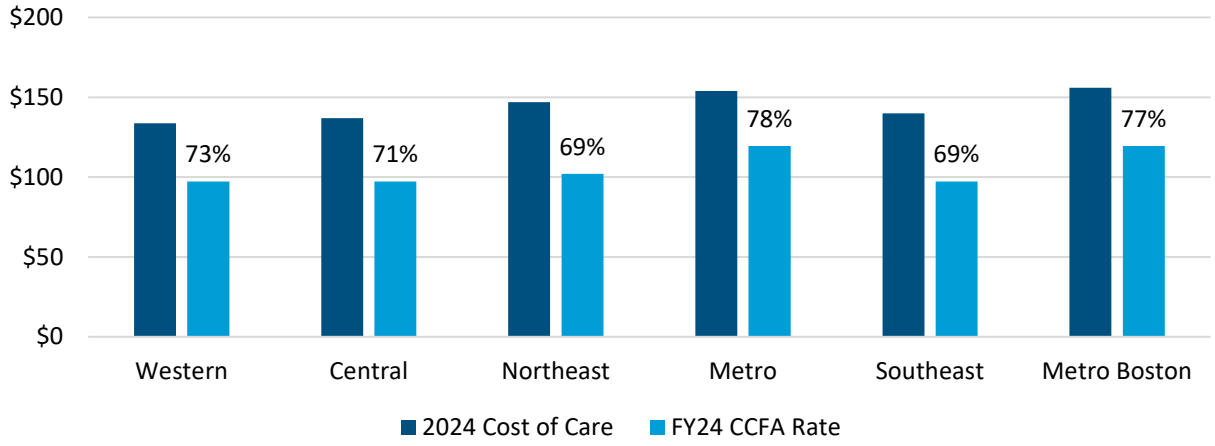
### Exhibit 5. FY24 CCFA Rate as a Percent of the 2024 Estimated Cost of Current Care for Centers




*Note.* CCFA = EEC Child Care Financial Assistance. The orange line shows where CCFA rates would need to be to cover 100% of the 2024 estimated cost of care.

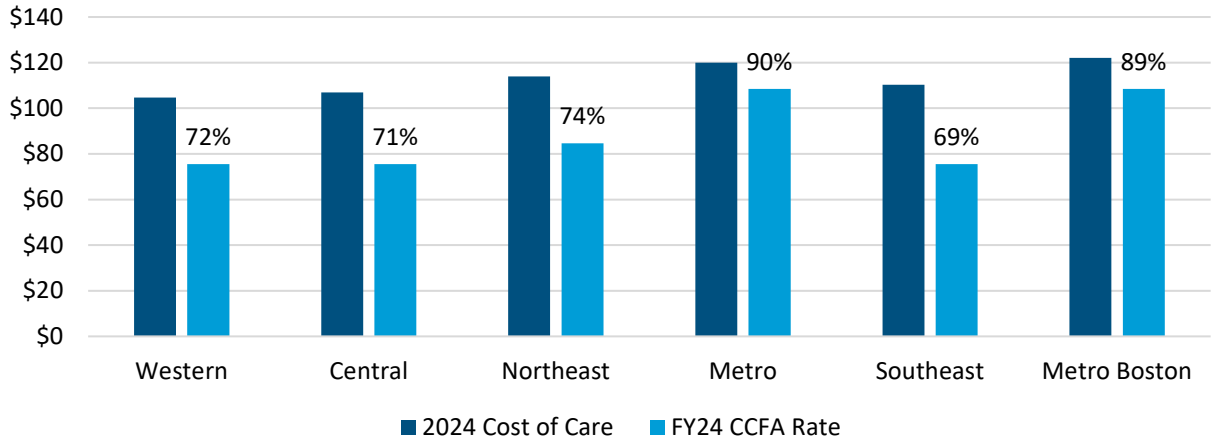
**For centers, the greatest gaps between the 2024 estimated per-child cost of care and the FY24 CCFA rates are in the infant and toddler age groups.** The FY24 CCFA rate covers between 69% and 78% of the estimated cost of current care for infants and between 69% and 90% for toddlers in centers, depending on region. The FY24 CCFA infant rates in the Northeast and Southeast regions are furthest from the per-child estimated cost of care (69%). The FY24 CCFA rate for the Metro region is the closest to the estimated cost of care for infants (78%). The Southeast region has the largest difference for toddlers, with the CCFA rate covering 69% of the estimated cost of current care. The CCFA rate in the Metro region has the smallest difference, with the CCFA rate covering about 90% of the estimated cost of care for toddlers. Exhibits 6 and 7 illustrate the comparison of 2024 center-based estimated costs to the FY24 CCFA rates for infants and toddlers, respectively.

### Exhibit 6. 2024 Estimated Cost of Care Compared to FY24 CCFA Rate for Infants in Centers, by Region




*Note.* CCFA = EEC Child Care Financial Assistance. The percentage above the CCFA bar represents the percentage the CCFA rate covers of the estimated cost of care.

### Exhibit 7. 2024 Estimated Cost of Care Compared to FY24 CCFA Rate for Toddlers in Centers, by Region

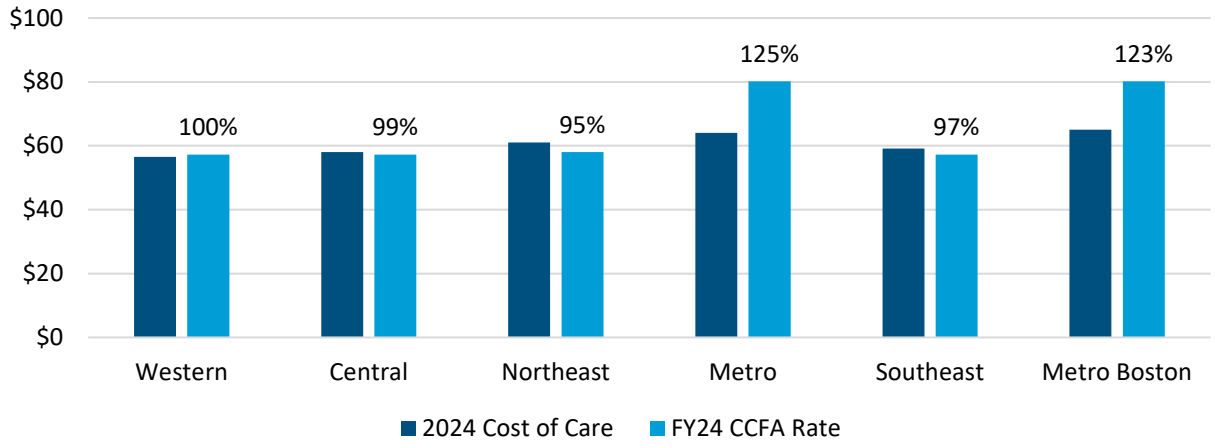



*Note.* CCFA = EEC Child Care Financial Assistance. The percentage above the CCFA bar represents the percentage the CCFA rate covers of the estimated cost of care.

For centers, the FY24 CCFA rates fully cover the 2024 estimated per-child cost of care for preschoolers and school-aged children in some regions. These regions include Western, Metro, and Metro Boston, where CCFA rates cover between 100% and 125% of the estimated cost of care, respectively, for preschoolers and school-aged children. Often, providers tend to "cross-subsidize" the typically more expensive cost of care for infants and toddlers using revenue from preschool and school-aged children's CCFA rates. Thus, although the estimated 2024 per-child

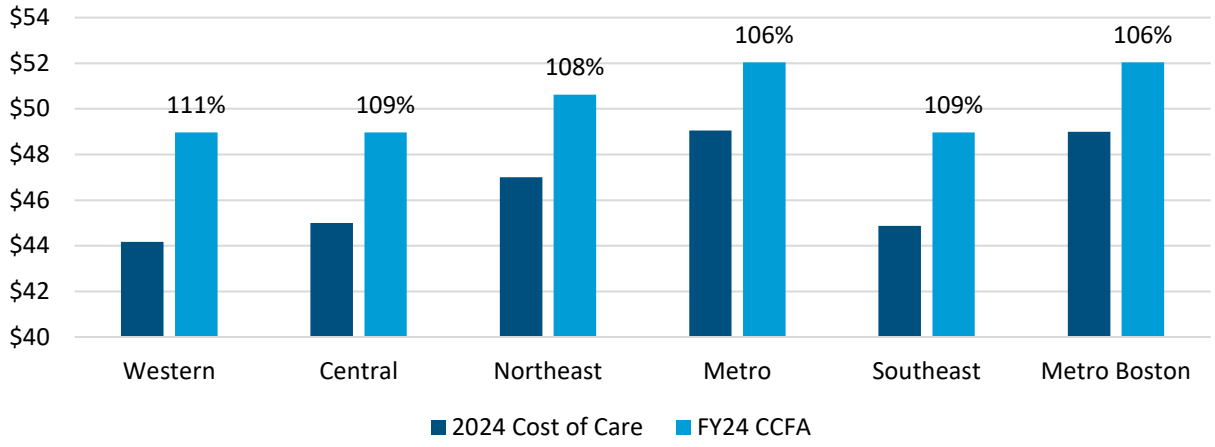
cost of care is fully covered by the FY24 CCFA subsidy for preschoolers and school-aged children, the excess revenue is likely supporting, at least in part, the gaps between the estimated cost of care and the CCFA subsidy for infants and toddlers. Exhibits 8 and 9 illustrate the comparison of 2024 FCC estimated costs to the FY24 CCFA rates for preschoolers and school-aged children, respectively.

### Exhibit 8. 2024 Estimated Cost of Care Compared to FY24 CCFA Rate for Preschoolers in Centers, by Region




*Note.* CCFA = EEC Child Care Financial Assistance. The percentage above the CCFA bar represents the percentage the CCFA rate covers of the estimated cost of care.

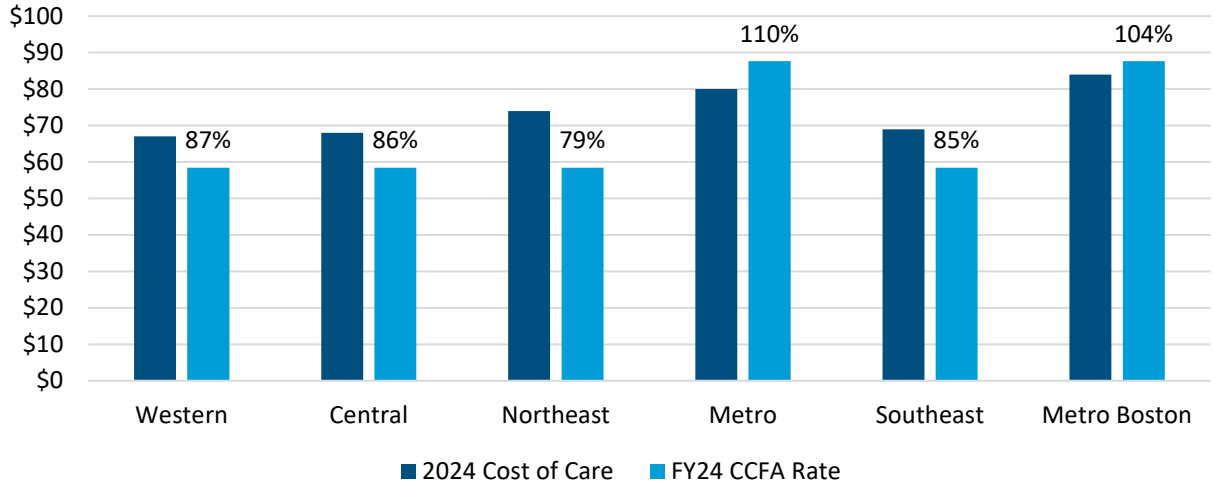
### Exhibit 9. 2024 Estimated Cost of Care Compared to FY24 CCFA Rate for School-Aged Children (Full Day) in Centers, by Region



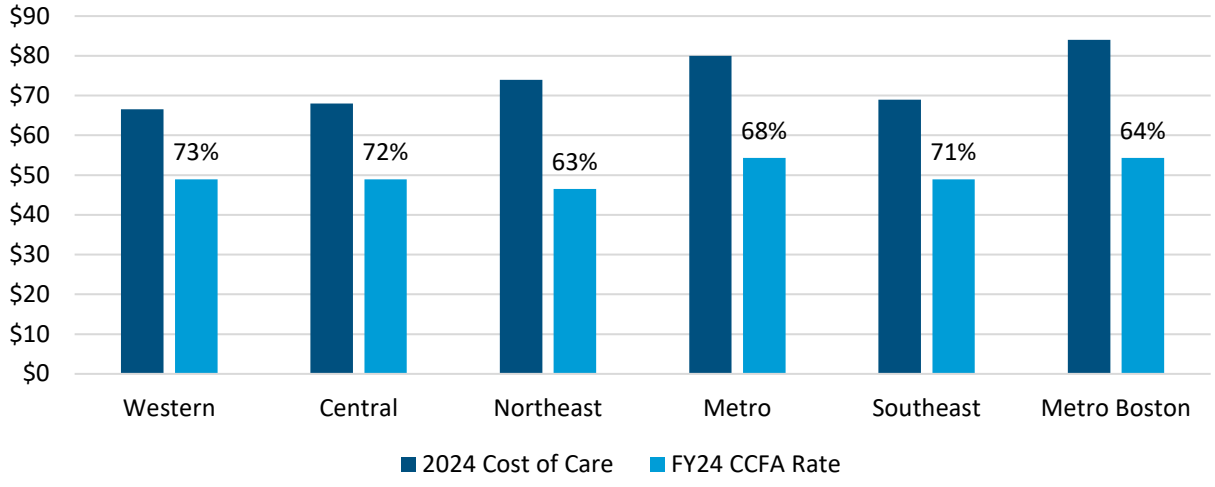

*Note.* CCFA = EEC Child Care Financial Assistance. The percentage above the CCFA bar represents the percentage the CCFA rate covers of the estimated cost of care.

**For FCC programs, FY24 CCFA rates cover between 63% and 110% of the estimated cost.** The FCC FY24 CCFA rate for children ages 2–5 years old in the Northeast region is furthest from the estimated cost of care, covering 63% of the total estimated per-child cost, while the FY24 CCFA rate for children under 2 in the Metro region exceeds the per-child estimated cost of care (110%). Exhibits 10 and 11 illustrate the degree to which the FY24 CCFA rate covers the 2024 estimated per-child cost, by age and region (for children under age 2 and ages 2–5, respectively). These exhibits show that within each region, depending on the age, FY24 CCFA rates cover between 63% and 110% of the estimated per-child cost of care in FCC programs.

### Exhibit 10. 2024 Estimated Cost of Care Compared to FY24 CCFA Rate for Children Under Age 2 in Family Child Care Programs, by Region




### Exhibit 11. 2024 Estimated Cost of Care Compared to FY24 CCFA Rate for Children Ages 2-5 in Family Child Care Programs, by Region




*Note.* CCFA = EEC Child Care Financial Assistance; FCC = family child care. The percentage above the CCFA bar represents the percentage the CCFA rate covers of the estimated cost of care.

**For FCC programs, the largest gaps between the 2024 estimated cost of care and the FY24 CCFA rates are for children ages 2–5 years old.** The current CCFA rate covers between 63% (Northeast region) and 73% (Western region) of the estimated cost of care for children ages 2–5 years old, depending on the region (Exhibit 11). In contrast, two CCFA rates for children under 2 years old (Exhibit 10) are slightly greater than the estimated cost of current care for FCC programs: in the Metro region, the CCFA rate covers about 110% of the estimated cost of current care, and the CCFA rate in the Metro Boston region covers about 104%.

## Recommendations

Over the past couple of years, Massachusetts has taken considerable steps to develop a methodology to estimate the cost of early education and care in Massachusetts. The updated cost models described in this report build upon this work and can be used to inform strategic financing decisions. AIR offers several recommendations for using the updated cost models below with a focus on the agency's CCFA rates. However, cost models are also important tools that can help quantify the extent to which other strategic investments —on their own and/or together with other funding — cover the cost of care.

**Target rate increases to regions, settings, and age groups for which the gaps between the FY24 CCFA rates and the 2024 per-child cost estimates are the greatest.** Targeting CCFA rate increases to where the gaps are the greatest first could have a positive impact on the stability of child care businesses in specific areas and/or child care service availability for children of particular ages. This approach can also be applied in future years as the estimated cost of care and the CCFA rates change.

**Analyze the statistical differences between the per-child cost across regions to inform decisions about any regional rate structure changes.** Currently, there are six regions in Massachusetts for the purpose of EEC CCFA administration and three different CCFA rates based on the 2022 cost research findings as of FY24: Western, Central, and Southeast as one rate; Northeast as its own rate; and Metro and Metro Boston as the third rate. Further analysis of the estimated per-child cost differences across regions might reveal that a more nuanced rate structure could better support children and families, although Phase 1 of this research does not support the need for an immediate change.

**Consider tuition rates as an additional benchmark for targeted increases.** Analyzing the median or modal tuition rates for each combination of region, setting, and age alongside the estimated per-child cost could help further illuminate where CCFA rate increases would have the most impact on child care businesses. For example, some combinations of setting, region, and age may have average tuition rates that are far below the estimated per-child cost of care *and* receive a CCFA rate that is below the estimated cost of care —a circumstance that may be a

higher priority for targeted increases. Other combinations of setting, region, and age may charge tuition rates that are close to the estimated cost *and* receive CCFA rates that are at or above the estimated cost — a circumstance that may be a lower priority for targeted increases. The tuition study completed by AIR will be a source of data for the use of tuition rates as an additional benchmark to supplement the cost methodology and findings.

**Future research could focus on an analysis of child care demand and the density of CCFA reliance by region.** An understanding of how both the demand for child care (e.g., the number of families looking for early education and care) and the density of CCFA usage (e.g., the proportion of families providers serve that rely on CCFA) vary by region (and change over time) can help EEC identify areas where an increase in child care supply that relies on CCFA support is needed and inform decisions about how to direct additional support to programs. For example, in areas where child care demand is high, supply is low, and CCFA usage density is relatively high, programs may only be able to charge families a portion of the estimated cost of care to remain affordable for those families. In a circumstance like this, EEC could consider targeting CCFA rate increases to support programs that serve a relatively higher proportion of families that use CCFA to access child care.

## Next Steps

The goal of Phase 1 of this work was to execute EEC's approved alternative cost-based methodology and fully update and refine the 2022 cost models to inform adjustments to EEC's FY25 CCFA rates. The results of the Phase 1 work include two center-based cost models (one representing the cost of current care and one representing the cost of aspirational care) and one FCC model (representing a hybrid of current and aspirational care). All models produce a per-child cost estimate for providing child care and use 2024 prices for each cost model input (e.g., personnel, facilities, materials, and equipment).

In December 2024, EEC proposed increasing CCFA rates based on AIR's Phase 1 cost model findings and recommendations. The proposal was approved by EEC's Board of Early Education and Care in January 2025. The increases primarily targeted center-based and FCC CCFA rates for specific regions and age groups that were farthest from the cost of care and built on previous efforts to address geographic inequities. In recognition of rising costs across the state since the 2022 cost study, a portion of the $22.5 million available for CCFA rate increases was directed at a cost of living adjustment to all rates. As a result, all of EEC's CCFA rates are now at least 67% of the 2024 cost of care compared to 63% before the increases. Moving forward, EEC will continue to adjust CCFA rates based on the cost of care methodology and as state appropriations allow.

The next phase of the cost research, which began in late 2024 and be completed by the end of June 2025, will further refine the cost models and expand their utility to inform both future

CCFA rate setting and other early education and care policy and funding decisions. In the coming months, AIR plans to collect additional data and continue engaging with EEC and the early education and care field to further refine the cost models to estimate the cost of child care and how it varies across regions, settings, and ages. Some key areas of focus for Phase 2 are described below, along with some of the data sources AIR anticipates leveraging and assumptions that will be revisited.

**Cost of Providing Comprehensive Services.** The needs of children can vary substantially across Massachusetts, and some children and families require additional supports (i.e., comprehensive services) to meet their individual needs. Comprehensive services include mental and behavioral health supports, support for food and housing insecurity, and parenting support. AIR will work to leverage administrative data, listening sessions, and focus groups to understand and incorporate into the cost models some of the nuances around comprehensive services and what resources are used by child care providers to provide these supports for children and families.

**Cost to Operate Out-of-School Time Programs.** AIR will explore further how costs vary with the composition of ages of children served by programs. The staffing structure needed to support a program that only serves school-aged children varies greatly from the staffing structure needed to support a program that serves school-aged children and other age groups. For example, for school-age only programs, there is an increased need for part-time staff to serve children before and after school, which can be difficult to staff. Phase 2 will focus on developing a school-age only cost model that represents the current cost of care for programs that serve only school-aged children (both before and after school and for the full day in the summer).

**Cost Variation by Provider Size and Setting.** AIR will further explore how costs vary with program size (i.e., regarding enrollment, enrollment as a percentage of licensed capacity, and classroom-level staffing configurations). AIR will also explore to what extent typical program sizes vary systematically across child care regions and make recommendations about whether to capture this variation in the cost model. AIR will also engage with key stakeholders to gather information about the resources used to provide informal care to better understand unique costs associated with those providers.

**Cost of Different Staffing Levels, Group Sizes, and Ratios.** The cost implications of different staffing levels, group sizes, and staff-to-child ratios will also be further explored in Phase 2, particularly in the cost models that focus on the cost of care under aspirational conditions. Focus groups and listening sessions with key stakeholders will help inform the testing of different assumptions.

**Cost Variation Across Geographic Regions.** AIR will explore how costs vary across geographic regions, particularly focused on cost model components such as staff compensation and facilities costs, to make recommendations about how best to account for regional differences in the cost models. In addition, AIR will analyze whether the costs between regions are statistically different enough to suggest further exploration of changes to the CCFA rate structure in the future.

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# Appendix A. 2024 Estimated Cost of Aspirational Care in Center-Based Programs

AIR refined two cost models for centers in Phase 1, which include (a) the cost of current care and (b) the cost of aspirational care. The cost of current care model represents the typical value of all the resources currently used to provide child care across centers in Massachusetts. The cost of aspirational care model represents the value of all the resources that would be needed to provide an aspirational (or ideal) level of child care in centers. The aspirational model includes things like increased wages, health benefits, and retirement benefits for staff, along with other nonpersonnel additions, like education supplies, food, staff training, and legal/auditing services. This appendix summarizes the aspirational per-child cost for children served in centers, by subsidy region and age.

### Exhibit A1. Estimated Daily Per-Child Cost of Aspirational Care, by Age: Western Region

| Age | Per-child cost estimate |
|---|---|
| Infants | $210 |
| Toddler | $166 |
| Preschool | $96 |
| School age (before and after school) | $80 |
| School age (full day) | $97 |

### Exhibit A2. Estimated Daily Per-Child Cost of Aspirational Care, by Age: Central Region

| Age | Per-child cost estimate |
|---|---|
| Infants | $221 |
| Toddler | $175 |
| Preschool | $101 |
| School age (before and after school) | $84 |
| School age (full day) | $102 |

### Exhibit A3. Estimated Daily Per-child Cost of Aspirational Care, by Age: Northeast Region

| Age | Per-child cost estimate |
|---|---|
| Infants | $241 |
| Toddler | $189 |
| Preschool | $105 |
| School age (before and after school) | $90 |
| School age (full day) | $109 |

### Exhibit A4. Estimated Daily Per-Child Cost of Aspirational Care, by Age: Metro Region

| Age | Per-child cost estimate |
|---|---|
| Infants | $249 |
| Toddler | $196 |
| Preschool | $110 |
| School age (before and after school) | $93 |
| School age (full day) | $113 |

### Exhibit A5. Estimated Daily Per-Child Cost of Aspirational Care, by Age: Southeast Region

| Age | Per-child cost estimate |
|---|---|
| Infants | $233 |
| Toddler | $184 |
| Preschool | $105 |
| School age (before and after school) | $88 |
| School age (full day) | $106 |

### Exhibit A6. Estimated Daily Per-Child Cost of Aspirational Care, by Age: Metro Boston Region

| Age | Per-child cost estimate |
|---|---|
| Infants | $265 |
| Toddler | $209 |
| Preschool | $117 |
| School age (before and after school) | $98 |
| School age (full day) | $119 |

# Appendix B. Comparison of 2024 Estimated Costs and 2022 Estimated Costs

### Exhibit B1. 2022 Daily Cost of Care Compared to 2024 Cost of Care in Centers, by Age: Western Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Infant | $115 | $134 | 16% |
| Toddler | $90 | $105 | 17% |
| Preschool | $47 | $57 | 22% |
| School age (before and after school) | $31 | $39 | 26% |
| School age (full day) | $36 | $44 | 21% |

### Exhibit B2. 2022 Daily Cost of Care Compared to 2024 Cost of Care in Centers, by Age: Central Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Infant | $118 | $137 | 16% |
| Toddler | $92 | $107 | 16% |
| Preschool | $48 | $58 | 21% |
| School age (before and after school) | $32 | $40 | 25% |
| School age (full day) | $38 | $45 | 20% |

### Exhibit B3. 2022 Daily Cost of Care Compared to 2024 Cost of Care in Centers, by Age: Northeast Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Infant | $126 | $147 | 17% |
| Toddler | $98 | $114 | 17% |
| Preschool | $51 | $61 | 20% |
| School age (before and after school) | $33 | $41 | 25% |
| School age (full day) | $38 | $47 | 23% |

### Exhibit B4. 2022 Daily Cost of Care Compared to 2024 Cost of Care in Centers, by Age: Metro Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Infant | $134 | $154 | 15% |
| Toddler | $104 | $120 | 15% |
| Preschool | $54 | $64 | 19% |
| School age (before and after school) | $35 | $43 | 23% |
| School age (full day) | $41 | $49 | 18% |

### Exhibit B5. 2022 Daily Cost of Care Compared to 2024 Cost of Care in Centers, by Age: Southeast Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Infant | $120 | $140 | 17% |
| Toddler | $93 | $110 | 18% |
| Preschool | $49 | $59 | 21% |
| School age (before and after school) | $32 | $39 | 21% |
| School age (full day) | $38 | $45 | 20% |

### Exhibit B6. 2022 Daily Cost of Care Compared to 2024 Cost of Care in Centers, by Age: Metro Boston Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Infant | $137 | $156 | 14% |
| Toddler | $106 | $122 | 15% |
| Preschool | $55 | $65 | 19% |
| School age (before and after school) | $35 | $43 | 24% |
| School age (full day) | $41 | $49 | 20% |

### Exhibit B7. 2022 Daily Cost of Care Compared to 2024 Cost of Care in FCC Programs, by Age: Western Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Under 2 | $59 | $67 | 14% |
| Ages 2-5 | $59 | $67 | 14% |
| School age (before and after school) | $34 | $40 | 18% |
| School age (full day) | $57 | $67 | 18% |

### Exhibit B8. 2022 Daily Cost of Care Compared to 2024 Cost of Care in FCC Programs, by Age: Central Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Under 2 | $61 | $68 | 12% |
| Ages 2-5 | $61 | $68 | 12% |
| School age (before and after school) | $35 | $41 | 15% |
| School age (full day) | $59 | $68 | 15% |

### Exhibit B9. 2022 Daily Cost of Care Compared to 2024 Cost of Care in FCC Programs, by Age: Northeast Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Under 2 | $65 | $74 | 13% |
| Ages 2-5 | $65 | $74 | 13% |
| School age (before and after school) | $38 | $44 | 17% |
| School age (full day) | $63 | $73 | 16% |

### Exhibit B10. 2022 Daily Cost of Care Compared to 2024 Cost of Care in FCC Programs, by Age: Metro Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Under 2 | $70 | $80 | 14% |
| Ages 2-5 | $70 | $80 | 14% |
| School age (before and after school) | $41 | $47 | 17% |
| School age (full day) | $68 | $79 | 17% |

### Exhibit B11. 2022 Daily Cost of Care Compared to 2024 Cost of Care in FCC Programs, by Age: Southeast Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Under 2 | $61 | $69 | 13% |
| Ages 2-5 | $61 | $69 | 13% |
| School age (before and after school) | $35 | $41 | 17% |
| School age (full day) | $59 | $69 | 17% |

### Exhibit B12. 2022 Daily Cost of Care Compared to 2024 Cost of Care in FCC Programs, by Age: Metro Boston Region

| Age | 2022 per-child cost estimate | 2024 per-child cost estimate | Percentage change |
|---|---|---|---|
| Under 2 | $73 | $84 | 16% |
| Ages 2-5 | $73 | $84 | 16% |
| School age (before and after school) | $42 | $50 | 19% |
| School age (full day) | $70 | $83 | 19% |

# Appendix C. Comparison of 2024 Estimated Costs and FY24 CCFA Rates

### Exhibit C1. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Western Region Centers

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Infant | $134 | $97 | 73% |
| Toddler | $105 | $75 | 72% |
| Preschool | $57 | $57 | 100% |
| School age (before and after school) | $39 | $36 | 92% |
| School age (full day) | $44 | $49 | 111% |

### Exhibit C2. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Central Region Centers

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Infant | $137 | $97 | 71% |
| Toddler | $107 | $75 | 71% |
| Preschool | $58 | $57 | 99% |
| School age (before and after school) | $40 | $36 | 90% |
| School age (full day) | $45 | $49 | 109% |

### Exhibit C3. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Northeast Region Centers

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Infant | $147 | $102 | 69% |
| Toddler | $114 | $85 | 74% |
| Preschool | $61 | $58 | 95% |
| School age (before and after school) | $41 | $39 | 96% |
| School age (full day) | $47 | $51 | 108% |

### Exhibit C4. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Metro Region Centers

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Infant | $154 | $120 | 78% |
| Toddler | $120 | $108 | 90% |
| Preschool | $64 | $80 | 125% |
| School age (before and after school) | $43 | $41 | 94% |
| School age (full day) | $49 | $52 | 106% |

### Exhibit C5. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Southeast Region Centers

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Infant | $140 | $97 | 69% |
| Toddler | $110 | $75 | 69% |
| Preschool | $59 | $57 | 97% |
| School age (before and after school) | $39 | $36 | 92% |
| School age (full day) | $45 | $49 | 109% |

### Exhibit C6. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Metro Boston Region Centers

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Infant | $156 | $120 | 77% |
| Toddler | $122 | $108 | 89% |
| Preschool | $65 | $80 | 123% |
| School age (before and after school) | $43 | $41 | 94% |
| School age (full day) | $49 | $52 | 106% |

### Exhibit C7. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Western Region FCCs

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Under 2 | $67 | $58 | 87% |
| Ages 2-5 | $67 | $49 | 73% |
| School age (before and after school) | $40 | $34 | 85% |
| School age (full day) | $67 | $49 | 73% |

### Exhibit C8. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Central Region FCCs

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Under 2 | $68 | $58 | 86% |
| Ages 2-5 | $68 | $49 | 72% |
| School age (before and after school) | $41 | $34 | 84% |
| School age (full day) | $68 | $49 | 72% |

### Exhibit C9. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Northeast Region FCCs

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Under 2 | $74 | $58 | 79% |
| Ages 2-5 | $74 | $46 | 63% |
| School age (before and after school) | $44 | $33 | 74% |
| School age (full day) | $73 | $47 | 64% |

### Exhibit C10. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Metro Region FCCs

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Under 2 | $80 | $88 | 110% |
| Ages 2-5 | $80 | $54 | 68% |
| School age (before and after school) | $47 | $38 | 80% |
| School age (full day) | $79 | $54 | 69% |

### Exhibit C11. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Southeast Region FCCs

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Under 2 | $69 | $58 | 85% |
| Ages 2-5 | $69 | $49 | 71% |
| School age (before and after school) | $41 | $34 | 83% |
| School age (full day) | $69 | $49 | 71% |

### Exhibit C12. Estimated Daily 2024 Cost of Care Compared to FY24 CCFA Rate, by Age: Metro Boston Region FCCs

| Age | 2024 AIR estimated cost of care | FY24 CCFA rate | FY24 CCFA rate as percentage of 2024 cost estimate of current care |
|---|---|---|---|
| Under 2 | $84 | $88 | 104% |
| Ages 2-5 | $84 | $54 | 64% |
| School age (before and after school) | $50 | $38 | 76% |
| School age (full day) | $83 | $54 | 65% |

# Appendix D. Methodology and Data

This appendix describes the methodological approaches and data sources that were used to update the Massachusetts child care cost models in 2024.

## Data

The comprehensive review of the 2022 cost models highlighted a need to collect some new data to update prices and assumptions in the models during Phase 1 in order to calculate accurate per-child costs. Opportunities to gather new data included adding questions to a survey of C3 grantees and gathering updated publicly available pricing data. We also sought input from early education and care programs (e.g., educators, program directors) and other key stakeholders (e.g., child care umbrella agencies, resource and referral agencies, FCC systems, state association representatives, advocacy and policy organizations) through interviews and broader listening sessions to ensure that the models reflect on-the-ground experiences. These engagement efforts supported us in understanding inputs or contextual information that are missing from administrative data. This section describes these data collection efforts as well as all the data sources we used to produce the 2024 cost models.

### *C3 Survey and Application*

The C3 program was developed during the COVID-19 pandemic as a way to help keep programs open and stabilize the child care system by providing operational funding to programs. Originally funded by the federal government, Massachusetts has continued to provide operational support for programs across the Commonwealth using state resources. C3 funds are distributed at the program level, and the funding amount is based on a variety of program and family characteristics.[8] C3 funding is available to eligible licensed and funded child care programs. C3 funds can be used for a variety of child care business expenses, including personnel, compensation, professional development, and other operational expenses and quality investments (e.g., facilities, utilities, curricula costs).

Two of the main sources of administrative data collected about child care programs in Massachusetts are from the C3 survey (typically administered twice annually) and the C3 application, which eligible programs must fill out every month in order to receive C3 funding. As of July 2024, there were 8,500 eligible C3 grantees, out of the 8,603 licensed and funded programs (as of September 2024). The application collects data on staffing, enrollment, staff wages, and other program details.

[8] For more information about recent changes in C3 funding, please see https://www.mass.gov/info-details/commonwealth-cares-for-children-c3-grants#overview-.

In addition to the C3 application, EEC administers a C3 survey twice a year to better understand how participating programs use grant funds and how the Commonwealth of Massachusetts can support educators, providers, and families. The information gathered from the survey is also used to better understand and report to the EEC Board and other key stakeholders on the status of early education and care in the Commonwealth.

The AIR team had the opportunity to develop additional survey questions that were incorporated into the C3 August 2024 survey. These items were added to the survey to fill in information gaps in the data already collected (i.e., monthly C3 application data) and to better understand other nuances about the child care programs that receive C3 grant funding, such as what benefits are provided to staff. Exhibit D1 summarizes the items added to the August C3 survey for both centers and FCCs.

### Exhibit D1. Summary of Additional C3 Survey Items, August 2024

| C3 survey section | Purpose |
|---|---|
| Wages | The additional items aimed at understanding the average salary paid to staff in each position.[9] |
| Benefits | The additional items asked about what benefits were offered to staff in each position and gathered information about perceptions of the importance of a variety of benefits when recruiting and retaining staff for a child care business. |
| Paid time off | Items were added to understand the amount of annual paid-time-off programs provided for staff in each position. |
| Facility operations | Additional items were structured to understand the cost of operating a child care facility (both centers and FCCs), including monthly rent, other operational costs (e.g., ground maintenance, electricity, and gas/propane), and general liability insurance. |
| Program operation | Additional items gathered input to understand to what extent nontraditional hours of care (i.e., evenings, overnight, and weekends) were offered. |

The August C3 survey was distributed to programs beginning on August 1, 2024. The AIR team received two sets of data with programs' responses at different points in time in August. The AIR team used the first data set as a model of the file structure that was used to write code for cleaning and analyzing the data, whereas the second (and more complete) data set was used for analysis. Exhibit D2 summarizes the program responses represented within each data pull.

[9] A variable capturing average hourly wage of each staff position was collected in the C3 August survey to complement information on the highest and lowest wage of each staff position captured in the monthly C3 application, thus providing more detailed information on the overall distribution of wages for each staff role.

### Exhibit D2. Survey Responses, by Program Type

| Date of data retrieval | Total respondents (% of all programs) | Center (% of all center programs) | FCC (% of all FCC programs) |
|---|---|---|---|
| August 7, 2024 | 4,594 (54%) | 790 (27%) | 3,777 (68%) |
| August 28, 2024 | 6,053 (71%) | 1,607 (56%) | 4,414 (80%) |

*Note.* The numbers for all center and FCC programs used to calculate the respective response rates are based on the list of all Commonwealth Cares for Children eligible programs provided by the Massachusetts Department of Early Education and Care. FCC = family child care.

Because C3 application data were available for almost every licensed child care program in Massachusetts, they served as the primary data source to inform cost model assumptions (see section below on data sources by input for more details on how each data source was used in the cost model).

### *Program Interviews*

The AIR team conducted eight virtual interviews with child care programs in late August 2024. In order to understand their unique perspectives, the group interviews included staff from center-based and FCC programs, out-of-school-time programs, and programs that serve children with special needs. The purpose of these interviews was twofold. First, the interviews aimed to share with participants an update about the work for those not already aware, including the purpose of cost models and how EEC utilizes them, the nature of EEC's previous cost research, and the work AIR is now conducting with EEC. Second, as an additional source of qualitative data to accompany the survey and administrative data described previously, the interviews were used to gather feedback from programs about specific cost inputs, including staff compensation, staffing ratios, and additional resources needed to provide child care.

To recruit programs for these interviews, AIR drew stratified random samples of programs from a data set of licensed and funded child care programs; these samples represented different child care settings (centers and FCCs), regions, services offered (out-of-school-time, evening, overnight, and weekend care), and children served (including children with special needs and/or complex behavioral needs). AIR also offered interviews in Spanish if providers indicated that interpretive services were needed for full participation. Participants for the interviews represented all regions, settings, services offered, and children served. Additional information about the sampling methodology used can be found in Appendix E.

At the start of these 60-minute interviews, AIR dedicated 10–15 minutes to introductions, background information on cost models and how they can be utilized, the nature of EEC's

previous cost work, and a summary of the work that AIR is conducting with EEC. After these key background concepts were established, participants were invited in the remaining time to use a virtual whiteboard link to provide feedback on a series of prompts based on what their aspirational (or ideal) level of care would be.

Participants were offered multiple methods to submit feedback to the virtual whiteboard. They could either type their responses in the meeting chat function or unmute and an AIR staff member would then log their response on the virtual whiteboard. To help spur conversation, participants were asked probing questions such as "What benefits would you need to offer to attract and retain staff with these qualifications?" or "How do you know this is the ratio needed to serve the children and families in your program?" For each topic area, the AIR team made sure to record responses from all participants and summarize as needed to ensure clarity. Participant input that was not directly related to the probing questions was gathered in a separate notetaking document for future consideration.

**Program Interview Findings**

Across the program interviews, many common themes emerged. For example, all interviewed programs expressed the need for increased wages to attract and retain staff at all levels. In addition, programs would like to improve benefits for staff, including more paid time off and sick leave, paid lunch breaks and other benefits including health care and retirement. Many programs also indicated that offering educational benefits to help staff pursue higher education, along with free or reduced child care costs for employees' children, are critical tools for recruitment. All programs interviewed expressed a desire to reduce child-to-adult ratios, especially when caring for children with special or behavioral needs.

Most programs noted an increase in social and emotional behavioral needs among children and emphasized the need for additional support staff, such as therapists, mental health specialists, or "floater staff" to help address these intensive needs. In addition to noting the need for comprehensive services, programs highlighted the increasing need for professional development to apply strategies shared by the support staff. Interviewees expressed a desire for more training opportunities and funds to allow staff to attend sessions to improve their response to the growing needs of the children they serve. Finally, there was overwhelming support from all programs for providing paid planning time to educators.

Family child care programs, in particular, mentioned the need to consider charging higher tuition rates to sustain and grow their businesses but noted that they feel constrained by what families can afford to pay. Out-of-school-time programs shared that they struggle with staffing due to the often part-time nature of the work and mentioned that the rising costs of

transporting students from school to their programs is impeding their ability to invest more in program enhancements and staff compensation.

### *Stakeholder Listening Sessions*

The AIR team also conducted three listening sessions between September 9 and September 13, 2024, to hear from state-level stakeholders. Various organizations and leaders were invited to these sessions, including (but not limited to) staff from child care umbrella agencies, Head Start agencies, resource and referral agencies, FCC systems, representatives from state associations, and advocacy and policy organizations. EEC provided contact information for suggested listening session participants, and AIR reached out to them directly to describe the focus of the listening sessions and give participation information. Exhibit D3 summarizes listening session participation. During the listening sessions, AIR and EEC described the current cost model work (as with program interviews described earlier) to provide context and updates. Then, the key purpose of the listening sessions was to hear from participants what they believe should be considered in the development of cost models that estimate per-child costs. Most of each conversation focused on going through the cost model inputs (e.g., personnel, facilities, materials and equipment, revenue, margin) and gathering input from participants about key considerations that they recommended the team keep in mind throughout this work.

**Exhibit D3. Listening Session Participation**

| Listening session | Listening session date | Organizations represented | Number of individual attendees |
|---|---|---|---|
| Listening Session 1 | September 9, 2024 | Strategies for Children, The Community Group (Lawrence), Clarendon Early Education Services, Massachusetts Head Start Association, Horizons for Homeless Children, Acre Family Child Care (Lowell) | 10 |
| Listening Session 2 | September 10, 2024 | Community Action Pioneer Valley, Horizons for Homeless Children, Little People's College, Guild of St. Agnes (Worcester County), ABCD Inc., Square One | 8 |
| Listening Session 3 | September 13, 2024 | Neighborhood Villages, The Community Group, Action Pioneer Valley, Community Action Pioneer Valley Head Start (Northampton), The Community Group (Lawrence), Acre Family Child Care (Lowell), Community Teamwork, Community Teamwork (Lowell), ABCD Inc. | 11 |

Prior to the 60-minute listening sessions, participants were sent a one-page study summary providing an overview of AIR's work. This prereading enabled discussion during the session to primarily be focused on cost model inputs. To help frame the discussion, prior to sharing the list of inputs being considered for the revised cost model, the AIR team displayed examples of cost model components. AIR then asked participants questions such as "What inputs are missing from this list that you feel are important based on the work that you do?" and "What inputs listed here

are the most misunderstood or overlooked in your experience?" Based on the answers provided by participants, AIR explored these components more in depth later in the session and asked for input on how to accurately reflect them in a cost model. As with the program interviews, AIR invited participants to either provide their input via the meeting chat function or unmute so that an AIR team member could transcribe their response in a notetaking document.

**Stakeholder Listening Session Findings**

Across the sessions, many similar points were made, including many of the same issues that were discussed during program interviews. For example, most listening session participants raised the importance of including higher wages in cost models to understand the cost of and support the development of a sustainable child care system that attracts and retains qualified staff.

Regarding compensation for Head Start program staff, a few attendees discussed the Administration for Children and Families' final rule,[10] which was released in August 2024. This rule will require all Head Start programs to ensure that teachers' salaries and benefits are on par with public school teachers' salaries and benefits within the next 7 years. Specifically, attendees were concerned that the salaries and compensation of all early childhood education teachers should also meet these requirements, to prevent competition within the field. Attendees also emphasized that salary parity should be based on an hourly rate and not an annual salary, because many early childhood education teachers work 12 months of the year, whereas most public school teachers work 10 months.

Attendees again highlighted the need for comprehensive services, including health, mental health, and nutrition support. Similar to the program interview attendees, listening session attendees emphasized the increasing mental health and social-emotional challenges in the classroom. In addition, attendees pointed out that supplies like food, formula, and diapers are not fully covered by CCFA, adding an extra financial burden on providers.

Attendees also called for program reserves that are sufficient for program health and realistic to achieve. Finally, additional input considerations were raised, including the Commonwealth Paid Family and Medical Leave requirements (Department of Family and Medical Leave, 2025) and dramatically rising national child care insurance rates (NAEYC, 2024). Attendees noted that these factors are increasing the cost of care and the need for additional staff to cover extended leave periods in a way that is not reflected in historical data.

[10] See https://headstart.gov/policy/pi/acf-ohs-pi-24-05.

### *Extant Data*

Reliable data sources were needed to update input prices from the 2022 cost models to 2024 dollars. In some cases, 2024 prices were readily available in extant data sources. In other cases, 2024 prices were not readily available, and therefore we used extant data to inform appropriate inflation adjustments. For example, AIR used the Provider Cost of Quality Calculator (PCQC) to identify updated prices for materials and equipment.[11] When PCQC prices were not already in 2024 dollars, we used the national Consumer Price Index (CPI) to adjust the existing PCQC prices for inflation to 2024 dollars[12]. Key extant data sources are summarized in Exhibit D4 below.

**Exhibit D4. Summary of Extant Data Sources**

| Model component | Data source used |
|---|---|
| Materials and equipment | Provider Cost of Quality Calculator (PCQC) |
| Aspirational center-based wages | Bureau of Labor Statistics |
| Program margin (program reserves) | Vertical IQ (2023) Industry Report |
| Health care insurance premiums (FCC) | Massachusetts Health Connector |
| Center facility prices | PCQC and a commercial real estate database[a] |
| Child care and employee benefits | Data on federal and state requirements[b] |
| Rental rates for FCCs | Housing and Urban Development (HUD's) Fair Market Rent Database |

*Note.* When updated data sources were not available, we adjusted values from the 2022 model for inflation.
[a] Data from LoopNet (a commercial real estate database) was used to triangulate PCQC data to estimate prices
[b] Sources detailed in Exhibit 16 in benefits section below

### *Data Sources by Input*

This section describes the data used and the assumptions made for each cost model input for all models. The inputs are staff wages; benefits; FCC facility prices; food, materials, and equipment; and margin.

#### Staff Wages

Early education and care could not be possible without the critical input of staff time in both center-based and FCC programs. Furthermore, the input of staff often represents the largest share of costs when estimating the cost of early education and care programs. The wage input

[11] The Provider Cost of Quality Calculator (https://pcqc.acf.hhs.gov/) is a tool from the Administration for Children and Families that is intended to help states model the costs of child care. The tool includes prices for resources commonly used in child care programs.
[12] CPI adjustment percent ranged from 2.4% to 3.5% depending on the month/year of the most recent price available.

for cost models includes an hourly wage that compensates staff for their time. A combination of administrative data sources—namely the C3 application data and the August C3 survey data—were utilized to identify the proper wage for the **center-based cost of current care model and the FCC model**. We used data from the programs' most recent C3 application (with 94% reporting from June or July 2024). To calculate wages for most center-based roles (all roles in Exhibit D5, with the exception of family engagement coordinator, food aide, administrative assistant, and maintenance workers), we used the median of the highest reported wage and/or the lowest reported wage for each role reported in the C3 application data by subsidy region, which was the same approach as the 2022 models (see Exhibit D5). For example, programs reported a "lowest wage" and a "highest wage" for lead teacher/teacher, so we used the median highest wage by region for the lead teacher role and the median lowest wage by region for the teacher role. Specific details for each role are included in Exhibit D5.

For roles not included in the C3 application (family engagement coordinator, food aide, and administrative assistant), we used data from the August C3 survey to calculate average wages. For the maintenance worker role (which was not included in either the C3 application or the C3 survey data), we used data derived from the Bureau of Labor Statistics (BLS) and based the wage on the "Building and Grounds Cleaning and Maintenance Occupations" entry-level annual wage (following the same methodology as the 2022 model) and inflation adjusted to reflect 2024 prices. Following the same assumptions as the 2022 model, which were developed based on gathering feedback through family child care listening sessions, and in collaboration with EEC staff, FCC owner/operator wages were proxied using the center director center-based wage and the FCC teaching assistant wage was proxied using the teacher assistant center-based wage.

For the center-based cost of aspirational care, we used a salary scale developed for the 2022 model, which was based on sample Massachusetts school district K–12 salary scales, and then inflation adjusted the scale to 2024 prices.

### Exhibit D5. Wage Inputs by Role and Associated Data Sources

| Staffing role | Data source used |
|---|---|
| Experienced director/educational leader | Center director median highest wage C3 application data |
| Program director/administrator (FCC owner/operator) | Center director median lowest wage C3 application data |
| Additional professional staff (out of classroom) | Assumed 10% lower than program director C3 application data |
| Expert teacher/teacher mentor | 75th percentile of lead teacher highest wage C3 application data |
| Lead teacher | 50th percentile of lead teacher highest wage C3 application data |

| Staffing role | Data source used |
|---|---|
| Teacher | 50th percentile of lead teacher lowest wage C3 application data |
| Teacher assistant (FCC teacher assistant and substitute) | Average of median highest and lowest teacher assistant wage C3 application data |
| Site coordinator | Average of median highest and lowest wage for site coordinator C3 application data |
| Group leader | Average of median highest and lowest wage for group leader C3 application data |
| Assistant group leader | Average of median highest and lowest wage for assistant leader C3 application data |
| Lead floater teacher/substitute | Same wage as expert teacher/teacher mentor |
| Assistant floater teacher/substitute | Same wage as expert teacher/teacher mentor |
| Family engagement coordinator | Average wage of family engagement coordinator from August C3 survey |
| Food aide | Average wage of food aide from August C3 survey |
| Administrative assistant | Average wage of office support staff from August C3 survey |
| Maintenance workers | Proxied using the Building and Grounds Cleaning and Maintenance Occupations entry-level annual wage; data derived from the BLS; inflation adjusted to reflect 2024 prices |
| All roles for aspirational model | Based on 2022 model salary scale; derived from a sample of K–12 salaries, then inflation adjusted to 2024 |

*Note.* All positions are for center-based staff unless otherwise noted. C3 = Commonwealth Cares for Children; FCC = family child care.

### Benefits

Benefits for staff represent a growing concern for recruitment and retention and cost for child care programs. It is important that benefits are represented in a cost model to accurately reflect the cost of providing early education and care. Additionally, benefits in our model are represented in such a way that they can be updated over time to reflect the changing landscape and associated prices. The AIR study team used a variety of data sources (see Exhibit D6) on state and federal tax rates and health insurance costs, mirroring the 2022 model, to update benefit prices in all three models (center-based cost of current care, center-based cost of aspirational care, and FCC model).

### Exhibit D6. Summary of Benefit Inputs and Associated Data Sources

| Benefit | Data source used |
|---|---|
| Rates for Federal Insurance Contribution Act (FICA) and federal unemployment taxes | IRS website |
| State workers' compensation tax rate | Workers' Compensation Rating and Inspection Bureau of Massachusetts WCRIBMA MACI database |
| State unemployment insurance[a] | Massachusetts Department of Unemployment Assistance |
| Health insurance cost | 2021 MA Employer Survey[b] |
| Health insurance premiums | Massachusetts Health Connector[c] |

*Note*. When updated data sources were not available, we inflation adjusted values from the 2022 model.

[a] Followed the 2022 model methodology to arrive at the cost to employers.

[b] Used for both the current cost of care and the aspirational cost of care for center-based programs and inflation adjusted to 2024 dollars.

[c] Used for family child care programs. Followed the 2022 cost model methodology to obtain the cost of health insurance premiums. Specifically, we averaged the cost of premiums in Boston and Worcester Counties for a one-adult, one-child family with a $41,320 annual income.

For the center-based cost of aspirational care model, we followed the methodology from the 2022 model which included two additional costs above the current cost of care model. First, we added an additional cost for a higher health insurance premium, based on a $1,000 annual boost from the 2022 model to account for enhanced benefits such as dental, vision or other flexible benefits, which we adjusted for inflation to reflect 2024 prices. Second, we added retirement benefits valued at 5% of annual salary for each role (based on a Vanguard 2024 report[13]placing the national average for employer contributions at 4.6%, which was rounded up to 5%). As in the 2022 model methodology, retirement was not included for the center-based current cost of care and the FCC models.

#### Center Facility Prices

The facility in which early education and care is provided is essential and the cost of those facilities, which varies based on where the program operates and the size of their operation, can be substantial. The inclusion of facilities in a cost model allows users to understand how facility prices drive costs and where policy and funding changes may be needed. A combination of PCQC data, C3 survey data (August 2024), and information from LoopNet[14] were triangulated to set appropriate prices in the model for child care programs.

[13] See How America Saves 2024 at https://institutional.vanguard.com/insights-and-research/report/how-america-saves.html.

[14] LoopNet is a commercial real estate database.; see https://www.loopnet.com/

To set prices for the cost of current care model and the cost of aspirational care model for centers, we used the most recent price per square foot from the PCQC. The PCQC is a well-regarded, reputable source of prices for inputs specifically for child care providers, including center-based facilities. We set the most recent price in the PCQC to Metro Boston and adjusted prices per square foot for the other subsidy regions using a regionalization factor from the 2022 model, based on the MIT Living Wage Calculator.[15] Assumptions about the number of square feet per classroom from the PCQC were then used to calculate annual rental prices at the center level by subsidy region. The price per square foot is displayed in Exhibit D7.

### Exhibit D7. Price per Square Foot by Region

| | Western | Central | Northeast | Metro | Southeast | Metro Boston |
|---|---|---|---|---|---|---|
| PCQC price per square foot for MA in 2024 | $29.00 | $29.00 | $29.00 | $29.00 | $29.00 | $29.00 |
| Regionalization factor | 100% | 107% | 131% | 134% | 119% | 141% |
| Our adjusted method with 2024 prices: Price per square foot | $20.57 | $22.01 | $26.94 | $27.56 | $24.48 | $29.00 |

*Note.* PCQC = Provider Cost of Quality Calculator.

### FCC Facility Prices

We followed a methodology similar to that used in the 2022 model to update FCC facility prices. We obtained data on fair market rents from the HUD Fair Market Rents (FMR) Documentation System[16] for a three-bedroom unit in each Massachusetts locality. We then matched those localities with six subsidy regions and computed the average three-bedroom FMR for each subsidy region, weighted by the number of licensed programs in each region. In alignment with the methodology from the 2022 model, an additional 10% was added to each annual rental rate to capture more of an upper bound estimate of rental rates for family homes.

The monthly FMR and calculated annual rent by subsidy region utilized in the model is displayed in Exhibit D8.

[15] The MIT Living Wage Calculator (https://livingwage.mit.edu/) was developed to help individuals, communities, employers, and others estimate the local wage rate that a full-time worker requires to cover the costs of their family's basic needs where they live.
[16] Data was obtained from the HUD Fair Market Rents Documentation System; see https://www.huduser.gov/portal/datasets/fmr/fmrs/FY2024_code/select_Geography.odn.

### Exhibit D8. Fair Market Rent by Region

| Subsidy region | Monthly FMR | Annual FMR | Annual FMR +10% |
|---|---|---|---|
| Western | $1,695 | $20,335 | $22,368 |
| Central | $2,148 | $25,771 | $28,348 |
| Northeast | $2,652 | $31,823 | $35,006 |
| Metro | $3,404 | $40,844 | $44,929 |
| Southeast | $2,522 | $30,264 | $33,291 |
| Metro Boston | $3,418 | $41,016 | $45,118 |

*Note.* FMR = Fair Market Rents. FMR data is updated annually. The data in the table reflects 2024 FMR prices.

#### Food, Materials, and Equipment

We consulted data sources used in the 2022 models to obtain more recent prices for different non-personnel resources. When prices were not available in 2024 dollars, we adjusted for inflation to July 2024 prices using the national CPI.

Most prices for materials and equipment were derived from the PCQC for the center-based cost of current care, center-based cost of aspirational care, and FCC models. The PCQC is generally considered a valuable tool for early childhood education providers and policy makers, allowing them to estimate the costs associated with delivering different levels of quality child care. The PCQC provides per-child, classroom-level, and center-level prices for various non-personnel resources, such as classroom-level educational materials, kitchen equipment, and administrative supplies. Many of these prices are state specific prices, providing Massachusetts-specific estimates, while a few, such as classroom-level educational materials, are national prices consistent across states.

For example, the most recent price in the PCQC for educational supplies and equipment was from November 2023, so we adjusted this price for inflation to July 2024 using the national CPI. Similarly, the PCQC's annual per-child cost for food combined FY24 Child and Adult Care Food Program rates with a November 2023 price for kitchen supplies, so we adjusted for inflation the portion of the price allocated for kitchen supplies from November 2023 to July 2024. Some prices or adjustments to prices were also derived from focus groups conducted for the 2022 model. For example, the 2022 model adjusted food prices from $1,444 per child per year derived from the PCQC to $1,500 per child per year based on listening session feedback. Similarly, the 2022 model adjusted the price of legal/ accounting/ professional services from $4,533 per center annually to $5,009 per center annually based on listening session feedback. The 2022 model also obtained prices for inputs such as payroll service or software, which are

not available from the PCQC, from listening sessions. We retained those prices and adjustments, and we adjusted the amounts for inflation to 2024 dollars.

In some cases, the sources of prices were slightly different for the FCC model. For example, to estimate the annual per-child cost of food for an FCC, the 2022 model used a standard U.S. Department of Agriculture (USDA) meal menu purchased at Walmart. We followed that same methodology, with prices adjusted to 2024 dollars. Similarly, prices for utilities were based on estimates from Rentcafe.com[17]. We retained those values and adjusted for inflation to 2024 dollars.

For the center-based aspirational cost of care model, an additional "quality boost" was added to certain resources to capture a higher quality level of care. For example, an additional $200 was added to the per-child cost for food to reflect a quality adjustment in the 2022 model. This amount was retained for the aspirational cost of care model and adjusted to 2024 dollars. Similar adjustments were made for resources such as educational supplies and equipment, staff training and education, IT support, and others.

**Margin**

Margin is conceptualized as funds the program reserves to grow the business or weather lean times. Program reserves are an important component for ensuring the financial solvency of child care businesses. The 2022 cost models included 5% reserves for all center-based models (which captured both current and aspirational costs of care) and 0% reserves for the FCC model. The 2024 models maintained that assumption of a 5% margin for the center-based cost of current care model and a 0% margin for FCC programs.

The 2024 cost of aspirational care model included a larger margin assumption relative to the 2022 model assumptions to support the sustainability of child care programs in Massachusetts. Longitudinal data from an industry report (Vertical IQ) on child care businesses suggested a program reserve figure at 12.59% of the operating budget. We updated the center-based aspirational model to include this 12.59% margin. For context, a 12.59% margin is akin to 1.5 months in annual expenses for a center, which seems to be a minimally sufficient reserve to account for in the aspirational model.

***Summary of All Data Sources Used***

Exhibit D9 summarizes all data sources used to update the FY24 and FY25 cost models.

[17] Rentcafe.com is a website that helps people find and rent apartments and houses by city, state, zip code, and size. It includes tools such as a cost of living calculator that helps estimate costs of utilities and other basic necessities by geography.

## Exhibit D9. Summary of All Data Sources Used to Update Cost Models

| Resource | Data used to update pricing information |
|---|---|
| **Staff wages** | |
| Current (center-based programs) | Commonwealth Cares for Children (C3) application data, August C3 survey |
| Aspirational (center-based programs) | Applied adjustment to "desired wages" from 2022 model based on K–12 salary scale to convert to 2024 dollars; conversion based on data from the Bureau of Labor Statistics on a 12-month increase in worker's compensation in Boston Metropolitan area |
| Family child care (FCC) | C3 application data |
| **Benefits** | |
| FICA | Federal requirement |
| Health insurance (center-based programs)[a] | Figures from 2022 model based on 2021 MA Employer Survey (https://www.chiamass.gov/massachusetts-employer-survey/) adjusted for inflation to 2024 dollars |
| Health insurance (FCC) | MA Health Connector exchange, Get an Estimate tool; 12-month premium based on a family with an average income of $41,320 ($40K from 2022 model inflation adjusted to 2024 dollars),1 adult and 1 child; average of Boston and Worcester premiums |
| Worker's compensation | Workers' Compensation Rating and Inspection Bureau of Massachusetts, WCRIBMA MACI database |
| Retirement[a] | Based on a Vanguard report placing the national average for employer contributions at 4.6%, rounded up to 5% |
| State unemployment tax | MA unemployment insurance policy: https://www.mass.gov/info-details/learn-about-ui-contribution-rates |
| Federal unemployment tax | Federal requirement. |
| Paid time off (center-based programs) | Based on C3 application data. |
| **Non-personnel costs** | |
| Food (food and kitchen supplies for center-based programs)[a] | Based on prices derived from the Provider Cost of Quality Calculator (PCQC) price of $2539, inflation adjusted to 2024 dollars, with an additional adjustment upward based on listening sessions; adjustments for the aspirational model retain the same adjustments from the 2022 model, inflation adjusted to 2024 dollars |
| Food (FCC) | Calculated cost of USDA sample food menu purchased at Walmart for the Boston area in March 2023, inflation adjusted to 2024 dollars |
| Office supplies and equipment (center-based programs) | Based on prices derived from PCQC and inflation adjusted to 2024 dollars |
| Supplies and equipment (including office and educational supplies for FCC) | Based on prices derived from PCQC values of supplies, office supplies, assessments, and screenings, adjusted for inflation to 2024 dollars |

| Resource | Data used to update pricing information |
|---|---|
| Education supplies and equipment (center-based programs)[a] | Based on prices derived from the PCQC values for classroom supplies, education supplies, medical supplies, and curriculum, adjusted for inflation to 2024 dollars; adjustments for the aspirational model retain the same adjustments from the 2022 model inflation adjusted to 2024 dollars |
| Child care equipment repair/depreciation (FCC) | Based on prices derived from PCQC values of depreciation for equipment and repairs for child care, inflation adjusted to 2024 dollars |
| Child assessment + screening (center-based programs) | Based on prices derived from PCQC values for Child Assessment Tool + Developmental Screening Tool and adjusted for inflation to 2024 dollars |
| Marketing, printing, and postage (center-based programs)[a] | Based on prices derived from PCQC value for advertising. adjustments for the aspirational model retain same adjustments from 2022 model adjusted for inflation to 2024 dollars. |
| Rent/lease (center-based programs) | Based on prices for price per square foot were derived from PCQC, and set to the Region 6 price, then the regionalization factor from the 2022 model was applied to adjust all other regions downward. |
| Rent/lease (FCC) | Fair Market Rent from HUD for a 3-bedroom unit by locality for the state of Massachusetts; accessed here. |
| Utilities (gas/electric for center-based programs) | Based on prices derived from PCQC values for utilities (gas/electric). |
| Utilities (gas/electric) and general home repairs (FCC) | Based on average prices of utilities from Rentcafe.com from 2022, inflation adjusted to 2024 dollars, and PCQC costs for maintenance and repair, adjusted for inflation to 2024 dollars |
| Maintenance/repair/cleaning (center-based programs) | Based on prices derived from PCQC for maintenance/repair, and cleaning |
| Repairs and maintenance, cleaning for home (FCC) | Based on 2022 model and inflation adjusted to 2024 dollars |
| Fees/permits/licenses/accreditation/ taxes (center-based programs)[a] | Based on prices derived from the PCQC estimate for licensing fees and permits and professional memberships inflation adjusted to 2024 dollars; accreditation fees (inflation adjusted to 2024 dollars) were added for the aspirational model |
| Background checks (center-based programs) | Based on prices derived from 2022 model and adjusted for inflation to 2024 dollars |
| Staff training and education[a] | Based on prices derived from 2022 model and adjusted for inflation to 2024 dollars |
| Consultation services | Based on prices derived from 2022 model and adjusted for inflation to 2024 dollars |
| IT support (center-based programs)[a] | Based on prices derived from 2022 model and adjusted for inflation to 2024 dollars |
| Legal/audit/accounting/other professional support[a] | Based on prices derived from 2022 model and adjusted for inflation to 2024 dollars |

| Resource | Data used to update pricing information |
|---|---|
| Insurance/liability | Based on prices derived from PCQC and adjusted for inflation to 2024 dollars |
| Telephone and internet (center-based programs) | Based on prices derived from PCQC estimate for telephone and internet and adjusted for inflation to 2024 dollars |
| Telephone and internet (FCC) | Based on prices for telephone and internet from 2022 model adjusted for inflation to 2024 |
| Payroll service (center-based programs) | Based on prices derived from 2022 model and adjusted for inflation to 2024 dollars |
| Software (center-based programs) | Based on prices derived from 2022 model and adjusted for inflation to 2024 dollars |
| Homeowner's insurance (FCC) | Based on prices derived from PCQC adjusted for inflation to 2024 dollars |
| Transportation for field trips (FCC) | Based on derived from PCQC, adjusted for inflation to 2024 dollars |
| Miscellaneous (FCC) | Based on prices derived from 2022 model, adjusted for inflation to 2024 dollars |
| Margin (center-based cost of current care model) | Maintained the 5% margin from the 2022 model |
| Margin (center-based cost of aspirational care model) | Included 12.59% margin based on Vertical IQ (2023) |
| Margin (FCC model) | Maintained the 0% margin from the 2022 model |

[a] Inputs were given an additional "quality boost" for the aspirational model. All quality boosts followed the 2022 methodology and were adjusted for inflation to 2024 dollars.

# Appendix E. Program Interview Sampling Methodology

To select child care program leaders to invite to participate in interviews to inform the cost models, the AIR team used a careful sampling strategy to ensure representation on key characteristics across the state. For the center-based program sample groups, we stratified on the following variables: whether (a) the program was at or above median capacity (determined by calculating the median licensed capacity of all licensed and funded programs and identifying whether the program was at/above the median or below), (b) the program was licensed to serve infants, and (c) the program accepts EEC Child Care Financial Assistance (CCFA). For the FCC sample groups, variables included: whether (a) the program was at or above median capacity and (b) the program accepts CCFA. The potential sample of programs (centers and FCCs) that provide nontraditional hours of care was too small to use as an additional stratifying variable. Therefore, for both the center-based and FCC samples, programs identified as offering nontraditional hours were drawn separately and added to each existing setting-based sample. Exhibit E1 summarizes the representation (number and percentage) of characteristics within each sample pulled for the program interviews.

### Exhibit E1. Summary of Number and Percentage of Programs Representing Each Key Characteristic Within the Program Interview Sample

| Program characteristics [a] | Serves children with special needs | At or above median capacity | Licensed to serve Infants | Accepts subsidy |
|---|---|---|---|---|
| **Northeast centers** ***n* = 150** | 27 (18%) | 87 (58%) | 60 (40%) | 85 (57%) |
| **South, Central, and Western centers** ***n* = 148** | 27 (18%) | 72 (49%) | 62 (42%) | 92 (62%) |
| **Metro and Metro Boston centers** ***n* = 148** | 19 (13%) | 71 (48%) | 54 (36%) | 84 (57%) |
| **Northeast FCCs** ***n* = 153** | 18 (12%) | 96 (63%) | NA | 110 (72%) |
| **South, Central, and Western FCCs** ***n* = 152** | 21 (14%) | 101 (66%) | NA | 81 (53%) |
| **Metro and Metro Boston FCCs** ***n* = 151** | 24 (16%) | 90 (60%) | NA | 91 (60%) |

| Program characteristics [a] | Serves children with special needs | At or above median capacity | Licensed to serve Infants | Accepts subsidy |
|---|---|---|---|---|
| **Afterschool and out-of-school-time children (centers and FCCs) n = 258** [c] | 38 (15%) | 141 (55%) | 31 [b] (12%) | 215 (83%) |
| **Programs that serve children with special needs (centers and FCCs) *n* = 150** | 150 (100%) | 78 (52%) | 20 [b] (13%) | 90 (60%) |

*Note.* Programs can represent more than one characteristic, meaning that the percentages will sum to more than 100%. FCC = family child care.

[a] For each sample group listed, an additional list of up to 20 programs identified as serving nontraditional hours were contacted for the program interviews.

[b] Only the center-based programs in this group (which also included FCC providers) included data on whether the program is licensed to serve infants.

[c] This group was split into two sessions, so the original sample sizes were larger.

For each interview group, a sample of approximately 50 programs (representative across the characteristics described above) was drawn and contacted directly by AIR staff using contact information provided by EEC. A second sample with approximately 100 programs per group was also drawn and contacted to increase participation in the program interviews. For both outreach efforts, programs were asked to complete a short form that helped the study team understand who was participating and what supports they needed to fully engage (e.g., interpretive services).

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**AIR® Headquarters**
1400 Crystal Drive, 10th Floor
Arlington, VA 22202-3289
+1.202.403.5000 | **AIR.ORG**



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