



Massachusetts 2022 Market Rate Survey and Narrow Cost Analysis Final Report

Prepared for the Massachusetts Department of Early Education and Care
September 2022



Table of Contents

TABLE OF CONTENTS	2
EXECUTIVE SUMMARY	3
OVERVIEW OF A CHILD CARE MARKET RATE SURVEY AND NARROW COST ANALYSIS	3
WHAT IS NEW IN THIS ANALYSIS?	3
SUMMARY OF FINDINGS	4
NEXT STEPS	5
MARKET RATE SURVEY	6
INTRODUCTION	6
METHODOLOGY	7
RESULTS	11
PARTICIPATION IN SUBSIDY PROGRAM AND ADDITIONAL FEES	15
NARROW COST ANALYSIS	19
OVERVIEW	19
METHODOLOGY	19
2020 COST STUDY DATA COLLECTION AND STAKEHOLDER INPUT	20
SUMMARY OF NARROW COST ANALYSIS FINDINGS	22
APPENDIX A. MA EEC SUBSIDY REIMBURSEMENT RATE REGIONS & MUNICIPALITIES: MAP AND STANDARD RATES	25
APPENDIX B. MARKET RATE METHODOLOGY DETAIL	27
DATA CLEANING	27
DATASETS UTILIZED	28
DEFINITIONS	28
DECISION MATRIX FOR VARIABLES IN THE DATASET	29
"RECENTLY UPDATED" DECISION POINT	29
DE-DUPLICATION PROCEDURE	29
OUTLIER PROCEDURE	30
DATA CLEANING	30
WEIGHTING DETAILS	31
DATA ENTRY DETAILS	32
APPENDIX C. ANALYSIS OF PRIVATE PAY ONLY PROVIDERS VS. THOSE ACCEPTING SUBSIDIES	33
APPENDIX D. COMPARISON OF 2022 AND 2018 MARKET RATE SURVEY	36
APPENDIX E. NARROW COST ANALYSIS	39
DETAILS OF COST ASSUMPTIONS FOR THE NARROW COST ANALYSIS	39
WAGES & BENEFITS	40
NON-PERSONNEL EXPENDITURES	42

Executive Summary

Overview of a Child Care Market Rate Survey and Narrow Cost Analysis

Every three years, the Massachusetts Department of Early Education and Care (EEC) is federally mandated by the Child Care Development Block Grant (CCDBG) Act to conduct a valid and reliable child care market rate survey (MRS) and narrow cost analysis (NCA). The survey and narrow cost information are used as inputs when setting state-level child care subsidy reimbursement rates. It is important to recognize that the prices child care providers charge are not fully inclusive of the cost of child care and therefore should be one of multiple inputs into the rate-setting process.

For the purposes of the 2022 MRS and NCA, EEC contracted with the Center for Early Learning Funding Equity (CELFE) at Northern Illinois University to conduct a statistically valid and reliable market rate analysis using EEC's administrative datasets that meets federal requirements. CELFE worked in partnership with Afton Partners for the Market Rate Survey and followed guidance issued by the Federal Administration for Children and Families (ACF) in using licensed capacity data to generate weighted 75th percentile rates. In partnership with the Children's Funding Project, CELFE updated the Narrow Cost Analysis completed in 2020, the design of which was adapted from the Child Care Technical Assistance Network's Provider Cost of Quality Calculator.¹

What is New in this Analysis?

The 2022 MRS used administrative data sources on rates and hours from EEC's Licensing Education Analytic Database (LEAD), as well as a survey required from Commonwealth Cares for Children (C3) grant recipients, to perform the analysis. Previous MRSs in Massachusetts relied on a specific provider survey instrument to collect rate data. However, all EEC providers are now able to post their rates and hours publicly via LEAD, and providers that receive C3 stabilization grants are required to do so. This new administrative data on rates and hours provided a more comprehensive dataset to be utilized for this analysis. More than half of providers across the Commonwealth² (4,237 or 56%) submitted complete and recently updated data that were included in the analytic sample for the 2022 MRS.

In addition to the MRS, all states are required to consider the cost of providing child care when setting subsidy rates. Guidance from ACF indicates that states must conduct a narrow cost analysis (NCA) that measures whether base subsidy payment rates adequately cover the cost of higher quality child care services. Massachusetts collected data in 2020 and engaged stakeholders in a process to inform a preliminary NCA. CELFE updated this analysis for 2022.

¹ "[Provider Cost of Quality Calculator](#)" *Child Care Technical Assistance Network*.

² The final sample included 2,638 Family Child Care (FCC) and 1,599 Group and School Age (GSA) providers.

Summary of Findings

Market Rate Study: ACF established the 75th percentile of the child care market as the federal benchmark for equal access.³ The MRS analysis found that in all regions of the Commonwealth, across both Family Child Care (FCC) and Group and School-Age (GSA) providers, and within every age group, the existing subsidy rates are well below the 75th percentile of the market, meaning that current subsidy rates cover less than 75% of the market rate slots in all regions and for all age groups.

Overall comparison of subsidy rates to market rates

- EEC's subsidy rates are below the 50th percentile of the market rate in most regions for Infants, Toddlers and Preschool.
- EEC's rates only cover the private rate of about one in four Infant and Toddler slots for GSA providers in most parts of the Commonwealth.
- EEC's rates only cover the private rate of about one in five Preschool slots for FCC providers in most parts of the Commonwealth.

Key Differences by Region, Age Group, and Provider Type

- For GSA School-Age the subsidy rate is above the 50th percentile of the market rate in all regions.
- GSA subsidy rates for Preschool in the Northeast, Metro and Metro Boston regions are 32-43% less than the 75th percentile benchmark market price.
- FCC subsidy rates for Preschool in all regions but Western Massachusetts are 29-42% lower than the 75th percentile benchmark market price.
- GSA subsidy rates for Infants and Toddlers in Metro & Metro Boston are 30-42% lower than the 75th percentile benchmark market price.

Provider Barriers to Participation in Subsidy Programs

- The most commonly reported barriers to provider participation in the subsidy system include capacity already being filled with private-pay families and insufficient subsidy reimbursement rates.

Narrow Cost Analysis: Like the MRS, the NCA results show that subsidy reimbursement rates in Massachusetts are, in most cases, significantly lower than the estimated current cost of providing child care that meets the Commonwealth's licensing standards. The subsidy rates are even further from the estimated cost of providing care that meets the standards for Level 3 of Massachusetts' Quality Rating and Improvement System.

³ ["CCDF Payment Rates- Understanding the 75th Percentile" Office of Child Care,](#) National Center of Child Care Subsidy Innovation and Accountability.

Next steps

EEC will use the results of this Market Rate Study and Narrow Cost Analysis to inform the development of subsidy rates and other funding strategies for child care in the Commonwealth. A deeper study of the costs of providing care will be completed over the course of 2022-23 to further inform EEC's strategic financing efforts.

Market Rate Survey

Introduction

The Child Care Development Block Grant (CCDBG) Act of 2014 authorizes the Child Care and Development Fund (CCDF) program, which lays out how federal funds are to be used when providing financial assistance to low-income families to access child care. States and territories are required to describe how they will use CCDF resources to support child care policies through a three-year state plan to the Administration for Children and Families (ACF). A valid and reliable Child Care Market Rate Survey (MRS) or approved Alternative Methodology is required to be submitted as part of this state plan.⁴

In Massachusetts, federal child care subsidy funds are administered by the Department of Early Education and Care (EEC), which is the designated CCDF Lead Agency for Massachusetts.⁵ EEC's child care subsidy reimbursement rates are structured as a daily reimbursement rate to providers who serve eligible children and are based on multiple factors: geographic location, child age, and type of care. To meet federal requirements and inform decisions about reimbursement rate setting, EEC contracted with the Center for Early Learning Funding Equity (CELFE) at Northern Illinois University to conduct the 2022 MRS. CELFE completed the study in partnership with Afton Partners.

Rate information is delineated by provider type, as established by Massachusetts child care licensing regulations: **Family Child Care (FCC)** and **Group and School-Age (GSA)** providers.⁶ In addition, data are delineated by age groups served for each provider type: **Infant, Toddler, Preschool, and School-Age**. Finally, the provider rate data are delineated by the six geographic regions by which EEC differentiates subsidy reimbursement rates: Region 1 – **Western**, Region 2 – **Central**, Region 3 – **Northeast**, Region 4 – **Metro**, Region 5 – **Southeast**, and Region 6 - **Metro Boston**.

ACF guidance requires states to use the MRS to estimate the percentage of the overall child care market that their subsidy reimbursement rates will allow participating families to access. The federal government does not require states to set reimbursement rates at the 75th percentile but considers this an important benchmark for determining how well subsidy reimbursement rates are affording participating families

The federal government does not require states to set reimbursement rates at the 75th percentile but considers this an important benchmark for determining how well subsidy reimbursement rates are affording participating families adequate access to and choice within the child care market.

⁴ The last state plan was submitted in July 2021, and EEC received a waiver to submit the MRS and NCA at a later time.

⁵ EEC also partners with Massachusetts Department of Transitional Assistance (DTA) and Massachusetts Department of Children and Families (DCF) to provide child care assistance to particular populations.

⁶ Licensed and funded providers eligible for C3 grants were included. For more information about the C3 grants, see the following [website](#).

adequate access to and choice within the child care market. In other words, rates should be set to a level that would give families access to 3 out of 4 available child care slots or programs in their given geographical region, age group, and program type.⁷ The 75th percentile indicates the rate that would meet or exceed the price charged for 75% of slots for different child ages offered by child care providers of a particular type within a particular region.

The MRS should include data for as many providers as possible to provide an accurate view of the total child care market. This analysis drew data from administrative datasets, resulting in a robust and representative sample that includes 30% more total providers compared to past MRSs.

Methodology

Overview

The 2022 MRS used child care prices reported and updated by child care providers in the Licensing Education Analytic Database (LEAD) to develop a complete portrait of prices in the child care marketplace in the Commonwealth. As already noted, this administrative approach resulted in an increase in the number of providers--especially family child care providers--included in the final analytic dataset, compared to the 2018 study that used a separate survey instrument; 58% of the total GSA providers and 55% of total FCC providers in Massachusetts are included in the final dataset, compared to 49% of the total GSA providers and 32% of the total FCC providers in the 2018 MRS report. A statistically valid and reliable sample was achieved across all program types, age groups, and geographic regions of the Commonwealth.

Data Collection

EEC staff sent all providers in LEAD and applicants of the Commonwealth Cares for Children (C3) Grant⁸ an email on April 19, 2022, informing them that rate data would be utilized for an upcoming market rate study and asking them to ensure the information on their market prices in LEAD was accurate. Additionally, C3 grant applicants were required to submit survey information about their use of subsidies and barriers to participation in the subsidy system. Providers had two months to confirm and update their information. Data were extracted from the LEAD database and C3 application database on June 16, 2022 for use in this analysis.

⁷ [“The Limitations of Using Market Rates for Setting Child Care Subsidy Rates”](#) Bipartisan Policy Center, Early Childhood Initiative, May 2020

⁸ The Commonwealth Cares for Children (C3) Grant, first issued in July 2021, provides early education and care programs with operational funding to support day-to-day operational and workforce costs. See <https://www.mass.gov/service-details/commonwealth-cares-for-children-c3-child-care-stabilization-grants>

Analytic Sample

CELFE calculated the target sample size needed to achieve statistical significance for each region of the Commonwealth and each provider type (FCC providers and GSA providers) using a 95 percent confidence level and a margin of error of +/- 5.0. In other words, if the analysis was repeated, CELFE can be confident that 95 percent of the time our results will be within plus or minus 5 percentage points of the “true mean” of the full population. Targeted sample sizes were identified by geographic region, using EEC’s six subsidy reimbursement rate regions, and by the type of care (see below for target sample sizes for both GSA and FCC). In all cases, the dataset analyzed (after implementing the cleaning procedures detailed below) was large enough to be statistically valid.

Table 1: Target Sample Size for GSA and FCC by Region

Region	GSA Provider Universe	GSA Target Sample (95% CL, +/- 5.0 Margin of Error)	FCC Provider Universe	FCC Target Sample (95% CL, +/- 5.0 Margin of Error)
Region 1- Western	306	171	677	246
Region 2- Central	255	154	833	263
Region 3- Northeast	444	206	1,094	285
Region 4- Metro	951	274	933	273
Region 5- Southeast	492	216	639	240
Region 6- Metro Boston	325	177	587	233

Weighting by Capacity

Best practice in analyzing Market Rate data requires consideration of providers’ capacity, with the aim of determining the 50th and 75th percentile rate across all available “slots” of child care within the market. While the administrative data included total provider capacity by age group, in some cases, these categories included mixed age groupings that did not match the age group categories in the rate data. Thus, CELFE calculated an estimated capacity for each rate-specific age group (i.e. Infant, Toddler, Preschool, and School-Age) for each GSA provider using the assumptions in Table 2. Weighting was not done with FCC provider data as there is much less variation in the licensing capacity for FCCs.

Table 2: Provider Capacity Calculations

Licensing Group	Age Group Proportions
Infant (Birth-15 months)	100% Infant Age Group
Infant Toddler (Birth-33 months)	1/2 Infant Age Group 1/2 Toddler Age Group
Toddler (15-33 months)	100% Toddler Age Group
Toddler Preschool (15 months-Kindergarten)	1/3 Toddler Age Group 2/3 Preschool Age Group
Preschool (33 months-Kindergarten)	100% Preschool Age Group
Preschool School-Age (33mo-8 years)	2/3 Preschool 1/3 School Age
Kindergarten	100% School-Age
Kindergarten School-Age	100% School-Age
School-Age (5-14 years)	100% School Age

Once estimated capacities by age group were determined, CELFE added the estimated capacities of all providers in a specific region and age group to determine the total number of “slots” available in that market.

Sample Summary Statistics

More than half (4,237 or 56%) of providers across the Commonwealth submitted complete and recently updated⁹ rate information that was included in the analytic sample for the 2022 MRS. This section of the report provides an overview of sample rates by region and includes figures on statistical significance (margin of error) of the analyzed data.

Statistical Significance

The tables below highlight the response rates and robustness of the administrative data sample. A margin of error that is less than six can be considered statistically significant¹⁰ and was achieved in all regions of the Commonwealth.

⁹ See “Recently Updated” Decision Point in Appendix B for more information. The final dataset included 2,638 FCC and 1,599 GSA providers.

¹⁰ Retrieved from Science Direct: <https://www.sciencedirect.com/topics/mathematics/margin-of-error>

Table 3: GSA Provider Response Rates

Region	Provider Universe ¹¹	Target Sample (95% CL, +/- 5.0 Margin of Error)	Providers Included in Final Dataset	Percent of Universe	Percent of Target Sample Achieved	2022 Margin of Error
Region 1- Western	306	171	157	51%	92%	5.5
Region 2- Central	255	154	153	60%	99%	5.0
Region 3- Northeast	444	206	255	57%	124%	4.0
Region 4- Metro	951	274	552	58%	201%	2.7
Region 5- Southeast	492	216	303	62%	140%	3.5
Region 6- Metro Boston	325	177	179	55%	101%	4.9
<i>Total</i>	<i>2,773</i>		<i>1,599</i>	<i>58%</i>		

Table 4: FCC Provider Response Rates

Region	Provider Universe	Target Sample (95% CL, +/- 5.0 Margin of Error)	Providers Included in Final Dataset	Percent of Universe	Percent of Target Sample Achieved	2022 Margin of Error
Region 1- Western	677	246	385	57%	157%	3.3
Region 2- Central	833	263	472	57%	179%	3.0
Region 3- Northeast	1,094	285	538	49%	189%	3.0
Region 4- Metro	933	273	538	58%	197%	2.8
Region 5- Southeast	639	240	369	58%	154%	3.3
Region 6- Metro Boston	587	233	336	57%	144%	3.5
<i>Total</i>	<i>4,763</i>		<i>2,638</i>	<i>55%</i>		

¹¹ Provider Universe refers to all licensed and eligible providers in the Commonwealth.

An Effective and Efficient Methodology

Using administrative data instead of a separate survey produced several benefits:

- The final sample resulted in an increase in the number of providers--especially family child care providers--included in the final analytic dataset, compared to previous methodologies.
 - 58% of the total GSA providers and 55% of the total FCC providers in Massachusetts are included in the final dataset, compared to 49% of the total GSA providers and 32% of the total FCC providers in the 2018 MRS report.
- The analysis was done efficiently without the need for a time-consuming survey of providers and with fewer opportunities for human-input errors.

Although the 2022 MRS methodology and design included best practices in extracting data from administrative datasets, limitations remained:

- Potential for incorrect data entry by providers - For example, providers may have entered their rate data and accidentally miscategorized the time frame (i.e., Hourly, Daily, Weekly, Monthly, etc.), causing some providers to be extreme outliers that had to be dropped per the data cleaning protocol described in Appendix B.
- The potential for selection bias between providers who updated their rates more recently and those that updated their rates a year prior cannot be ruled out.

Stakeholder Outreach

Prior to performing the analysis, the Department shared details about its plan to use administrative data for the analysis with the Advisory Council on Early Education and Care for feedback; the Council includes a broad cross-section of representatives from the Commonwealth's provider community, state associations, provider support organizations, and business community. EEC also incorporated feedback on the methodology and preliminary findings from individual meetings with representatives from the Service Employees International Union (SEIU) Local 509, which represents many FCC providers, local child care resource and referral agencies, and members of the Massachusetts Association of Early Education & Care (MADCA).

Results

In all regions of the Commonwealth, for every age group, the existing subsidy rates are below the 75th percentile market rate.

- **Group and School-Age:** Current EEC subsidy reimbursement rates are below the 75th percentile for Infants, Toddlers, Preschool, and School-Age children in all regions of the Commonwealth, and below the 50th percentile for Infants, Toddlers, and Preschool in most regions of the Commonwealth. Subsidy rates for School-Age children are between the 50th and 75th percentile for all regions.
- **Family Child Care:** Current EEC child care subsidy reimbursement rates are below the 75th percentile prices for children of all ages in all regions of the Commonwealth, and below the 50th percentile for most regions of the Commonwealth.

GSA Provider Market Rate Percentiles

The EEC subsidy rate falls below the 50th percentile for Infants in all regions of the Commonwealth. The EEC subsidy rate falls at the 51st percentile for Toddlers in Region 1 and falls below the 50th percentile in Regions 2, 3, 4, 5, and 6. For Infant and Toddler care, Region 4 - Metro and Region 6-Metro Boston have the widest dollar amount difference between the subsidy rate and 75th percentile market rate, and EEC subsidy rates in these regions fall between the 14th and 24th percentile. The EEC subsidy rate falls below the 50th percentile for Preschoolers in all regions. In contrast, the EEC subsidy rate falls at or exceeds the 50th percentile for School-Age children in all regions.

Table 5: Group and School-Age Provider Market Rate Percentiles – Infant

Region	EEC Subsidy Infant ¹²	EEC Subsidy Percentile	Infant 25 th Percentile	Infant 50 th Percentile	Infant 75 th Percentile
Region 1- Western	\$65.71	43	\$65.00	\$66.00	\$74.00
Region 2- Central	\$67.51	22	\$69.00	\$78.06	\$85.13
Region 3- Northeast	\$79.40	23	\$80.00	\$92.31	\$104.00
Region 4- Metro	\$90.41	19	\$97.60	\$111.00	\$129.56
Region 5- Southeast	\$65.71	24	\$66.00	\$70.40	\$84.20
Region 6- Metro Boston	\$85.68	14	\$95.50	\$118.00	\$146.42

¹² Rates highlighted in lighter RED indicates the subsidy rate falls below the 50th percentile; highlighted in darker RED indicates that the subsidy rate falls below the 25th percentile

Table 6: Group and School-Age Provider Market Rate Percentiles – Toddler

Region	EEC Subsidy Toddler	EEC Subsidy Percentile	Toddler 25 th Percentile	Toddler 50 th Percentile	Toddler 75 th Percentile
Region 1- Western	\$60.26	51	\$57.94	\$60.26	\$65.00
Region 2- Central	\$61.65	28	\$61.40	\$70.00	\$79.34
Region 3- Northeast	\$69.05	19	\$71.12	\$81.70	\$97.00
Region 4- Metro	\$82.08	17	\$89.00	\$104.00	\$117.00
Region 5- Southeast	\$61.65	32	\$61.00	\$64.00	\$77.50
Region 6- Metro Boston	\$79.86	24	\$82.00	\$98.61	\$135.33

Table 7: Group and School-Age Provider Market Rate Percentiles – Preschool

Region	EEC Subsidy Preschool	EEC Subsidy Percentile	Preschool 25 th Percentile	Preschool 50 th Percentile	Preschool 75 th Percentile
Region 1- Western	\$45.82	46	\$44.00	\$46.05	\$54.00
Region 2- Central	\$48.81	29	\$48.00	\$57.00	\$64.00
Region 3- Northeast	\$49.91	32	\$49.91	\$62.00	\$73.90
Region 4- Metro	\$63.22	19	\$67.80	\$84.00	\$99.45
Region 5- Southeast	\$47.03	34	\$46.00	\$54.00	\$62.50
Region 6- Metro Boston	\$50.37	16	\$60.00	\$70.00	\$88.00

Table 8: Group and School-Age Provider Market Rate Percentiles – School-Age

Region	EEC Subsidy School-Age	EEC Subsidy Percentile	School-Age 25 th Percentile	School-Age 50 th Percentile	School-Age 75 th Percentile
Region 1- Western	\$42.13	60	\$30.00	\$40.51	\$45.00
Region 2- Central	\$42.14	55	\$36.50	\$42.00	\$51.00
Region 3- Northeast	\$43.57	60	\$42.00	\$43.00	\$49.00
Region 4- Metro	\$44.79	65	\$29.00	\$35.00	\$59.00
Region 5- Southeast	\$42.14	58	\$40.00	\$42.00	\$48.00
Region 6- Metro Boston	\$44.79	50	\$42.03	\$44.79	\$57.50

FCC Provider Market Rate Percentiles

The FCC provider subsidy reimbursement rate structure consists of two different daily rates for each region: one for children under two years old and one for children aged two and older. The analysis separated market rates by four age groups, in line with the GSA analysis.

Below Two Years of Age Percentiles

EEC subsidy reimbursement rates are below the 50th percentile prices for FCC providers for Infants in all regions of the Commonwealth. EEC subsidy reimbursement rates are above the Toddler 50th percentile rates in regions 1, 3, and 4 and below the 50th percentile in regions 2, 5, and 6.

Table 9: Family Child Care Provider Market Rate Percentiles – Infant

Region	EEC Subsidy (Under Age 2)	EEC Subsidy Percentile	Infant 25 th Percentile	Infant 50 th Percentile	Infant 75 th Percentile
Region 1- Western	\$42.79	32	\$42.30	\$45.00	\$50.00
Region 2- Central	\$48.90	26	\$48.90	\$50.00	\$60.00
Region 3- Northeast	\$48.90	42	\$47.94	\$50.00	\$58.00
Region 4- Metro	\$73.34	50	\$60.00	\$73.95	\$85.00
Region 5- Southeast	\$48.90	22	\$50.00	\$55.00	\$56.00
Region 6- Metro Boston	\$55.00	28	\$55.00	\$64.00	\$80.00

Table 10: Family Child Care Provider Market Rate Percentiles – Toddler

Region	EEC Subsidy (Under Age 2)	EEC Subsidy Percentile	Toddler 25 th Percentile	Toddler 50 th Percentile	Toddler 75 th Percentile
Region 1- Western	\$42.79	55	\$37.42	\$40.60	\$48.00
Region 2- Central	\$48.90	48	\$40.00	\$49.52	\$55.00
Region 3- Northeast	\$48.90	57	\$38.69	\$46.00	\$55.00
Region 4- Metro	\$73.34	61	\$50.00	\$68.00	\$80.00
Region 5- Southeast	\$48.90	36	\$45.00	\$50.00	\$60.00
Region 6- Metro Boston	\$55.00	49	\$45.00	\$56.00	\$70.00

Above Two Years of Age Percentiles

EEC subsidy reimbursement rates are below the 50th percentile prices for FCC providers for Preschoolers and School-Age in all regions of the Commonwealth.

Table 11: Family Child Care Provider Market Rate Percentiles – Preschool

Region	EEC Subsidy (2 and Over)	EEC Subsidy Percentile	Preschool 25 th Percentile	Preschool 50 th Percentile	Preschool 75 th Percentile
Region 1- Western	\$36.89	27	\$36.89	\$40.00	\$45.00
Region 2- Central	\$38.83	19	\$40.00	\$47.00	\$55.00
Region 3- Northeast	\$38.90	39	\$37.20	\$40.00	\$55.00
Region 4- Metro	\$44.38	16	\$50.00	\$64.00	\$76.00
Region 5- Southeast	\$38.83	7	\$43.00	\$50.00	\$60.00
Region 6- Metro Boston	\$39.94	30	\$40.00	\$50.00	\$60.00

Table 12: Family Child Care Provider Market Rate Percentiles – School-Age

Region	EEC Subsidy (2 and Over)	EEC Subsidy Percentile	School-Age 25 th Percentile	School-Age 50 th Percentile	School-Age 75 th Percentile
Region 1- Western	\$36.89	29	\$36.00	\$40.00	\$45.00
Region 2- Central	\$38.83	28	\$38.16	\$45.00	\$50.00
Region 3- Northeast	\$38.90	31	\$37.39	\$42.75	\$54.00
Region 4- Metro	\$44.38	17	\$50.00	\$60.00	\$74.50
Region 5- Southeast	\$38.83	12	\$40.00	\$50.00	\$58.75
Region 6- Metro Boston	\$39.94	37	\$40.00	\$50.00	\$60.00

Participation in Subsidy Program and Additional Fees

Approximately 40% of providers in the sample are “Private Pay Only”, meaning their program did not enroll any children with a subsidy at particular points in time from February 2020-March 2022.^{13 14}

¹³ Data extracted from EEC’s Child Care Financial Assistance (CCFA) dataset.

¹⁴ See Appendix C for additional data analysis on private pay providers and those that accept children with a subsidy.

Providers receiving C3 grant funds shared information about barriers to participation in the subsidy system.

Table 13: Participation in the MA Subsidy System by Provider Type

Type of Participation	GSA	GSA%	FCC	FCC%
Only Accepts Private Pay	586	37%	1055	41%
Enrolled at least one subsidy child	984	63%	1497	59%

Providers could report that they faced one or more of seventeen potential barriers to participating in the subsidy system. The most prevalent barrier reported was that the provider’s capacity was already filled with private pay families. Insufficient payment rates ranked the second most reported reason for non-participation. The survey data suggest that there are many barriers beyond payment rates that, if addressed, could significantly increase the percentage of providers willing to accept subsidies.

Table 14: Private Pay Only Provider Barriers to Participation in Subsidy System, by Provider Type

Reason Subsidy Not Accepted	Private Pay Only GSA Responses	% of Total Private Pay Only GSA	Private Pay Only FCC Responses	% of Total Private Pay Only FCC
Capacity is full with private pay	190	32%	444	42%
Subsidy reimbursement rates are not sufficient	157	27%	288	27%
Program has a long waitlist of private pay families	157	27%	230	22%
Too much administrative work involved	124	21%	168	16%
No demand for subsidized care in the program’s area	91	16%	174	16%
I don’t know enough about EEC’s subsidy program to participate	71	12%	100	9%
I do not currently accept subsidies, but am willing to do so	59	10%	74	7%
Reimbursement received too long after service is provided	48	8%	70	7%
Turn-over among subsidy recipient families	30	5%	45	4%
Challenges collecting co-payments from subsidy recipient families	34	6%	50	5%

Reason Subsidy Not Accepted	Private Pay Only GSA Responses	% of Total Private Pay Only GSA	Private Pay Only FCC Responses	% of Total Private Pay Only FCC
Disagree with policies associated with the subsidy program	25	4%	47	4%
Child behavioral challenges	15	3%	28	3%
Required participation in quality improvement	28	5%	19	2%
Required NAEYC accreditation (contract only)	42	7%	16	2%
Significant family needs	8	1%	9	1%
None of the above	19	3%	64	6%
Other	37	6%	17	2%

The C3 Grant application survey also collected information from providers on non-tuition-related fees that may be charged to parents. Providers who exclusively accept subsidized children were unable to be identified,¹⁵ rendering the breakdown of fees by subsidy acceptance type impossible. Additionally, the administrative data did not include the amount charged for each additional type of fee.

Providers could select from sixteen non-tuition fee types. Approximately half of FCC providers and sixteen percent of GSA providers identified no additional fees charged to parents. The majority of FCC providers may charge parents three or fewer additional fee types, while one-third of GSA providers may charge parents 4-6 additional fee types. Ten percent of GSA providers identified 7-9 additional fee types that they may charge parents.

Table 15: Number of Fees Charged by Provider, by Provider Type

Additional Fees	GSA	% of Total GSA	FCC	% of Total FCC
No additional fees noted ¹⁶	284	16%	1356	51%
1-3 additional fees	699	40%	1039	39%
4-6 additional fees	598	34%	243	9%
7-9 additional fees	182	10%	9	0%
10+ additional fees	5	0%	0	0%

¹⁵ Please refer to Appendix B for additional information.

¹⁶ Field left blank or selected “none of the above”

Of the different additional fee types, late pick-up fees are the most frequent type that providers may charge parents for both GSA and FCC providers. GSA providers are more likely to charge parents for registration fees, field trips, optional services, and special activity fees, compared to FCC providers.

Table 16: Additional Fees Charged to Families, by Provider Type

Additional Fees	GSA	% of Total GSA¹⁷	FCC	% of Total FCC
Late pick-up fees	1013	64%	858	33%
Bank fees (i.e., bounced checks)	788	50%	523	20%
Late payment fees	718	45%	545	21%
Registration fee (annual)	615	39%	31	1%
Deposit (to hold a future slot)	566	36%	563	21%
Field trips	327	21%	91	3%
Optional services (i.e., photographer, etc.)	318	20%	26	1%
Special activity fees (i.e., gymnastics, computer education, etc.)	237	15%	23	1%
Application fee	123	8%	16	1%
None of the above	111	7%	1064	40%
Waitlist fee	95	6%	38	1%
Transportation	52	3%	10	0%
Food (meals, snacks)	48	3%	27	1%
Materials/supplies fee	46	3%	24	1%
Other	21	1%	10	0%

¹⁷ The total refers to the total number of providers in the final sample (not just the total number who submitted at least one response).

Narrow Cost Analysis

Overview

To ensure that states have comprehensive information to inform their child care reimbursement rate setting, states are required by the Administration for Children and Families (ACF) to complete a “narrow cost analysis” to estimate child care providers’ cost of care. Through a narrow cost analysis, states are required to:

1. Determine providers’ cost of care across varying levels of “quality”: (a) base quality, which is the implementation of health safety, quality, and staffing requirements, and (b) higher quality, as defined by the Lead Agency;
2. Determine providers’ cost of care across relevant variation by geographic location, category of provider, and the age of the child; and
3. Submit a narrow cost analysis report to the ACF, U.S. Department of Health and Human Services

States have significant flexibility and discretion in the development and use of the narrow cost analysis. Notably, states have flexibility in determining the approach and methodology. The approach can be informed by and is not limited to (a) using information from existing studies, (b) developing a cost model using the publicly available Provider Cost of Quality Calculator (PCQC),¹⁸ (c) conducting a limited cost survey or study, (d) examining cost differentials for higher-quality care, and/or (e) using information from the market rate survey data.

Methodology

In early 2020, EEC worked with an independent consultant (Kate Ritter, now with Children’s Funding Project) to complete a study of the cost of providing child care services that meet Massachusetts licensing standards and the highest Quality Rating and Improvement System (QRIS) level standards, for each age group and subsidy reimbursement region of the Commonwealth. The study involved extensive stakeholder engagement, collection of data on program costs, and analysis of existing data. A dynamic cost model tool was developed specifically to reflect the Massachusetts context, and it produced estimates of costs for providing care in 2020. The current cost study uses the same tool and updates the cost factors to reflect the inflation of costs that have occurred in the past two years.

While the analysis included solid methodology and robust stakeholder engagement, the current NCA relies on a relatively limited sample of providers and some data points of interest were not readily available at the regional level. Future cost research is planned over the next year that will include consideration of additional revenue sources, such as the Child and Adult Care Food Program, and additional occupancy and compensation data.

¹⁸ For more information on the Provider Cost of Quality Calculator, please see the Child Care Technical Assistance Network’s [resource](#).

2020 Cost Study Data Collection and Stakeholder Input

The narrow cost analysis was informed by a robust data collection and stakeholder input process. The process to ensure valid and comprehensive data collection was as follows:

- Two separate child care surveys were designed (for Licensed GSA and FCC providers) to collect cost data from both provider types. EEC distributed the surveys to all providers in the LEAD provider database, and 108 Group and School Age surveys and 163 Family Child Care surveys were returned
- Survey results were analyzed and compiled into data points around staffing patterns, wages, and non-personnel costs

Once the data points were compiled, stakeholder webinars were scheduled to validate and build consensus around the data input for the cost models. The stakeholder input process was as follows:

- 6 webinars were announced (and held January 27th – 29th, 2020); two webinars were held for center-based providers, two for home-based providers, and two for school-age providers.
- Approximately 300 providers attended the webinars
- Webinars shared 1) results of the data collected in the January survey, 2) comparison to data from the most recent Market Rate Survey, and 3) questions/polls about data input values for the cost models)
- Results of the webinar questions/polls and Bureau of Labor Statistics data were used to develop the base wage parameters in the model budgets

The parameters that were agreed upon through this stakeholder engagement process were used to build model budgets for child care centers (assuming 1 classroom each of infant, toddler, and school age, and two preschool classrooms), family child care homes (assuming 10-child home as the model), and school-age only programs. The staffing patterns for these model budgets were based on an analysis of regulations (licensing and QRIS Level 3) and input from the focus groups on how programs are typically staffed to meet these regulatory requirements.

For the 2022 update of the model, the parameters were updated to account for inflation. Details on the updating process are included in Appendix E.

Cost Model Design

The narrow cost analysis differentiates the cost of care across provider settings, geographic regions, age groups, and quality tiers, as follows:

- Provider Settings (2) – Licensed GSA and FCC providers
- State Geographies (6) – Regions by which state is divided for the setting of child care subsidy reimbursement rates (see map in Appendix A). These are 1-Western, 2-Central, 3-Northeast, 4-Metro, 5-Southeast, and 6-Metro Boston. Note that only salaries and occupancy costs were adjusted by region. The adjustment factor was developed by analyzing the Bureau of Labor Statistics wage data for child care workers in various regions of the state and calculating and

index of wage differences by region. This index varied from a low of 1.0 (Region 1) to a high of 1.046 (Region 4); thus the wage and occupancy parameters Included for Region 4 were 4.6% higher than for Region 1.

- Age Groups (4) – The age group division reflects how ages are categorized in licensing regulations and the subsidy system. The groups are: Infants (under 15 months), Toddlers (15-33 months), Preschool (33 months to kindergarten age), and School Aged Children (kindergarten age and up). Costs from the overall model program budget were allocated to each age group to determine cost by age group.
- Quality Levels (2) – The cost analysis looked at both the base level of quality (licensing standards) and Level 3 standards in the Massachusetts QRIS.

When modeling expenditures for a theoretical provider, assumptions must be made on provider size, enrollment as a percentage of capacity, group sizes and staff count, credential level of staff, staff wages and benefits, and individual non-personnel expenditures associated with providing care. A model operating budget for the theoretical provider can then be built, and costs can be allocated to the various age groups served by the provider. The total cost per age group is then divided by the number of children served in that age group and the number of days of service per year (here assumed to be 261 days per year) to provide a per-child, per-day rate for each age group.

Provider Size: Because GSA provider size and the count of classrooms by age group served varies substantially across centers in the Commonwealth, CELFE ran scenarios with varying counts of classrooms by age group to better understand the impact of provider size on cost per child. For GSA, this cost study assumed that the theoretical center serves one classroom each of Infants, Toddlers, and School Aged Children, and two classrooms of Preschoolers – a total of five classrooms. The assumption of one classroom per age group allows for each age group in the analysis to be represented in the theoretical center.

For FCC, the cost study assumed that providers have a full-time assistant and serve 10 children, including 6 children under age 2, 2 children ages 2-5, and 2 school-age children. Approximately 1/3 of family child care providers have a licensed capacity of 10.

Enrollment Efficiency: “Enrollment efficiency” refers to the provider’s actual enrollment compared to staffed capacity (the number of children that a program is staffed to care for). While providers may plan and staff for their licensed or operational capacity, enrollment represents the portion of a provider’s capacity that is actively filled. Based on research and the Provider Cost of Quality Calculator user guide, the industry standard is to keep enrollment at or above 85 percent of desired or staffed capacity. This cost study assumes 85% enrollment efficiency factor for each provider type.

Further details on the assumptions used for the cost model, including assumed staffing patterns, salaries, benefits, occupancy costs and other operational costs are provided in Appendix E.

Importantly, the Narrow Cost Analysis was designed to reflect **current operating expenses** for providers, using current wages and benefits that are commonly provided in the child care market. The analysis does not reflect the cost of operating programs with the higher levels of compensation that will likely be needed to stabilize the child care workforce and attract and retain highly-skilled early care and education professionals for the field.

Summary of Narrow Cost Analysis Findings

Outcomes of this analysis provide estimated costs per classroom/per year and per child/per day for GSA providers and per program/per year and per child/per day for FCC providers.

As anticipated, the analysis shows that the cost of operating classrooms varies only modestly across age groups, while the cost of care per child/per day varies greatly. Infant classrooms are typically staffed with a similar number of staff as a preschool classroom, but while up to 20 preschoolers could be cared for in a single classroom, only 7 children can be cared for in a single infant group.

The estimated costs for operating infant and toddler classrooms are higher, in most cases, than the prices charged even at the 75th percentile of the market rate. This is because child care providers typically "smooth" their prices across age groups, charging less than their costs for infants and toddlers, but more than their costs for preschoolers and school age children.

The costs shown below are intended to reflect current actual operating costs for a typical program meeting Massachusetts licensing standards, employing mostly full-time staff. Programs may be able to operate at somewhat lower costs by staffing programs with part-time staff and/or reducing staffing in classrooms in the beginning and end of the day when fewer children are present. Conversely, many programs experience higher costs than estimated here due to employing more highly qualified staff, paying above-market wages for their staff, providing more comprehensive benefits, and/or providing additional services to children and families such as parent engagement and support.

Group and School Age Programs

Table 17: Licensing Standards—Costs to meet basic health and safety standards at current compensation levels

Region	Infant		Toddler		Preschool		School Age	
	Per Classroom/ per year	Per child/ per day	Per Classroom/ per year	Per child/ per day	Per Classroom/ per year	Per child/ per day	Per Classroom/ per year	Per child/ per day
Region 1	\$227,916	\$145.54	\$237,274	\$113.64	\$279,386	\$62.97	\$284,410	\$47.38
Region 2	\$227,916	\$145.54	\$237,274	\$113.64	\$279,386	\$62.97	\$284,410	\$47.38
Region 3	\$230,977	\$147.49	\$240,410	\$115.14	\$282,857	\$63.75	\$287,643	\$47.92
Region 4	\$234,957	\$150.04	\$244,486	\$117.09	\$287,368	\$64.77	\$291,846	\$48.62
Region 5	\$229,447	\$146.52	\$238,842	\$114.39	\$281,121	\$63.36	\$286,027	\$47.65
Region 6	\$234,803	\$149.94	\$244,329	\$117.02	\$287,195	\$64.73	\$291,685	\$48.59

Table 18: QRIS Level 3--Costs to meet standards at Level 3 of Massachusetts' Quality Rating and Improvement System

Region	Infant		Toddler		Preschool		School Age	
	Per Classroom/ per year	Per child/ per day	Per Classroom/ per year	Per child/ per day	Per Classroom/ per year	Per child/ per day	Per Classroom/ per year	Per child/ per day
Region 1	\$264,008	\$168.59	\$280,053	\$134.13	\$352,255	\$79.39	\$381,555	\$63.56
Region 2	\$264,008	\$168.59	\$280,053	\$134.13	\$352,255	\$79.39	\$381,555	\$63.56
Region 3	\$267,948	\$171.10	\$284,176	\$136.10	\$357,199	\$80.50	\$386,669	\$64.41
Region 4	\$273,071	\$174.37	\$289,535	\$138.67	\$363,626	\$81.95	\$393,318	\$65.52
Region 5	\$265,978	\$169.85	\$282,115	\$135.11	\$354,727	\$79.95	\$384,112	\$63.99
Region 6	\$272,874	\$174.25	\$289,329	\$138.57	\$363,379	\$81.90	\$393,062	\$65.48

Family Child Care

Table 19: Licensing Standards—Costs to meet basic health and safety standards at current compensation levels

Region	Under Age 2		Over Age 2	School Age
	Per program/ per year	Per child/ per day	Per child/ per day	Per child/ per day
Region 1	\$157,132	\$69.13	\$46.82	\$46.82
Region 2	\$157,132	\$69.13	\$46.82	\$46.82
Region 3	\$159,104	\$70.06	\$47.31	\$47.31
Region 4	\$161,668	\$71.28	\$47.94	\$47.94
Region 5	\$158,118	\$69.59	\$47.06	\$47.06
Region 6	\$161,569	\$71.23	\$47.92	\$47.92

Table 20: QRIS Level 3-- Costs to meet standards at Level 3 of Massachusetts' Quality Rating and Improvement System

Region	Under Age 2		Over Age 2	School Age
	Per program/ per year	Per child/ per day	Per child/ per day	Per child/ per day
Region 1	\$202,521	\$87.08	\$63.37	\$63.37
Region 2	\$202,521	\$87.08	\$63.37	\$63.37
Region 3	\$205,391	\$88.37	\$64.19	\$64.19
Region 4	\$209,122	\$90.04	\$65.25	\$65.25
Region 5	\$203,956	\$87.72	\$63.78	\$63.78
Region 6	\$208,978	\$89.98	\$65.21	\$65.21

Appendix A. MA Subsidy Reimbursement Rate Regions & Municipalities: Map and Standard Rates

Figure A1. Map of EEC Subsidy Reimbursement Rate Regions

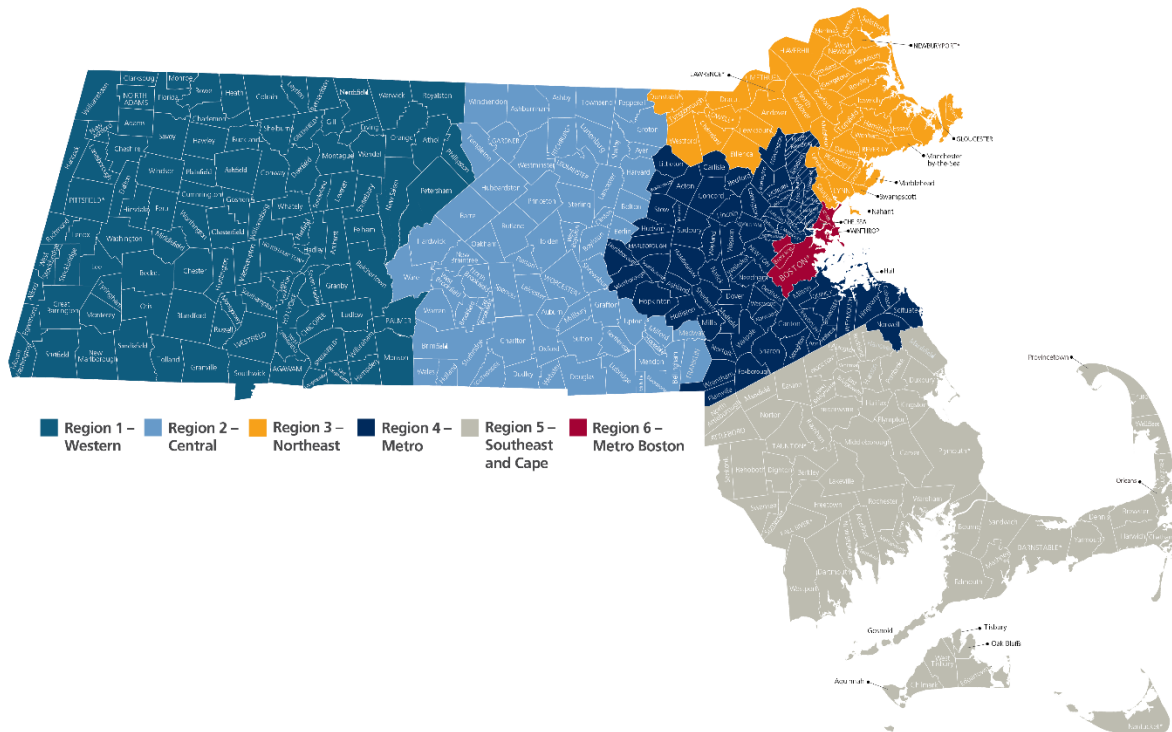


Table A1: MA Daily Subsidy Reimbursement Rates- Fiscal Year 2023 (As of 7/1/2022)
Standard Daily Rates

	GSA			FCC Providers				SCHOOL-AGE			
	Infant	Toddler	Pre-School	Providers: Under 2 Years of Age	Providers: 2 Years of Age and Over	Systems: Under 2 Years of Age	Systems: 2 Years of Age and Over	Before School-Age Only	After School-Age Only	Before and After School-Age	Full Day School-Age
Region 1- Western	\$65.71	\$60.26	\$45.82	\$42.79	\$36.89	\$57.19	\$51.28	\$9.96	\$20.93	\$30.89	\$42.13
Region 2- Central	\$67.51	\$61.65	\$48.81	\$48.90	\$38.83	\$63.35	\$53.22	\$9.96	\$20.93	\$30.89	\$42.14
Region 3- Northeast	\$79.40	\$69.05	\$49.91	\$48.90	\$38.90	\$63.24	\$53.24	\$10.58	\$23.39	\$33.97	\$43.57
Region 4- Metro	\$90.41	\$82.08	\$63.22	\$73.34	\$44.38	\$88.28	\$59.21	\$10.86	\$24.01	\$34.87	\$44.79
Region 5- Southeast	\$65.71	\$61.65	\$47.03	\$48.90	\$38.83	\$63.35	\$53.22	\$9.96	\$20.93	\$30.89	\$42.14
Region 6- Metro Boston	\$85.68	\$79.86	\$50.37	\$55.00	\$39.94	\$69.94	\$54.77	\$10.86	\$24.01	\$34.87	\$44.79

*Changes in FCC daily maximum reimbursement rates are effective July 1, 2022.

Appendix B. Market Rate Methodology Detail

This appendix provides additional detail on the procedures, assumptions, and rules that were utilized throughout the Market Rate Survey analysis.

Data Cleaning

In total, 7,330 providers were included in the primary dataset, each with one to four “observations,” or rates for a specific age group (infant, toddler, preschool or school age). After cleaning procedures described below, 4,237 providers remained in the final primary dataset used for analysis. CELFE conducted a thorough data cleaning process to ensure consistency and removal of duplicates and data that likely resulted from data entry errors.

- **Step 1:** Obtained data on rates, hours, and licensing data from LEAD. For providers that CELFE could not determine validity or operation status, CELFE confirmed with EEC team before proceeding.
- **Step 2:** Converted all rates to Daily Rates. The following formulas were used:

Table B1: Rate Conversion Calculations

Reported Frequency	Conversion Methodology
Hourly Full-Time	(Hourly Rate) X 8
Daily Full-Time	No conversion
Weekly Full Time	(Weekly Rate) / 5
Monthly Full Time	(Monthly Rate) / 4.33 / 5

- **Step 3:** Recoded and/or eliminated observations to ensure the dataset included consistent and reliable results for full-time programs. For example, observations coded as “Emergency Schedule” were dropped from the sample, while observations coded as “Temporary Schedule” (when a “Full-Time Schedule” did not exist for that provider) were re-coded to “Full-Time Schedule.” All re-coding and eliminations were conducted based on consultation with EEC staff. A complete list can be found below under “Decision Matrix for Variables in the Dataset.”¹⁹
- **Step 4:** To ensure that the data were timely and relevant, CELFE consulted with EEC staff to remove data observations that entered beyond 365 days from the start of the analysis. See

¹⁹ In the dataset, there are multiple observations for one provider depending on the age groups they serve. For example, Provider A may serve both Infant and Toddlers and therefore be represented twice in the dataset. But there is only one provider serving two different age groups. Therefore, observations refer to providers broken down by the age groups of children they serve.

“Recently Updated” Decision Point further down in the Appendix for more information.

- **Step 5:** Removed duplicates from the sample to ensure each provider listed only one rate per age group.
- **Step 6:** Removed outliers from the sample where the “Converted Daily Rate” was less than \$20/day and greater than \$200/day. Only 350 observations (3% of sample) were dropped due to the rate falling outside of the bounds stated above.

The data cleaning process resulted in a total of 2,638 FCC and 1,599 GSA provider responses included in the final analytic dataset. Additional details about the rules, procedures, and number of observations removed at each step above are included further below in the Appendix.

Datasets Utilized

Table B3: Administrative Dataset

Dataset Name	Use Case
Rate Data	Primary data file
C3 Grant Data	Match to provide licensure info
Provider Data	Match to provide licensure and capacity info
Licensing Region Data	Match the licensing regions
Subsidy Region Data	Match to find subsidy region
Outlier Check Data	Analyzed to check for outliers as a comparison
Current Subsidy Rates Data	CCFA data to provide rate comparison

Definitions

- *Family Child Care (FCC):* FCC is child care provided in someone's home where the caretaker is not related to the children. Family Child Care programs are small and can serve no more than 10 children at one time.
- *Group and School-Age (GSA):* GSA Child Care programs provide early education and care for young children in a non-residential setting such as a school or community center. These programs include several types of early education and care such as: out-of-school time programs that operate before/after school or during the summer, center-based care for Infants, Toddlers, Preschool, or Kindergarten age children, or Early Head Start and Head Start programs.
- *EEC Licensed:* Programs, whether in homes or in centers/schools, that have a license from the

Department of Early Education and Care.²⁰

- *Full Time*: For reimbursement rates, full time provider hours of operation is defined as a minimum of 6 hours and a maximum of 10 hours.

Decision Matrix for Variables in the Dataset

Table B4: Decision Matrix for Data Cleaning

Decision	Original Units Impacted
Dropped from dataset	<i>Schedule Type</i> : Emergency, Weekend Only, Evening Schedule, AM/PM Schedule <i>Rate Type</i> : Other Full Time, Hourly Part Time, Weekly Part Time, Daily Part Time, Monthly Part Time, Other Part Time <i>Group Type</i> : Kindergarten <i>Rate Age</i> : Rate data older than 365 days from June 21, 2022
Included in “Full Year Schedule”	Full Year Schedule, Summer Schedule, Temporary Schedule
Included in “GSA”	Large Group, Small Group, Private School

“Recently Updated” Decision Point

The federal guidelines require states to run the market rate analysis using “current full-time rates.” Providers were able to update their rates at different points in time. On April 19, 2022, EEC sent notification to all providers informing them that their information on rates, as well as hours of operation would be used for an upcoming market rate study, and providers were encouraged to confirm that their information was accurate in the LEAD system. EEC pulled the rate data and sent it to CELFE on June 21, 2022. CELFE considered when the rate data was updated for full-time FCC and GSA providers. Approximately one-third of the providers had not updated their rate data in over one year. CELFE, in consultation with EEC, decided to use one-year as the cutoff for the “current” period to ensure a robust and representative sample of providers was retained in the dataset. All observations with rate data older than 365 days were dropped from the sample.

De-Duplication Procedure

Duplicates were removed from the sample to ensure each provider listed only one rate per age group using the following procedure:

- In the case of two duplicates of the same age group, keep 1) Weekly, 2) Daily, 3) Monthly, or 4) Hourly, in that order. The Weekly rate was prioritized as it likely represents the fee charged for a child who is enrolled full-time, while the daily rate may more likely be used for part-week participants.

²⁰ For more information on EEC’s licensing requirements for GSA Providers, see [here](#). For more information on EEC’s licensing requirements for FCC Providers, see [here](#).

- In the case that the entries were the same for both age group and child care schedule, but the difference was schedule type, use the following hierarchy: 1) Full Year Schedule, 2) School Year Schedule, 3) Summer Schedule, 4) Temporary Schedule.
- In cases where there are two or more of the same categorizations among one age group and no other difference in the data, we kept the higher rate observation.

Outlier Procedure

In the Rate Data, there was large variability for the “Converted Daily Rate.” CELFE performed analysis to understand any “natural breaks” in data and consulted with EEC to determine reasonable cut points. Data was also compared to a separate dataset of rates from subsidy billing verification to identify the likely range of non-erroneous data. CELFE and EEC agreed to drop observations from the sample where the “Converted Daily Rate” is less than \$20/day and greater than \$200/day.

Data Cleaning

See below for detailed data cleaning table with associated cuts and impacts to final sample.

Table B5: Data Cleaning

Action	# Total Observations Dropped	# Total Observations Remaining
Merged Rate/Application/Survey/ARPA datasets	0	28,519
Drop Weekend Schedule	44	28,475
Drop Emergency Schedule	30	28,445
Drop any “Part Time” Schedule to include only “Full Time”	5,509	22,936
Drop if Provider Type is “License Exempt”	31	22,905
Drop if data entered is past 366+ Days	8,061	14,844
Drop Evening Schedule	56	14,788
Drop Kindergarten Age Group	430	14,358
Drop AM/PM Observations	88	14,270
Remedying Duplicates	2,604	11,666
Drop observations did not have rate data	658	11,088
Drop observations with \$0 for “Converted Daily Rate”	164	10,844
Drop observations where the “Converted Daily Rate” is less than \$20/day and greater than \$200/day	350	10,495

Weighting Details

The standard weighting process included the following steps:

- Order all the providers in the sample (age and region groups) from highest to lowest rate
- List estimated licensed capacity next to rate
- Add the cumulative number of licensed slots for each provider starting with the lowest reported rate to the highest
- Divide the cumulative number of licensed slots available by provider by the total amount of licensed slots in the sample to understand the percentage of where that rate falls in the distribution
- Identify the 75th, 50th, and 25th percentile and their associated rates.
- For the below example, the associated rate for the 75th percentile is \$90.00 meaning that a rate of \$90.00/day would cover the price of 75% of the licensed slots in this region.

*The above process was repeated for each GSA age group and region.

Table B6: Sample Data Weighting Procedure

Sample Provider	Daily Rate	Sample Licensed Capacity- Infant	Cumulative Total ²¹	Percentile
Tiny Tots	\$109.00	18	207	100%
Toddler Town Daycare	\$99.00	34	189	91%
Little Einstein's	\$90.00	35	155	75%
Kangaroo Korner	\$83.00	45	120	58%
Bright Eyed Learning	\$72.00	10	75	36%
Little Explorers	\$68.00	30	65	31%
Luna's Daycare	\$62.00	5	35	17%
Toddlers on the Move	\$56.00	21	30	14%
Rainbow Daycare	\$54.00	9	9	4%
Total		207		

²¹ Cumulative total started from the bottom of the chart and moved to the top, starting with Rainbow Daycare and then adding Toddlers on the Move, etc.

Data Entry Details

The screenshot below is an example of what the data entry page looked like for providers and the options presented for selection of hours of operation, part/full time status, and daily rate.

Age Group	HOURLY		DAILY		WEEKLY		MONTHLY		OTHER	
	Part	Full	Part	Full	Part	Full	Part	Full	Part	Full
Infant Age Group				\$123.00						
Toddler Age Group				\$116.00						
Preschool Age Group				\$80.00						

Day	Start Time	End Time
Monday	08:00 AM	05:30 PM
Tuesday	08:00 AM	05:30 PM
Wednesday	08:00 AM	05:30 PM
Thursday	08:00 AM	05:30 PM
Friday	08:00 AM	05:30 PM

Appendix C. Analysis of Private Pay Only Providers vs. Those Providers Enrolling at Least One Child with a Subsidy

The following tables illustrate the differences in the median daily rate between those providers who are private pay only versus those providers that enrolled at least one child with a subsidy during the data collection periods. On average, GSA Providers that are “Private Pay Only” have higher median daily rates than their provider counterparts who serve children with subsidies. For example: in Region 5 for all age groups among GSA providers, the median daily rate prices for those providers that are private pay only are from \$5-\$18 higher in comparison to those who serve children with subsidies.

The same trend holds true for FCC providers. On average, FCC Providers that are “Private Pay Only” have higher median daily rates than their provider counterparts who serve children with subsidies. For example, in Region 3 for all age groups among FCC providers, the median daily rate prices for those providers that are private pay only are from \$13-\$21 higher in comparison to those who serve children with subsidies.

Table C1: GSA Infant and Toddler Private Pay vs. Serves Children with Subsidies Analysis

Region	Infant				Toddler			
	Private Pay Only		Serves Subsidy		Private Pay Only		Serves Subsidy	
	N	Median Daily Rate	N	Median Daily Rate	N	Median Daily Rate	N	Median Daily Rate
Region 1- Western	6	\$83.00	38	\$65.71	10	\$69.52	62	\$59.68
Region 2- Central	27	\$78.06	36	\$80.00	34	\$73.80	59	\$64.50
Region 3- Northeast	26	\$99.40	83	\$85.60	38	\$85.60	110	\$74.80
Region 4- Metro	128	\$118.01	114	\$107.00	185	\$108.27	151	\$98.00
Region 5- Southeast	26	\$81.40	130	\$67.68	38	\$67.44	166	\$62.40
Region 6- Metro Boston	42	\$132.01	38	\$95.50	51	\$115.89	64	\$87.00

Table C2: GSA Preschool and School-Age Private Pay vs. Serves Children with Subsidies Analysis

Region	Preschool				School-Age			
	Private Pay Only		Serves Subsidy		Private Pay Only		Serves Subsidy	
	N	Median Daily Rate	N	Median Daily Rate	N	Median Daily Rate	N	Median Daily Rate
Region 1- Western	22	\$45.50	94	\$45.00	10	\$30.00	78	\$40.51
Region 2- Central	56	\$58.31	74	\$51.50	21	\$26.50	53	\$44.00
Region 3- Northeast	59	\$65.00	137	\$55.00	13	\$47.00	93	\$43.00
Region 4- Metro	250	\$87.18	180	\$76.40	53	\$33.88	118	\$38.80
Region 5- Southeast	65	\$59.07	196	\$49.25	11	\$60.30	131	\$42.14
Region 6- Metro Boston	60	\$96.28	82	\$70.00	5	\$40.00	49	\$45.00

Table C3: FCC Infant and Toddler Private Pay vs. Serves Children with Subsidies Analysis

Region	Infant				Toddler			
	Private Pay Only		Serves Subsidy		Private Pay Only		Serves Subsidy	
	N	Median Daily Rate	N	Median Daily Rate	N	Median Daily Rate	N	Median Daily Rate
Region 1- Western	53	\$50.00	125	\$44.00	134	\$45.00	205	\$40.00
Region 2- Central	68	\$55.00	177	\$50.00	153	\$50.00	273	\$47.00
Region 3- Northeast	53	\$62.00	201	\$48.94	122	\$60.00	327	\$42.00
Region 4- Metro	203	\$75.00	95	\$70.55	322	\$70.00	139	\$60.00
Region 5- Southeast	84	\$60.00	103	\$50.00	154	\$55.00	164	\$50.00
Region 6- Metro Boston	36	\$75.00	169	\$60.00	54	\$65.00	229	\$55.00

Table C4: FCC Preschool and School-Age Private Pay vs. Serves Children with Subsidies Analysis

Region	Preschool				School-Age			
	Private Pay Only		Serves Subsidy		Private Pay Only		Serves Subsidy	
	N	Median Daily Rate	N	Median Daily Rate	N	Median Daily Rate	N	Median Daily Rate
Region 1- Western	110	\$45.00	172	\$39.00	78	\$41.00	101	\$40.00
Region 2- Central	142	\$50.00	220	\$40.00	87	\$50.00	155	\$40.00
Region 3- Northeast	107	\$60.00	272	\$38.90	67	\$55.00	184	\$40.00
Region 4- Metro	263	\$70.00	109	\$50.00	123	\$65.00	66	\$55.00
Region 5- Southeast	132	\$55.00	131	\$50.00	69	\$50.00	83	\$45.00
Region 6- Metro Boston	41	\$58.00	187	\$50.00	27	\$50.00	105	\$50.00

Appendix D. Comparison of 2022 and 2018 Market Rate Survey

The tables in this Appendix compare the power analysis from the 2018 MRS analysis and the current analysis. Referencing the margin of error is important in a statistical analysis because a smaller margin of error yields higher confidence that the sample results are reliable. In the 2022 analysis, the margins of error (except for Region 1- GSA) are all lower than those in the 2018 MRS, indicating a higher confidence for the sample results reliability. Additionally, the 2022 study included a larger proportion of the provider universe than the 2018 study for nearly all regions and provider types.

Table D1: GSA Provider Response Rates, Compared to 2018 MRS

Region	2022 Provider Universe ²²	Target Sample (95% CL, +/- 5.0 Margin of Error)	Providers Included in Final 2022 Dataset	Percent of Universe in Final 2022 Dataset	Percent of Target Sample Achieved	2022 Margin of Error	2018 MRS Margin of Error
Region 1- Western	306	171	157	51%	92%	5.5	5.4
Region 2- Central	255	154	153	60%	99%	5.0	5.7
Region 3- Northeast	444	206	255	57%	124%	4.0	4.3
Region 4- Metro	951	274	552	58%	201%	2.7	3.5
Region 5- Southeast	492	216	303	62%	140%	3.5	4.5
Region 6- Metro Boston	325	177	179	55%	101%	4.9	5.4
<i>Total</i>	<i>2,773</i>		<i>1,599</i>	<i>58%</i>			

²² Provider Universe refers to all licensed and eligible providers in the Commonwealth.

Table D2: FCC Provider Response Rates, compared to 2018 MRS

Region	Provider Universe	Target Sample (95% CL, +/- 5.0 Margin of Error)	Providers Included in Final Dataset	Percent of Universe	Percent of Target Sample Achieved	2022 Margin of Error	2018 MRS Margin of Error
Region 1- Western	677	246	385	57%	157%	3.3	5.0
Region 2- Central	833	263	472	57%	179%	3.0	4.5
Region 3- Northeast	1,094	285	538	49%	189%	3.0	3.7
Region 4- Metro	933	273	538	58%	197%	2.8	5.2
Region 5- Southeast	639	240	369	58%	154%	3.3	5.1
Region 6- Metro Boston	587	233	336	57%	144%	3.5	4.6
Total	4,763		2,638	55%			

Table D3: 2018 Subsidy Rates Analysis

The red subsidy rates fell below the 50th percentile of market rates in the 2018 MRS.

Region	Center Based Providers				FCC Providers					Before and After School Only			
	Infant	Toddler	Preschool	School Age	Infant	Toddler 1	Toddler 2	Preschool	School Age	FCC Before	FCC After	Center Before	Center After
Region 1- Western	\$56.65	\$51.95	\$39.51	\$36.33	\$38.56	\$38.56	\$33.25	\$33.25	\$33.25	\$19.95	\$19.95	\$8.59	\$18.03
Region 2- Central	\$58.20	\$53.15	\$39.51	\$36.33	\$44.07	\$44.07	\$33.25	\$33.25	\$33.25	\$19.95	\$19.95	\$8.59	\$18.03
Region 3- Northeast	\$65.00	\$59.47	\$42.18	\$37.56	\$44.07	\$44.07	\$35.07	\$35.07	\$35.07	\$21.04	\$21.04	\$9.11	\$20.17
Region 4- Metro	\$70.39	\$63.92	\$43.42	\$38.62	\$66.10	\$66.10	\$35.07	\$35.07	\$35.07	\$21.04	\$21.04	\$9.35	\$20.71
Region 5- Southeast	\$56.65	\$53.15	\$39.51	\$36.33	\$44.07	\$44.07	\$33.25	\$33.25	\$33.25	\$19.95	\$19.95	\$8.59	\$18.03
Region 6- Metro Boston	\$73.86	\$68.85	\$43.42	\$38.62	\$49.57	\$49.57	\$35.07	\$35.07	\$35.07	\$21.04	\$21.04	\$9.35	\$20.71

Table D4: 2022 Subsidy Rates Analysis

The red subsidy rates fell below the 50th percentile of market rates in the 2022 MRS.

Region	GSA Providers				FCC Providers			
	Infant	Toddler	Preschool	School Age	Infant	Toddler	Preschool	School Age
Region 1- Western	\$65.71	\$60.26	\$45.82	\$42.13	\$42.79	\$42.79	\$36.89	\$36.89
Region 2- Central	\$67.51	\$61.65	\$48.81	\$42.14	\$48.90	\$48.90	\$38.83	\$38.83
Region 3- Northeast	\$79.40	\$69.05	\$49.91	\$43.57	\$48.90	\$48.90	\$38.90	\$38.90
Region 4- Metro	\$90.41	\$82.08	\$63.22	\$44.79	\$73.34	\$73.34	\$44.38	\$44.38
Region 5- Southeast	\$65.71	\$61.65	\$47.03	\$42.14	\$48.90	\$48.90	\$38.83	\$38.83
Region 6- Metro Boston	\$85.68	\$79.86	\$50.37	\$44.79	\$55.00	\$55.00	\$39.94	\$39.94

Appendix E. Narrow Cost Analysis

Additional Details of Cost Assumptions for the Narrow Cost Analysis

Group Sizes and Staffing Ratios: The following tables detail the number of children that the modeled programs were assumed to have capacity to serve:

Table E1: GSA Group Sizes

GSA GROUP SIZES	Licensed	Tier 3
Infants	7	7
Toddlers	9	9
Preschool	20	20
School Age	26	26

Table E2: FCC Group Sizes

FCC GROUP SIZES	Licensed	QRIS Tier 3
Under Age 2	6	6
Over Age 2	2	2
School Age	2	2

Staffing and Credentials: The staffing pattern used in the cost model was developed through an analysis of licensing expectations and was vetted and revised through the stakeholder engagement process described in the main report. The table below shows staffing assumptions by position type for GSA providers in the narrow cost analysis:

Table E3: Staffing Assumptions

# FTE PERSONNEL	BASE (LICENSED)	QRIS LEVEL 3
Director	1 per site (with children 0-5)	1 per site (with children 0-5)
Additional Professional Staff (out of classroom)	If enrollment > 100, 1 per program	1 per 4 classrooms
Lead Teacher per Age Group (licensing requirement)	1 per age group (infant/toddler & preschool) *Note: Director is usually preschool Lead Teacher qualified and counted as such in model	
Lead Teacher	1 per 40 children (based on licensed capacity)	1.5 per classroom
Teacher	1.5 per classroom (minus # of Lead Teachers)	1 per classroom
Assistant Teacher	1.5 per classroom	1 per classroom
Site Coordinator	1 per school-age program (1 FTE)	1 per school-age program (1 FTE)
Group Leader	1 per school-age classroom (1 FTE)	1 per school-age classroom (1.5 FTE)
Assistant Group Leader	1 per school-age classroom (0.6 FTE)	1 per school-age classroom (1 FTE)
Family Engagement Coordinator	None	1 per program
Food Aide	1 per site	1 per site
Administrative Assistant	1 per site	1 per site

Wages & Benefits

Wages: For the 2020 cost study, wages for the various positions included in the model were developed using data collected in the January 2020 survey to providers & programs and through review of the Bureau of Labor Statistics wage data for child care workers, adjusting where needed to ensure the scale reflected the Commonwealth's current minimum wage. The recommended salary scale was developed by the poll results of the Stakeholder Webinars held at the end of January 2020.

To update the wages for the model to account for inflation, the 2020 wages were inflated by 9.18% to reflect the increase in the Bureau of Labor Statistics Employment Cost Index for Boston-Worcester-Providence from the 24-month period ending March 2022. The table of wages used is listed below.

Table E4. Wages for GSA

PERSONNEL TITLES	SALARIES FOR 2022 ANALYSIS
Director (BA+)	\$68,236
Director (licensed)	\$49,675
Additional Professional Staff (out of classroom)	\$41,487
Lead Teacher	\$39,304
Teacher	\$37,120
Assistant Teacher	\$29,640
Lead Floating teacher/sub	\$39,304
Assistant floating teacher/sub	\$29,640
Site Coordinator	\$34,937
Group Leader	\$30,176
Assistant Group Leader	\$29,640
Family Engagement Coordinator	\$60,047
Food aide	\$28,954
Administrative Assistant	\$32,753
Maintenance Workers	\$29,640

Payroll Taxes and Employee Benefits: The narrow cost analysis assumes costs to the provider for providing benefits for all staff as follows:

- **Social Security and Medicare:** 7.65% of wages
- **Health Insurance:** average of \$4,450 per staff for Group and School Age, based on data from the Center of Health Information and Analysis 2021 Massachusetts Employer Survey. This amount was calculated by: 1) taking the cost of Individual, Employee + Spouse, Employee + Dependent, and Family coverage; 2) multiplying by 12 for an annual amount; and 3) multiplying by the % of premium paid on average by small employers in Massachusetts for each type of coverage; 4) averaging the annual employer contribution across type of coverage to produce an average per-eligible-and-participating-employee cost (\$10,207); 5) multiplying this by the percentage of the child care workforce assumed to be eligible for coverage, i.e., the full-time workforce (68%); and 6) multiplying by the statewide average take up rate for small employers (64%). Health insurance was not included in the family child care model because in the C3

survey, only 14% of FCC providers provide health insurance to themselves, and 4% to their assistants.

- **Worker's Compensation:** 2.85% of wages per average reported by Worker's Compensation and Inspection Bureau of Massachusetts
- **Retirement:** Not included

Non-Personnel Expenditures

Non-personnel expenditures: The 2020 cost study stakeholder engagement process included an analysis of provider costs in comparison to national averages reported in the Provider Cost of Quality Calculator (PCQC), and consensus assumptions for these expenditures were developed in consultation with EEC and providers during the webinars. For the 2022 study, updated PCQC values were reviewed, and 2020 values were updated to reflect the level of inflation seen in the PCQC. The table below shows the 2022 non-personnel expenditure assumptions for Group and School Age in the current analysis.

Table E5. Non-Personnel Expenditures for GSA

Non-personnel Expenditure Item	Licensed	Tier 3	Unit and Assumption
Food (food and kitchen supplies)	\$2,050	\$2,550	Per Child
Legal/Audit/Acct support	\$9,000	\$9,000	Per Site
Maintenance/Repair/Cleaning	\$4,736	\$4,736	Per Classroom
Telephone & Internet	\$4,500	\$4,500	Per Site
Fees/Permits/Licenses/Taxes	\$500	\$500	Per Site
Education Supplies & Equipment	\$225	\$300	Per child
Insurance/Liability	\$150	\$150	Per child
Staff training & education	\$250	\$550	Per staff
Marketing, printing & postage	\$20	\$31	Per child
Office Supplies & Equipment	\$100	\$100	Per child
Rent/Lease	\$14.95	\$14.95	Per sq foot <i>Assumed 1,280 sq ft/classroom</i>
Utilities (gas, electric)	\$3.30	\$3.30	Per sq foot
Child Assessment Tool	\$ -	\$15	Per child
IT Support	\$-	\$1,000	Per Classroom
Consultation Services	\$500	\$1,000	Per Classroom
Transportation	\$2,400	\$2,400	Per child, with 20% eligible for reimbursement
Background checks	\$35	\$35	Per staff
Miscellaneous	\$25	\$25	Per child

The table below shows 2022 non-personnel expenditure assumptions for Family Child Care:

Table E6. Non-Personnel Expenditures for FCC

Non-personnel Expenditure Item	Licensed	Tier 3	Unit and Assumption
Food (food and kitchen supplies)	\$1,608	\$1,608	Per Child
Legal/Audit/Acct support	\$689	\$689	Per Site
Maintenance/Repair/Cleaning	\$4,939	\$4,939	Per site
Supplies & Equipment	\$2,297	\$2,297	Per child
Insurance/Liability	\$3,446	\$3,446	Per site
Staff training & education	\$459	\$459	Per staff
Rent/Lease/Mortgage	\$15,000	\$15,000	Per site
Utilities (gas, electric)	\$6,547	\$6,547	Per site
Consultation Services	\$500	\$1,000	Per Classroom
Transportation for field trips	\$230	\$230	Per child
Miscellaneous	\$2,297	\$2,297	Per site
Food (food and kitchen supplies)	\$1,608	\$1,608	Per Child