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Utah Childcare Cost Estimation Model

April 2023

Prepared for the Utah Department of Workforce Services Office of Child Care

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SECTION 1: INTRODUCTION

A cost estimation model is a framework for disaggregating the costs of inputs in childcare services and evaluating them over a range of production choices and market conditions. This tool uses input costs at the level of the individual provider to build insights into childcare supply in the market overall. It is a tool that can be used to account for critical resources in the provision of childcare services, evaluate provider costs across distinct markets, and project the effects of changes in policies, prices, or resource availability. In each of these three functions the cost estimation model provides crucial information about the constraints on producers in the childcare market, the range of potential care options available, and the accessibility of services for families who need them.

The federal government explicitly links the producer cost of care to the quality and accessibility of childcare services in the 2016 Child Care and Development Fund (CCDF) Final Rule[1]. In Final Rule §98.45, Equal Access, the CCDF requires state agencies to document the cost of meeting health, safety, and staffing requirements and the additional costs necessary to support higher-quality care. This requirement exists to ensure that families receiving subsidy payments have access to the same standard of care available to families that do not receive the subsidy. An evaluation of the production costs of higher quality childcare informs subsidy-rate setting and supports the four provisions of the CCDF final rule to protect the health and safety of children in childcare, help parents make informed consumer choices and access information to support child development, provide equal access to stable, high-quality childcare for low-income children, and enhance the quality of childcare and the early childhood workforce.

The CCDF final rule identifies cost estimation models as an appropriate approach to estimating the cost of quality childcare and an alternative methodology for setting subsidy rates that may complement or supplant the market rate survey. To meet the federal reporting requirements, the model must account for variations in quality that are representative of a quality rating and improvement system or other system of quality indicators. The model must also evaluate variations in cost across childcare submarkets such as by child age or type of provider. Including these dimensions in the model ensures results that support equal access to higher-quality care

1 Child Care and Development Fund; Final Rule. 81 Federal Register 67438 (September 30, 2016). 45 CFR §98.45 – Equal Access. Available at https://www.federalregister.gov/documents/2016/09/30/2016-22986/child-care-and-development-fund-ccdf-program.

for subsidy-recipient families throughout the state.

Utah's Department of Workforce Services Office of Child Care (OCC) is committed to supporting accessible, affordable, quality childcare. In 2019, the OCC launched the state's quality rating and improvement system, the Child Care Quality System (CCQS). Utah's 2021 Market Rate Study relied on benchmarks from the CCQS for a narrow cost analysis, demonstrating rising costs associated with some quality-related investments. A cost estimation model significantly enriches the analysis presented there by accounting for a broader scope of resources necessary to support higher-quality care.

The childcare cost estimation model presented in this report was developed to meet the requirements of the CCDF final rule and to enhance stakeholders' knowledge of the costs of producing higher-quality childcare. It is a simple but versatile tool. Baseline estimates incorporate Utah-specific data to assess the current costs of providing quality childcare across Utah's CCQS quality ratings. Extensions of the model extrapolate from these results to show how changes in the costs of critical resources may influence expenditures. The model can be further extended to incorporate data on subsidy rates, provider revenues, or market prices to demonstrate the presence of gaps in accessibility. In these applications, the cost estimation model confronts the constraints on childcare supply today and makes it possible to envision the standard of care that we can achieve for Utah's future.

SECTION 2: MODEL AND DATA

A childcare cost estimation model highlights the relationship between resources, producer expenses, and the care environment. While there are many possible approaches to this type of modeling, the Administration for Children and Families (ACF) specifically promotes the use of cost calculators, or stylized budget models used in combination with detailed data about the input costs of the firm[2]. The Provider Cost of Quality Calculator (PCQC) is the ACF-supported platform developed for this purpose[3]. Utah's Childcare Cost Estimation Model is a cost calculator based on the PCQC but oriented to specifically represent Utah's CCQS. The model parameters are defined by the CCQS quality benchmarks and inputs to production, staffing patterns, and program characteristics reported by Utah's childcare providers at each CCQS quality rating. In addition, the Utah model offers a flexibility to adjust the structure and assumptions of the model that is not possible with the nationally oriented PCQC.

The Utah Childcare Cost Estimation Model evaluates variations in the cost of care found across the quality ratings tiers outlined in the CCQS: Certified Foundation of Quality, Certified Building Quality, Certified High Quality, and Certified High Quality Plus[4]. Due to the small population of Certified High Quality Plus providers, the model combines providers rated in the top two tiers into a single category. The three tiers evaluated in Utah's Childcare Cost Estimation Model are described below. Estimating the cost differences by CCQS rating demonstrates how costs rise for a typical Utah childcare provider with investments in higher-quality care.

Certified Foundation of Quality is the lowest certified quality rating and minimum cost level modeled. The CCQS defines Certified Foundation of Quality providers as those meeting the licensing standards set by the Utah Department of Health Child Care Licensing Program. Cost estimates for this category describe the provider cost of meeting health, safety, and staffing requirements set by the state of Utah.

Certified Building Quality is the mid-level cost in the model. This certified quality

2 Department of Human Services Administration for Children and Families. "Fundamentals of CCDF Administration – ACF Pre-approved Alternative Methodology." Childcare Technical Assistance Network, https://childcareta.acf.hhs.gov/ccdf-fundamentals/acf-pre-approved-alternative-methodology. Accessed November 21, 2022.

3 National Center on Early Childhood Quality Assurance. "Provider Cost of Quality Calculator User Guide." Administration for Children and Families, September 2022. https://pcqc.acf.hhs.gov/sites/default/files/2022-10/PCQC%20User%20Guide.pdf. Accessed November 21, 2022.

4 Department of Workforce Services Office of Child Care. "Utah's Child Care Quality System: Program Guide for Providers." Office of Child Care, n.d. Available at https://jobs.utah.gov/occ/provider/ccqs/ccqsprogramguide.pdf.

rating includes providers that exceed foundational licensing standards through participation in classroom observations and investments to meet quality-related benchmarks outlined in the CCQS. Cost estimates for this category reveal the cost of implementing practices related to higher quality care.

Certified High Quality and High Quality Plus is the highest cost level and certified quality rating tier represented in the model. This rating category is awarded to center and family childcare facilities that achieve the highest standards on several CCQS benchmarks. The CCQS framework specifically requires providers in this category to invest in caregivers who meet quality standards for education and professional development. Cost estimates for Certified High Quality/High Quality Plus providers demonstrate the cost of robust and consistent investments in higher quality childcare.

Data from Utah's childcare providers informs the Utah Childcare Cost Estimation Model at every level. In fall and winter of 2020, the OCC conducted a Market Rate Survey that included questions about facility characteristics, staffing and compensation, and other cost drivers in the production of childcare services. Provider responses to cost questions in the Market Rate Survey are the primary data used for the development and implementation of the model. The sample includes 78 percent of Center Licensed CCQS participants at the time of the survey. However, at the launch of the survey the CCQS framework for Center Licensed facilities had been in place for less than a year – including a period of disruption due to COVID-19 – and the population was small. To promote the representativeness of the sample and account for nonresponse bias, sample probability weights were assigned to CCQS-rated centers based on provider type, geography, and capacity. These weights adjust the frequency distribution of the sample to match the distribution of the population so that estimates from the data reflect the supply of quality-rated childcare throughout the state.[5] The CCQS Framework for Family Childcare launched after the completion of the Market Rate Survey. As a result, the survey data for family providers cannot be disaggregated by CCQS rating. Any results for family childcare providers reported from the Market Rate Survey represent the entire survey sample of family licensed providers. Data from the implementation of the temporary CCQS Framework for Family Childcare in 2021 and 2022 complements the survey sample and makes it possible to establish

5 Sample weights are calculated as weight = Nij/nij, where Nij = percentage of population total capacity (defined by childcare slots) for all providers of type i within geographic region j, and nij = percentage of sample total capacity of type i within geographic region j

differences between CCQS ratings categories for home-based providers in the cost model. For cost estimates not addressed in the Market Rate Survey, additional data comes from the Bureau of Labor Statistics Employer Cost for Employee Compensation, National Association of Realtors, and the PCQC. Detailed information about the data used to develop the model is included in Appendices A and B of this report.

The model parameters for each CCQS rating tier describe important attributes of the care environment, including caregiver-to-child ratios, group sizes, and investments in the training and retention of classroom or caregiving staff. These parameters offer essential information about provider approaches to higher quality care. Since Utah's CCQS incorporates a point allocation framework, providers have flexibility to choose the focus of quality investments on site. The flexibility of the system means that providers with similar point allocations and CCQS quality ratings may have substantially different program characteristics. Data from the Market Rate Survey, however, shows that quality investments do increase by CCQS rating along several dimensions including caregiver-to-child ratios, groups sizes, and teacher compensation. These elements are the key cost drivers of higher quality care.

The following sections provide information about ongoing operations costs at Utah's center-based and family home-based childcare providers. The model results demonstrate increasing monthly per-child costs with investments toward higher quality standards. These costs represent the average costs for providers within a Certified Quality Rating considered across subsets of the market. While this approach integrates the key criteria of Utah's CCQS, it notably omits any one-time or transitional investments that accompany moving upwards through quality rating tiers. Information on capital improvements, search and hiring costs for senior personnel, and other discrete spending could improve our understanding of the true cost of quality care.

SECTION 3: COST MODEL RESULTS: THE COST OF QUALITY CHILDCARE IN UTAH

The cost model results for Center and Family Licensed childcare facilities are presented in Figures 1 and 2 below. These estimates describe the monthly per-child cost of care for a typical childcare provider in Utah at each quality rating category. Details about the assumptions defining the models are included in Appendix A to this paper, Defining Baseline Model Parameters. Important characteristics of higher quality-rated care are encompassed in the model parameters, including caregiver-to-child ratios and teacher, director, and administrator wage and benefit rates that increase with quality rating, and group sizes and capacities that decrease with quality rating. These elements are associated with higher costs for higher quality-rated care. The estimates for center-based care describe the cost of full-day, full-year childcare at center licensed facilities with one classroom for each age group. The estimates for family childcare describe the cost of full-day, full-year childcare at family home-based providers caring for children ages 0 to 12 in a mixed-age group. The flexibility of the cost model makes it possible to relax any of these assumptions to evaluate their effect on per-child costs in extensions of the baseline model.

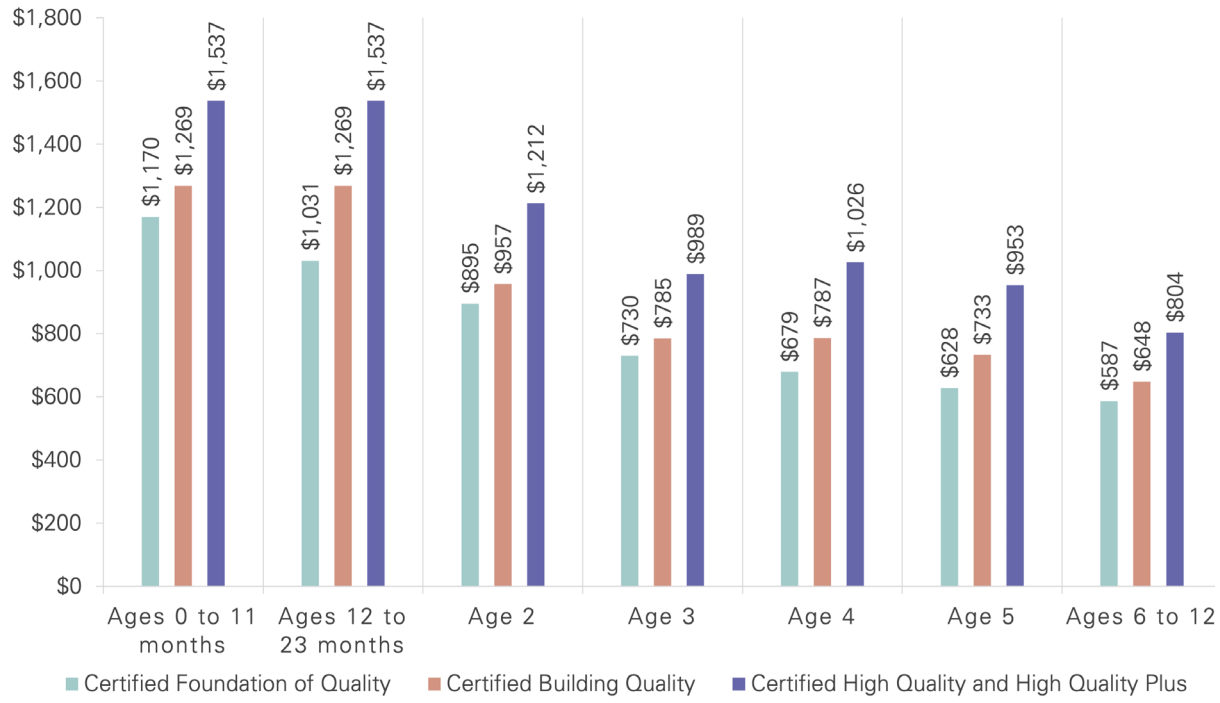
Monthly Per-child Cost of Center Care

Figure 1 shows the cost of care at Center Licensed facilities in Utah. The cost patterns reveal the influence of greater resource demands on the per-child cost of care.

Care for younger children is resource intensive and, as a result, per-child costs fall predictably with child age. As shown below, childcare costs at centers are highest for infants and toddlers. These age groups require higher caregiver-to-child ratios and smaller group settings at all quality ratings and incur correspondingly higher per-child personnel expenses.

High quality care also requires significant resource investments and so per-child costs rise predictably with CCQS quality rating. In particular, providers at higher CCQS ratings incur more per-child spending on personnel. Certified Building Quality and Certified High Quality and High Quality Plus providers employ more caregivers per child, pay higher wages, and are more likely to offer benefits to staff. But non-personnel expenses also factor into higher per-child costs among higher quality-rated childcare centers. Smaller group sizes among these providers lead to smaller total capacity so that fixed costs (such as facility costs like basic utilities) are spread over fewer children, raising the raising the per-child cost of care.

Figure 1: Monthly Per-Child Cost of Center Care



In the Utah Childcare Cost Estimation Model, the Certified Foundation of Quality rating illustrates the essential cost of health, safety, and staffing requirements for Center Licensed firms. The cost of care rises with quality investments beyond the Certified Foundation of Quality rating, first modestly for providers with a Certified Building Quality rating, and more markedly for Certified High Quality and Certified High Quality Plus-rated providers. Per-child costs among Certified Building Quality-rated providers are between 7 and 23 percent higher than those at the benchmark Certified Foundation of Quality rating (depending on child age). Average per-child costs at Certified Building Quality-rated providers are 16 percent higher than Certified Foundation of Quality. Among Certified High Quality and Certified High Quality Plus providers, the per-child costs rise 30 to 53 percent above the basic cost of health, safety, and staffing. Average per-child costs at the highest quality-rated providers are 48 percent higher than those at the Foundation of Quality rating.

Monthly Per-child Cost of Family Care

Figure 2 shows the cost of higher quality-rated childcare for family childcare providers. Like the model for Center Licensed care, the Certified Foundation of Quality rating represents the basic cost of health, safety, and staffing as outlined by Utah's licensing standards. Unlike the model for center care, state legislation passed in 2022 enables home-based childcare providers to take on higher group sizes with fewer caregivers per child than licensing rules would otherwise permit. Family Licensed providers may currently exceed their licensed capacity by up to 3 school aged children without additional staff, or new licensing or certification. This legislation adds a fourth quality rating level below the licensing standard, indicated as Utah 2022 HB 15 in the graph below.

Figure 2: The Monthly Per-Child Cost of Care for Family Childcare

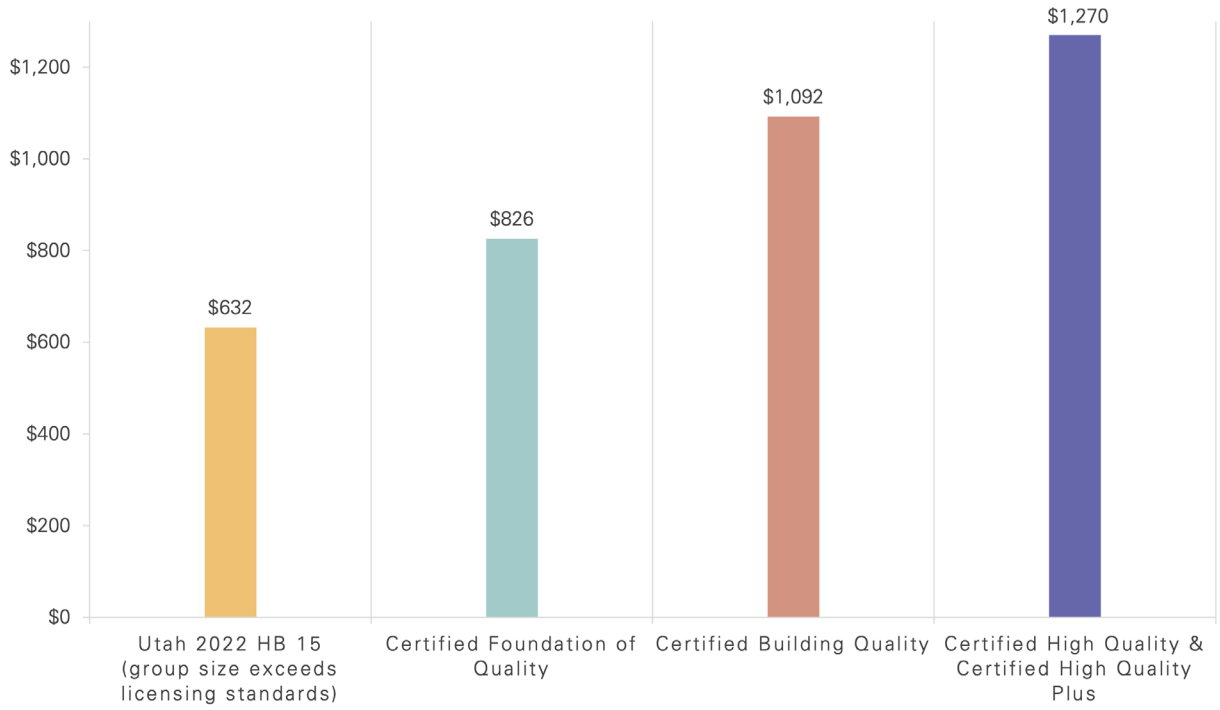


Figure 2 shows how provider costs rise with CCQS rating at family home-based childcare facilities. HB 15 enables family care providers to operate at lower caregiver-to-child ratios and higher group sizes, reducing the impact of personnel expenses on the monthly per-child cost of care. Since higher caregiver-to-child ratios and lower group sizes are key evidence-based

attributes of higher quality care, and since providers participating in the CCQS have targeted these attributes to reach higher quality ratings, provider costs are significantly higher among providers in all CCQS categories.[6]

Using Certified Foundation of Quality as a benchmark for the basic costs of health, safety, and staffing, higher-quality rated care is significantly more costly. As shown in Figure 2, providers operating at the Certified Building Quality rating face per-child costs 32 percent higher than the benchmark, and costs at the Certified High Quality and High Quality Plus ratings are 54 percent higher than the benchmark. The increased expense results from the increased spending on personnel through higher wages, increased staffing for non-classroom responsibilities, and lower caregiver-to-child ratios and group sizes, that characterize higher quality-rated care.

Market Revenue

Comparing the estimated cost of quality childcare with published market rates reveals significant gaps in the market for quality childcare. Figures 3 and 5 show the share of costs recovered by providers that set the price of care at the 75th percentile of market rates for each child age.[7]According to the CCDF, the 75th percentile of market rates is an important standard for the provision of subsidy reimbursement programs to provide broad access to high quality childcare. In Final Rule §98.45, Equal Access, the agency strongly encourages subsidy administrating agencies to set subsidy base rates at the 75th percentile and assures ACF approval for equal access compliance for those agencies that do.[8] As shown below, this standard is likely to cover the basic cost of health, safety, and staffing requirements and some quality investments, especially for older children, but less likely to cover significant and sustained costs for investments at the highest quality-rated providers.

6 National Institute of Child Health and Human Development (2006). The NICHD Study of Early Child Care and Youth Development: Findings for Children Up to Age 4 Years. United States Department of Health, National Institutes of Health. Available at https://www.nichd.nih.gov/sites/default/files/publications/pubs/documents/seccyd_06.pdf. And Child Trends (2017). Child Care: Research-Based Policy Recommendations for Executive and Legislative Officials in 2017. Publication # 2017-05. Available at: https://cms.childtrends.org/wp-content/uploads/2017/01/2017-05ChildCarePolicyRecsFinal.pdf. And Utah Department of Workforce Services Office of Childcare Utah's Childcare Quality System: Program Guide for Providers Available at: https://jobs.utah.gov/occ/provider/ccqs/ccqsprogramguide.pdf.

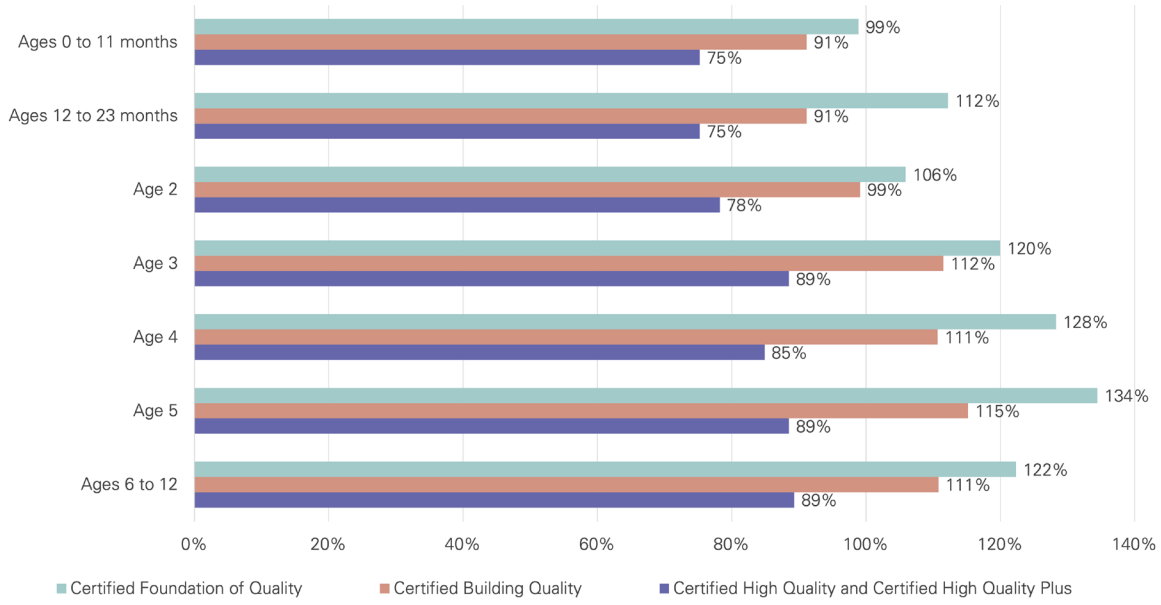
7 For this analysis the market rate for each child age and provider type is the 75th percentile market rate reported in the Utah 2021 Childcare Market Rate Study and adjusted to the 2022 Q2 value using the CPI for all items in the Mountain West. This price adjustment puts prices and costs in commensurate 2022 terms.

8 Child Care and Development Fund; Final Rule. 81 Federal Register 67438 (September 30, 2016). 45 CFR §98.45 – Equal Access. Available at https://www.federalregister.gov/documents/2016/09/30/2016-22986/child-care-and-development-fund-ccdf-program.

Center Care

Figure 3 compares the estimated monthly per-child cost of care with the 75th percentile of reported market rates from the 2021 Market Rate Survey.

Figure 3: Share of Provider Costs Covered at the 75th Percentile of Market Rates for Childcare Centers



Centers are least likely to recover the costs of providing infant care. Care for children under 2 years old is costly due to the need for hands-on attention and frequent one-on-on interaction. Although prices for this age group are higher than those of older children, providers are limited in their ability to set prices that fully reflect the costs of care by the fiscal constraints of households. There are no CCQS ratings categories where providers fully recover the cost of care for children under 12 months through market rates alone, and only providers at the baseline for health and safety – the Certified Foundation of Quality rating – recover the cost of care for children ages 12 to 23 months old. For Building Quality-rated providers, the 75th percentile of market rates covers 91 percent of the per-child cost of caring for children ages 0 to 23 months. At High Quality and High Quality Plus-rated providers, a price at the 75th percentile of market rates covers only 75 percent of the per-child cost. The implication of this comparison

for Equal Access is that a subsidy rate set at the 75th percentile may be inadequate to sustain subsidized families' access to high quality childcare for infants and toddlers under 2 years old.

High quality-rated care is similarly tenuous for 2-year-olds, although the gaps are narrower. The cost of care for 2-year-olds are fully covered by prices set at the 75th percentile of market rates at only the Certified Foundation of Quality rating. The same price covers 99 percent of costs at Certified Building Quality-rated providers, making care in the range of fiscal sustainability for providers in this category, but it covers just 78 percent of the cost of care at Certified High Quality and High Quality Plus ratings.

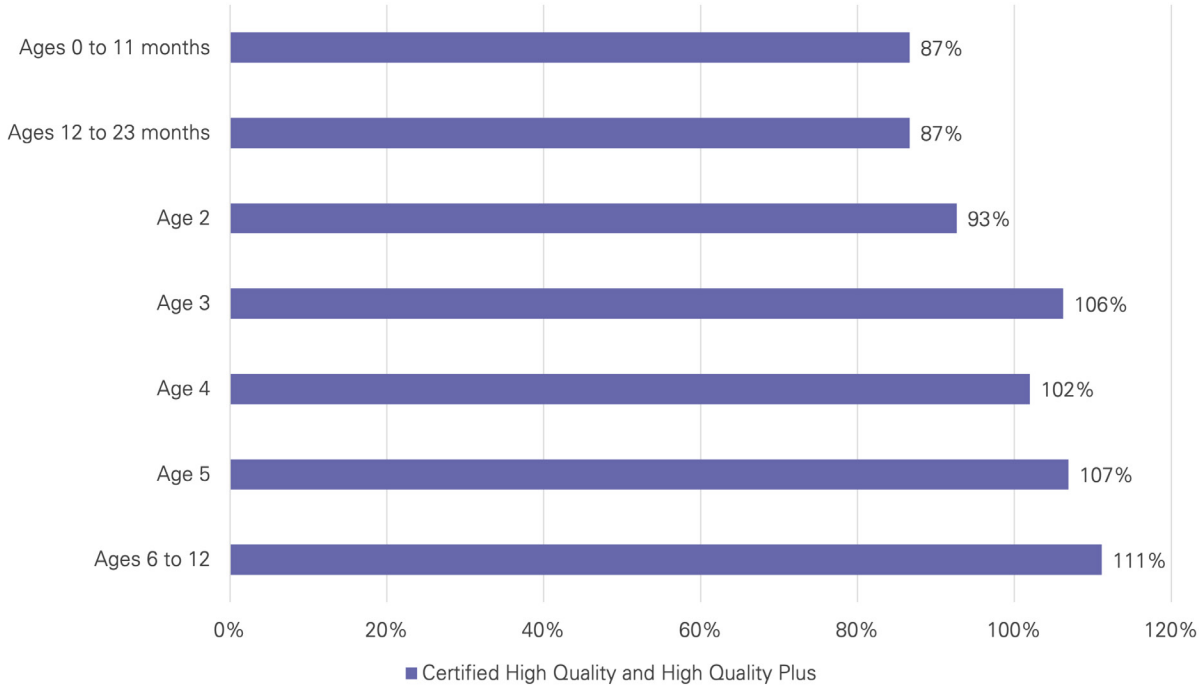
Access to providers that invest in quality improves for children ages 3 years and older. For these older children, prices set at the 75th percentile of the market cover the cost of care among providers in both the Certified Foundation of Quality and Certified Building Quality ratings categories. Among providers in these categories, the positive returns for older children may compensate for losses incurred in infant and young toddler classrooms.

These patterns show how the age composition of classrooms can affect the sustainability of childcare supply. Providers in all categories need to redistribute unrecovered costs from infant and toddler care in the form of higher prices for older age groups where price pressures are less severe. Even with the possibility of recovering losses through higher prices for older children, providers have lower incentives to provide care for children under two, especially higher quality-rated care.

Certified High Quality and High Quality Plus-rated providers do not recuperate the cost of care for any age group with prices at the 75th percentile. Like the other CCQS categories, centers in this quality rating category experience the greatest gaps among children ages 2 and younger, but even the smallest gap – for school-aged children – reveals losses at 11 percent per child. The implication of these findings is that subsidy rates set at the 75th percentile of market rates are inadequate to provide access to the highest quality-rated care. However, Utah's CCQS attempts to compensate for the gap between subsidy rates and the higher cost of quality care through an enhanced subsidy grant that provides an additional $175 per subsidy child to Centers with a Certified High Quality rating and $200 per subsidy child to Centers with a Certified High Quality Plus Rating.[9] Figure 4 shows the share of costs covered for providers in these categories with prices set at the 75th percentile of market rates and an additional $175 per subsidy child.

9 Utah Department of Workforce Services Office of Childcare (2019). Child Care Quality System: Enhanced Subsidy Grants for Centers. Available at: https://jobs.utah.gov/occ/provider/ccqs/enhancedsub.pdf

Figure 4: Share of Certified High Quality-rated Provider Costs Covered with the $175 Per Subsidy Child Enhanced Subsidy Grant for Centers



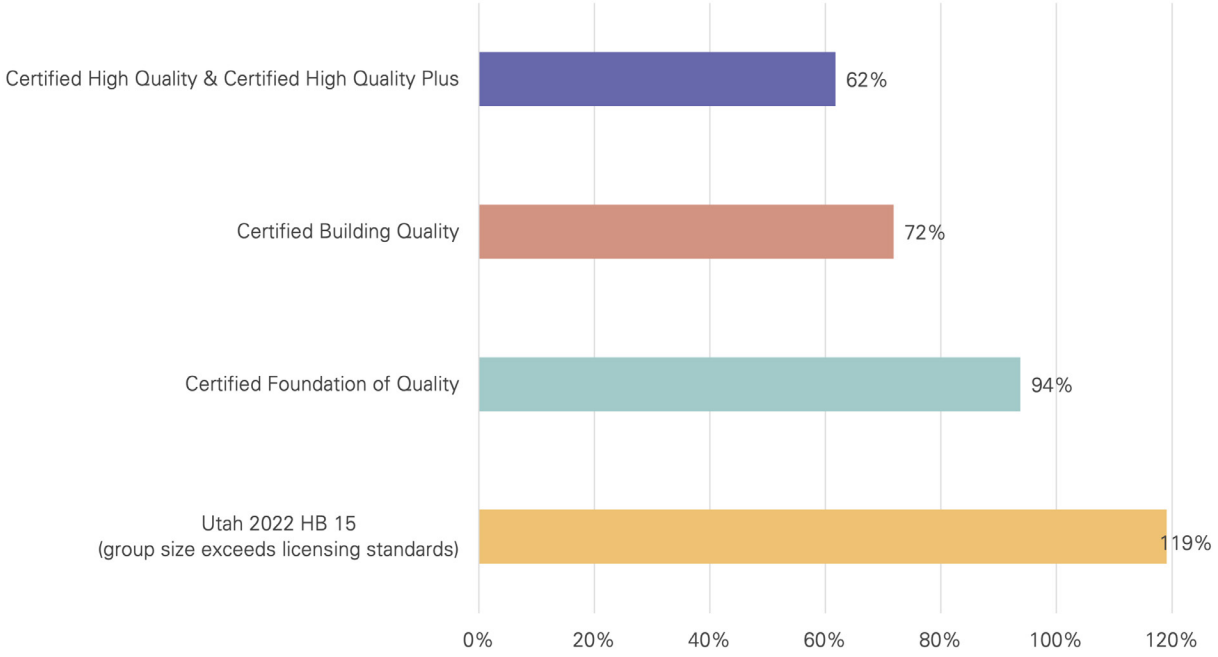
As shown in Figure 4, the Enhanced Subsidy Grant is adequate to cover the cost of care for children ages 3 years and older at the Certified High Quality and Certified High Quality Plus ratings. Providers in this quality rating category can sustainably care for subsidized children ages 3 and up with the combination of a subsidy set at the 75th percentile of market rates and the supplementary payments of the Enhanced Subsidy Grant. But even the Enhanced Subsidy Grant does not fully compensate these providers for the care of younger children. After including an extra $175 per month, payments only cover 87 percent of costs for children under 2 years and 93 percent of costs for 2-year-olds.

Family Care

Family providers report variation in market rates by child age, but the cost estimation model for family childcare produces only an average per-child cost that applies to all ages. Family and home-based childcare providers usually serve children of mixed ages in one group, so while there may be different resource needs by child age, disaggregating costs by child age is less

feasible. Figure 5 represents the share of average per-child costs covered by providers earning the 75th percentile of market rates for a group consisting of one infant ages 0 to 11 months, one young toddler between 12 and 23 months and the remaining children representing an even distribution over the age categories from 2 years through school aged. Three additional school-aged children are added to family home-based providers operating at the capacity extensions associated with Utah HB 15.

Figure 5: Share of Provider Costs Covered at the 75th Percentile of Market Rates for Family Childcare

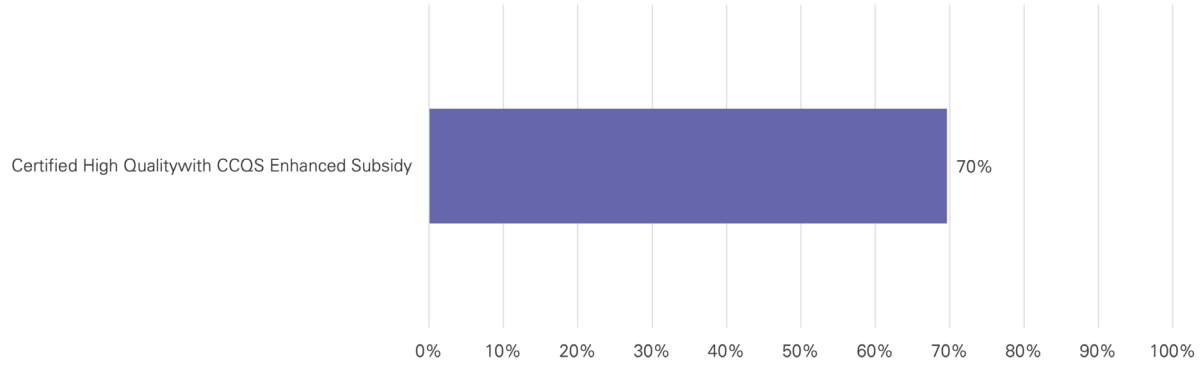


As shown in Figure 5, family childcare providers that invest in quality beyond the basic costs of health, safety, and staffing are unlikely to earn revenues equal to their total costs through market revenue alone. Only providers in the category with the larger group sizes outlined in HB 15 earn revenues that fully compensate for costs. Certified Foundation of Quality-rated providers come closest, at 94 percent of costs covered by prices set at the 75th percentile of market rates. Family home-based providers that incur costs related to investments in higher quality care are unlikely to earn enough from market revenue to cover the average per-child cost of care. Certified Building Quality-rated providers earn revenues that cover just 72 percent of

their average per-child expenses. Certified High Quality and Certified High Quality Plus-rated providers earn only 62 percent of their average per-child costs.

Utah's CCQS Enhanced Subsidy Grants for Family Child Care provide an additional $100 per subsidy child to providers that achieve the Certified High Quality rating and an additional $125 for providers at the Certified High Quality Plus rating.[10] Figure 6 shows the effect of the $100 Enhanced Subsidy Grant on the share of average per-child costs covered by revenues. For a family provider with a Certified High Quality or High Quality Plus rating earning the 75th percentile of reported market rates and the $100 enhanced subsidy, revenue amounts to just 70 percent of the average per-child cost.

Figure 6: Share of Certified High Quality-rated Provider Costs Covered with the $100 Per Subsidy Child Enhanced Subsidy Grant for Family Care



There is evidence that childcare providers in the broader national market are unable to recuperate the cost of investments in higher-quality childcare through market revenues alone. According to the ACF Guidance on Alternative Methodologies and Cost Analyses, the wedge between the costs incurred by providers and the market rates charged to parents is one motivation for performing a cost analysis.[11] Financial constraints on families limit the extent to which providers can effectively push through costs to published prices. Consumers' ability to pay caps the set of feasible prices in the childcare market and leads to lower supply of high-quality care.

10 Utah Department of Workforce Services Office of Childcare (2019). Child Care Quality System: Enhanced Subsidy Grants for Family Child Care. Available at: https://jobs.utah.gov/occ/provider/ccqs/enhancedfam.pdf.

11 Department of Human Services Administration for Children and Families. "Program Instruction CCDF-ACF-PI-2018-04: Guidance on alternative methodologies and cost analyses for purposes of establishing subsidy payment rates." ACF, February 26, 2018. Available at https://www.acf.hhs.gov/occ/policy-guidance/ccdf-acf-pi-2018-01.

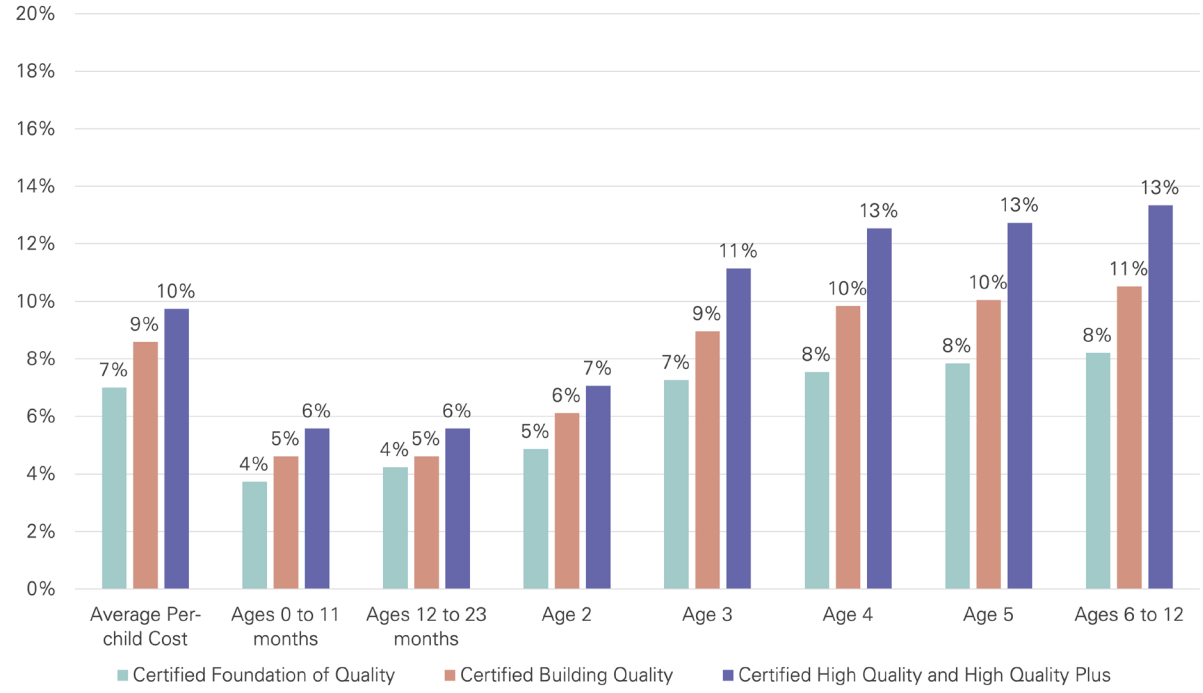
To maintain solvency, providers may seek alternative sources of revenue besides payments from families to fill the gap between costs and prices or they may redistribute the cost of more expensive infant and toddler care over less expensive submarkets. As a result of these cost pressures, the age composition of care and public programs that reimburse provider costs are an important consideration for the sustainability of childcare supply.

Large Capacity Care Environments and Economies of Scale

Most childcare providers do not operate at their maximum licensed capacity in order to target other priorities for the care environment. The baseline cost model presented in the previous section relies on the group sizes reported by center licensed facilities at each CCQS rating in the Market Rate Survey, and the smaller group sizes for family care providers with a single full-time owner/provider. However, increasing group sizes could reduce average per-child costs for both center and family care providers. The first source of lower costs is the addition of Assistant Teachers in some classrooms where a single Lead Teacher was enough to meet caregiver-to-child ratios at lower group sizes. Since Assistant Teachers earn lower wages than Lead Teachers, adding an Assistant Teacher while maintaining the same caregiver-to-child ratio lowers per-child classroom costs. The second source of lower costs is economies of scale. The higher total capacity at larger facilities means that fixed costs such as the compensation of administrators, or utilities such as telephone and internet, are spread over more children. Economies of scale lower average per-child costs.

The cost model for large center and family care environments adjusts the assumptions about group size to reflect regulatory and institutional guidelines rather than the group sizes reported by providers in the Market Rate Survey. The only change in the model is to impose the maximum group sizes for each child age allowable under the legal standard for Certified Foundation of Quality-rated providers, and the CCQS framework for Certified Building Quality and Certified High Quality and High Quality Plus-rated providers. This change increases the class sizes for classrooms serving children ages 3 years and older at center care facilities and doubles the total group size for family care at each quality rating.

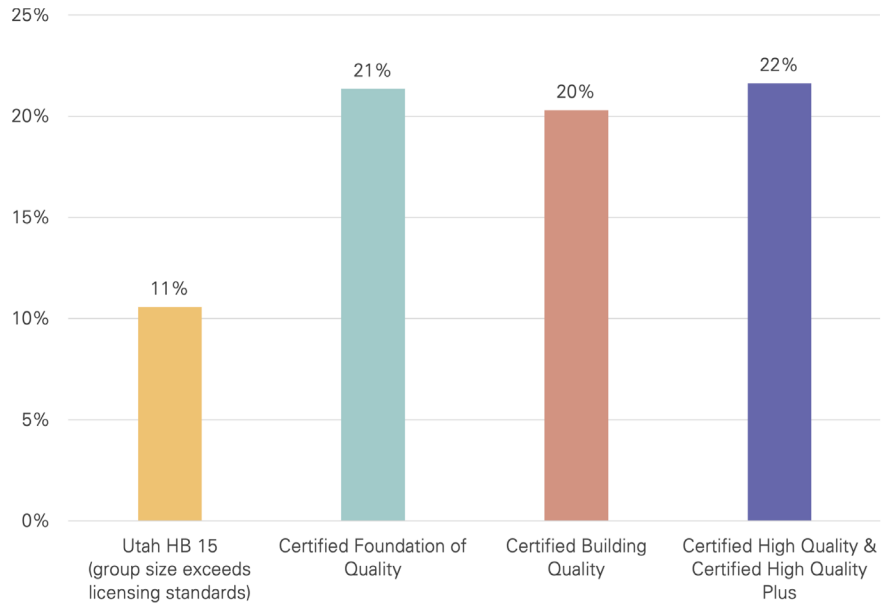
Figure 7: Economies of Scale: Per-child Cost Savings by Child Age and CCQS Rating at Large Centers



Average per-child costs are lower in large centers than in smaller centers. Figure 7 shows the average cost savings from economics of scale per child and for each age group. The savings in the average per-child cost of care are modest, at 7 percent for centers in the Certified Foundation of Quality rating category, 8 percent for those in the Certified Building Quality rating category, and 10 percent for Certified High Quality and High Quality Plus-rated centers. For all categories, cost savings are greatest among older children for whom group sizes rise by the largest number of children and where lower caregiver-to-child ratios mean that fixed costs are a larger share of total per-child costs. Yet for all providers and families of children in all age groups, the size of the facility matters for per-child costs.

Figure 8 shows the cost savings from economies of scale at family care providers in terms of average per-child cost.

Figure 8: Economies of Scale: Per-child Cost Savings by CCQS Rating at Large Family Care Providers



The potential cost savings from economies of scale are more significant for family care providers than for center care. As shown in Figure 8, Certified Foundation of Quality, Certified Building Quality, and Certified High Quality and High Quality Plus-rated providers all experience cost savings at 20 to 22 percent. Many of the advantages of large family providers come from reductions in fixed costs per child, since a large share of non-personnel inputs at family care facilities are calculated per site (rather than per child). These savings demonstrate that small family care providers could improve their fiscal position by expanding capacity while maintaining caregiver-to-child ratios with paid assistants.

The Cost Impact of Higher Wages

Personnel expenses are the majority of costs for childcare providers at all quality ratings, so rising wages impose significant pressures on the firm. In the period since the collection of market data for this survey, tight labor market conditions have advanced nominal wage increases for childcare workers and other staff. Although the regional trend for these wage increases is reflected in the baseline model, anecdotal provider reports from this period indicate

even higher wages in some local labor markets. Extensions to the cost estimation model in this section investigate the potential influence of these higher wages on the cost of care.

Market conditions are not the only reason for raising pay: higher compensation is an essential strategy for attracting and retaining the highly qualified staff necessary for higher quality care. The CCDF final rule specifically endorses state investments in financial incentives and raising compensation for the retention of early childhood caregivers, teachers, and directors, the reduction of turnover expenses, and the benefit of access to teachers with higher levels of knowledge and skill.[12] Utah's investments in the childcare workforce include a progression of professional development activities embedded in the CCQS framework and the use of pandemic era relief funding to subsidize some types of investments in the childcare workforce during a period of critical labor shortage. These programs represent necessary operating costs for sustainable high-quality childcare and should be considered in true cost of quality estimates.

Two extensions of the baseline model are presented in the figures below. Figure 9 shows the monthly per-child cost of care with a $15 minimum wage for childcare center classroom staff. This extension of the baseline model raises hourly pay to $15 per hour for lead teachers, assistant teachers, and floater coverage for any position where reported wages are below $15. Figure 10 shows the monthly per-child cost of care with a $15 minimum wage for full- and part-time assistants at family childcare providers.

12 Child Care and Development Fund; Final Rule. 81 Federal Register 67438 (September 30, 2016). 45 CFR §98.1(b). Available at https://www.federalregister.gov/documents/2016/09/30/2016-22986/child-care-and-development-fund-ccdf-program.

Figure 9: Monthly Per-child Cost of Care with a Minimum $15 Per Hour Wage for Teachers at Childcare Centers

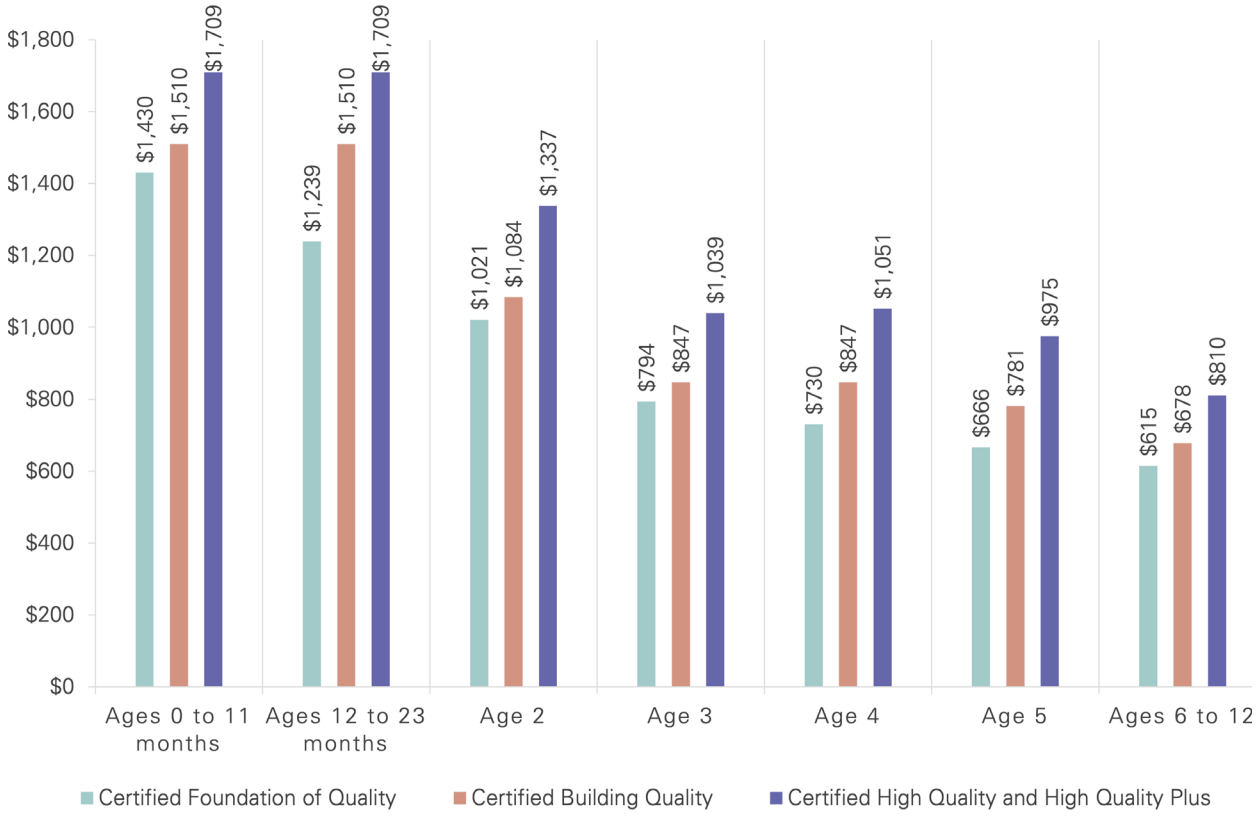
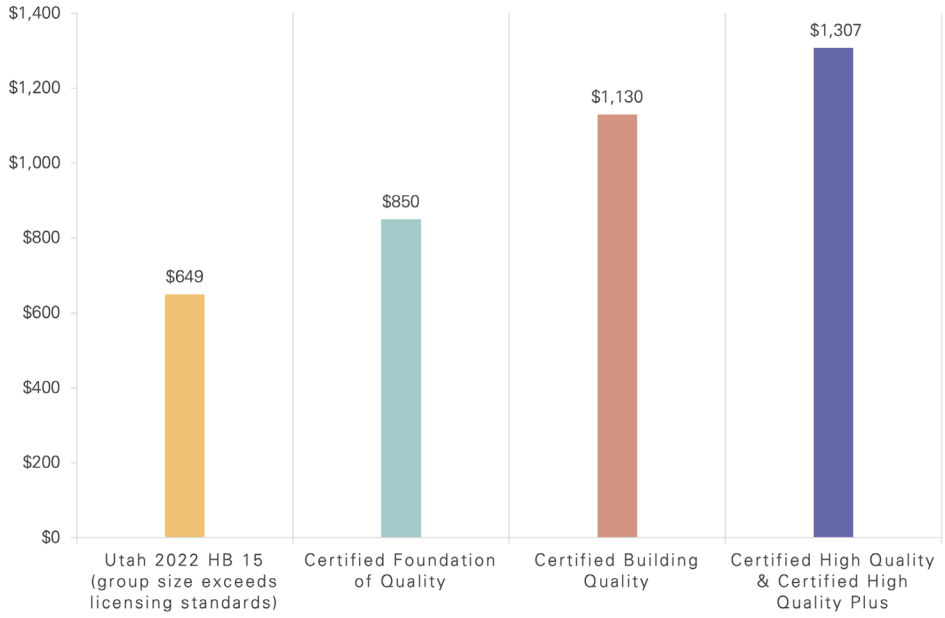


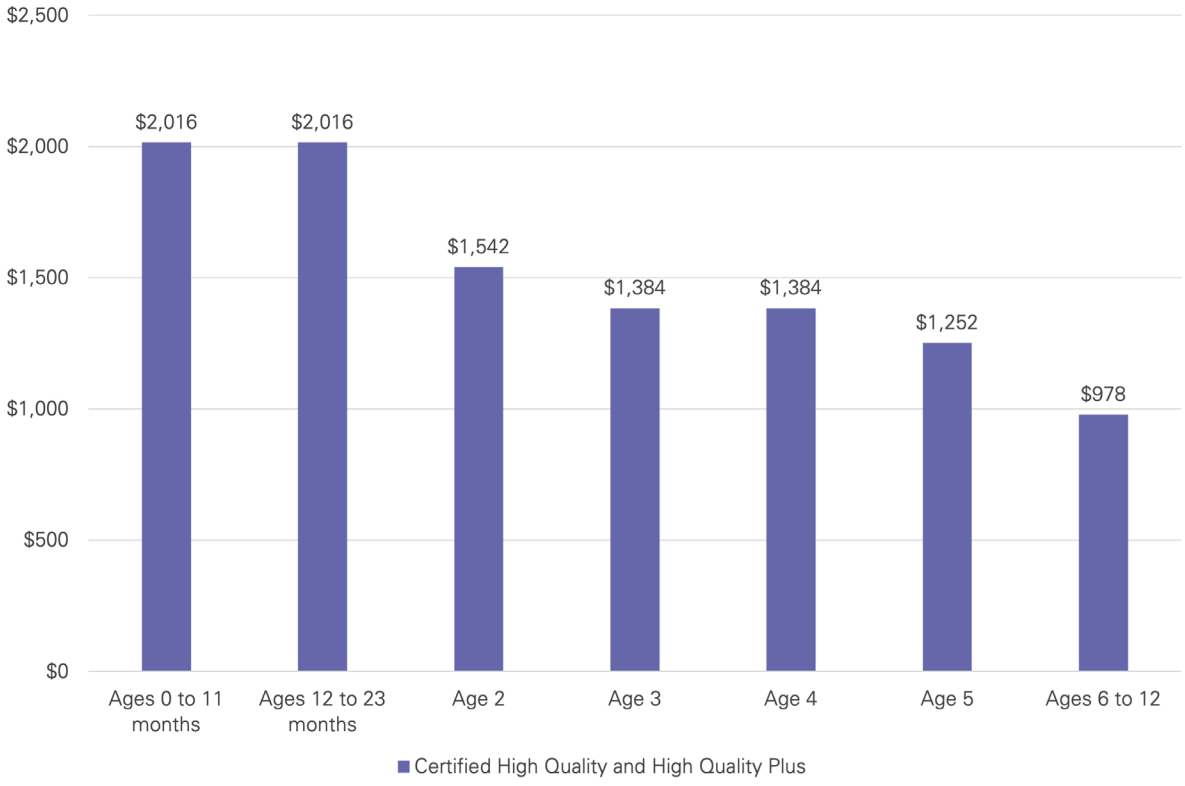
Figure 10: Monthly Per-child Cost of Care with a Minimum $15 Per Hour Wage for Staff at Family Childcare Providers



Projecting higher wages in the childcare labor market can help providers anticipate the effect of changes in the economy. It may also contextualize the value placed on early childhood care and education more broadly. Attracting high-quality childcare teaching staff puts providers in competition with other labor markets for workers with expertise in teaching and child development. To attract workers with these qualifications, the market for childcare workers must provide comparable wages and benefits. In other words, attaining high quality childcare requires that society value labor in early childhood care and education equally with that employed in the care of older children.

Figure 11 shows the monthly per-child cost of care for Certified High Quality and Certified High Quality Plus-rated centers with the lead teacher salary and benefits set equal to that of kindergarten teachers. The kindergarten teacher wage used for these estimates is the median hourly wage for the occupation Kindergarten Teachers, except special education from the Bureau of Labor Statistics Occupational Employment and Wage statistics (OEWS) for Utah. This wage data is inflated to its July 2022 value using the Employer Cost Index for service occupations. Kindergarten Teacher benefits information is based on the estimated share of wage compensation from the BLS Employer Costs of Employee Compensation for Primary, secondary, and special education schoolteachers.

Figure 11: Monthly Per-child Cost of Care with Lead Teacher Compensation Equal to Kindergarten Teachers, Certified High Quality and Certified High Quality Plus Rated Childcare Centers



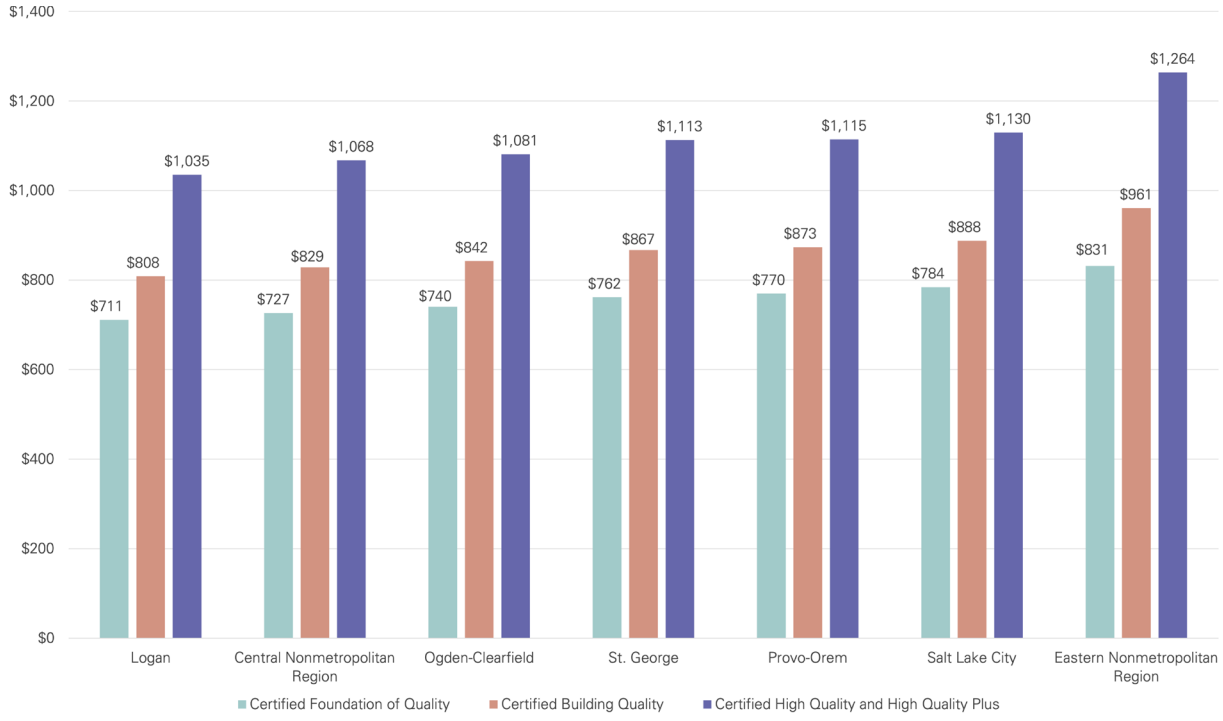
Geographic Variations in Cost

Regional cost differences arise from differences in the prices of key inputs such as labor, materials, and rent. The cost estimates of the baseline model for centers account for regional cost differences by calculating the survey-based input prices using weights that reflect the geographic distribution of quality-rated firms. But a comparison of costs across regions is not possible with the single baseline average. In this section, the baseline model is adjusted to reflect regional price differences across geographic submarkets in Utah.

The regional analysis presented here incorporates regional price adjustments in three key cost categories: wages, rent or mortgage, and other non-personnel expenses. Each cost category is adjusted by a regional price differential specific to the type of cost and geographic area. These price differentials are reported in Appendix B, Table B2. Modeling is performed at the lowest geographic unit possible given the available data, metropolitan and nonmetropolitan areas.

Figure 12 shows the monthly per-child cost of childcare by child age and CCQS Rating for the Logan, Ogden-Clearfield, Provo-Orem, Salt Lake City, and St. George metropolitan statistical areas, and the Central Nonmetropolitan Region (including Beaver, Garfield, Iron, Kane, Millard, Piute, Sanpete, Sevier, and Wayne Counties) and Eastern Nonmetropolitan Region (including Carbon, Daggett, Duchesne, Emery, Grand, Rich, San Juan, Summit, Uintah, and Wasatch Counties). The results are presented in ascending order of cost, with Logan at the left as the region with the lowest cost of care, and the Eastern Nonmetropolitan Region on the right with the highest cost of care.

Figure 12: Monthly Per-Child Cost of Care at Centers by Metropolitan/Nonmetropolitan Areas and CCQS Rating

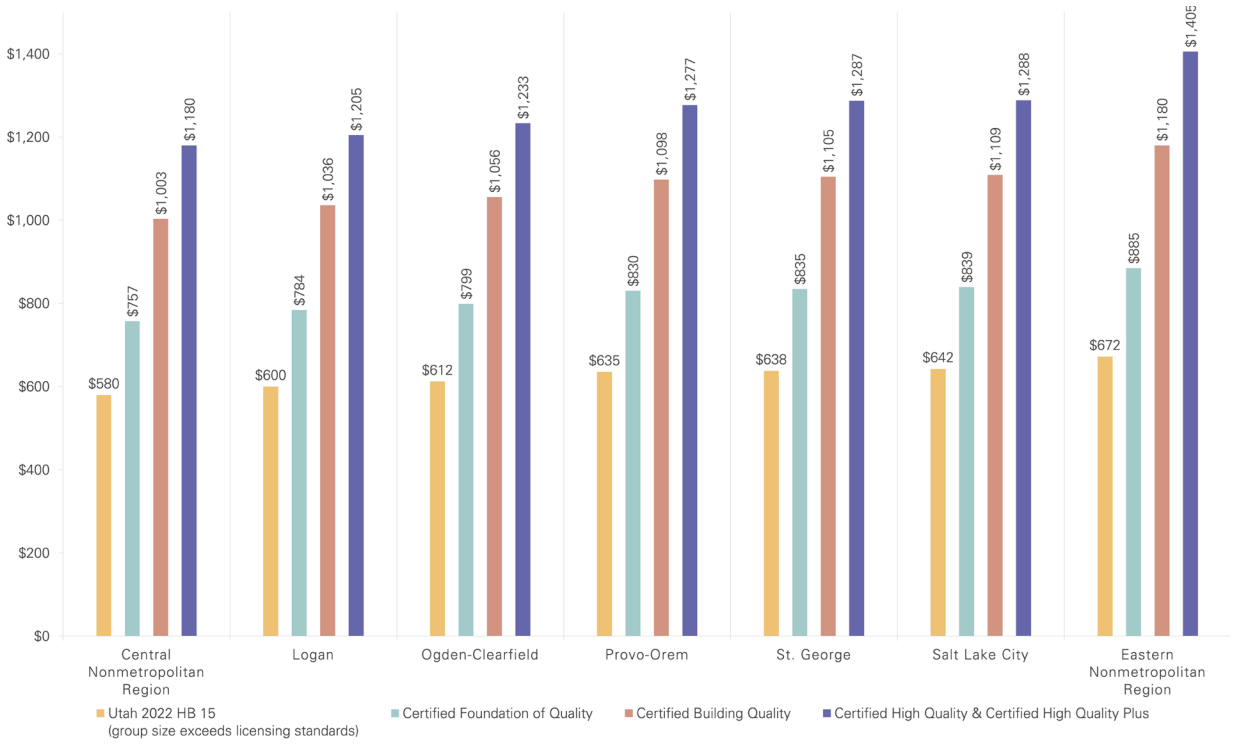


The high cost of providing childcare services in the Eastern Nonmetropolitan Region derives from the much higher wages commanded in the local childcare labor market. Rent and other non-personnel costs are lower in rural markets, but wages are not. In the Central Nonmetropolitan Region, the median childcare worker wage is 99.5 percent of the state median. In the Eastern Nonmetropolitan Region, childcare worker wages are the highest in the state at 127 percent

of the state level. The next-highest cost regions, Salt Lake City and Provo-Orem, encounter higher costs for wages, rent, and other non-personnel expenses compared to the state. But the effect of extraordinarily high wages on childcare costs in the Eastern Nonmetropolitan Region exceeds the effects of higher costs in all three cost categories in these other regions.

Figure 13 shows the regional variation in the cost of family childcare. As in the market for center-based care, the Eastern Nonmetropolitan Region is the area with the highest childcare costs due to the high wages paid in the local labor market for childcare workers. The Salt Lake City, St. George, and Provo-Orem Metropolitan Regions follow with cost estimates that are roughly similar to each other. Differences in the rank of metropolitan and nonmetropolitan areas between center-based and family childcare reflect the slightly larger share of expenses spent on personnel at family providers.

Figure 13: Monthly Per-Child Cost of Care of Family Childcare by Metropolitan/ Nonmetropolitan Areas and CCQS Rating



The geographic variation in costs helps to explain an unexpected finding from the 2021 Market Rate Study that childcare market prices in Utah do not align with price patterns for other goods and services. According to the market rates reported in the 2021 study, childcare is more expensive in Utah's rural areas than in urban areas. It is likely that the extraordinarily high wages in the Eastern Nonmetropolitan Region are the source of this relationship between urban and rural childcare prices, with higher market rates in the Eastern Nonmetropolitan Region pushing up the price of childcare services observed for rural areas overall.

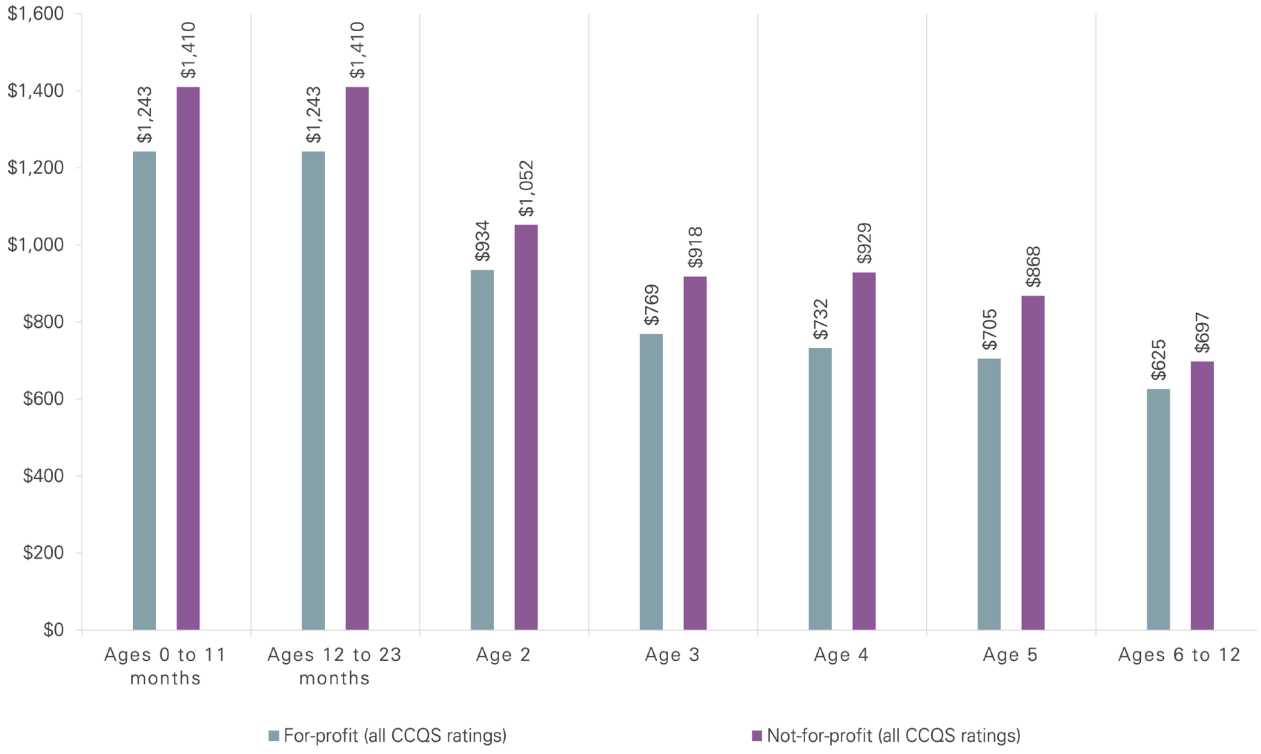
For-profit and Not-for-profit Provider Costs

The business organization of childcare providers into for-profit or not-for-profit entities may affect provider costs. Utah's Childcare Cost Estimation Model and data from the Market Rate Survey provide an entry point for investigating the relationship between these organizational structures and the cost of care. Evaluating distinctions between for-profit and not-for-profit childcare centers in the Market Rate Survey sample shows important differences that may increase costs at not-for-profit facilities.

The differences in the estimated cost of childcare between for-profit and not-for-profit providers shown in Figure 14 are based on observed differences in the employment of key cost drivers. In the survey sample, not-for-profit providers pay higher wages and are more likely than for-profit providers to offer health and retirement benefits to staff. Not-for-profit providers also report higher caregiver-to-child ratios for children ages 3 and older. However, limited information about the population of childcare providers by for-profit/not-for-profit status makes it impossible to definitively connect estimates from the sample of providers to the population overall. In addition, the Market Rate Survey did not include questions about financial, material, or in-kind donations, which may play an important role in reducing not-for-profit childcare costs. The resource needs and costs described in this section pertain to the sample of CCQS-rated providers in the Market Rate Survey and are intended to provide a first look at the role of organizational structure in provider costs.

Figure 14 shows the monthly per-child cost of care estimated for for-profit and not-for-profit providers in the Market Rate Survey sample. Not-for-profit providers encounter higher costs for each child age group, driven higher wages and benefits and lower caregiver-to-child ratios at not-for-profit providers. As a result of these distinctions, the average per-child cost of care is 22 percent higher at not-for-profit compared to for-profit providers.

Figure 14: Monthly Per-child Cost of Care at All CCQS Rated For-profit and Not-for-profit Providers



SECTION 4: CONCLUSIONS

This report applies the Utah Childcare Cost Estimation Model across several scenarios to account for critical resources in the provision of childcare, evaluate cost variations by submarket, and project the effects of rising labor costs on the per-child cost of care. The baseline model demonstrates how costs rise with resource-intensive care including care for infants and young toddlers and quality-related investments. Comparing the per-child costs of care to revenue, including prices set at the 75th percentile of market rates and Enhanced Subsidy Grant payments, suggests that sustaining care for younger children and high quality-rated care for any age requires the combined contributions of providers, parents, and state agencies. The rise in childcare worker wages to levels that reflect the value of their labor puts increasing pressure on this joint investment. These findings provide evidence for significant gaps in the market for childcare services.

The applications of the model presented in this report demonstrate its potential contributions to understanding the supply of childcare in Utah and informing supply-side policies in the childcare market. New updates and applications that augment these initial estimates should follow this report. The Utah Childcare Cost Estimation model is a flexible model intended to evolve with additions to Utah's quality rating and improvement system, access to new and more informative data, and continual feedback from providers and other stakeholders in childcare markets.

APPENDIX A: DEFINING BASELINE MODEL PARAMETERS

The Utah Childcare Cost Estimation Model for center and family licensed childcare is designed to represent quality standards designated by state licensing requirements and the Utah Childcare Quality System (CCQS) Framework. The model structure reflects three levels of certification for higher quality-rated care from the CCQS: Certified Foundation of Quality, Certified Building Quality, and a tier combining providers who achieved Certified High Quality and Certified High Quality Plus ratings. Grounding the model in the CCQS results in estimates for the cost of childcare at each certification level of the state framework for quality care. Within this structure, the program characteristics, staffing patterns, wages and benefits, and other cost drivers are informed by provider responses to program cost questions in the 2021 Market Rate Survey. For Center Licensed facilities these responses are calculated for each quality rating category and weighted to reflect geographic representation and provider capacity. For Family Licensed facilities, program characteristics derive from the survey sample for all providers and predicted CCQS ratings data from implementation of the temporary CCQS Framework for Family Childcare in 2021 and 2022. The following sections provide more information about key parameters of the cost model.

Capacity, Group Size, and Caregiver-to-child Ratio

Capacity, group sizes, and caregiver-to-child ratios are key characteristics of the childcare setting and provide the essential structural parameters for the cost model. These specifications have important implications for per-child cost estimates. Even in the absence of other differences, as group size decreases classroom costs are spread over fewer children, raising the per-child cost of care. As a given caregiver accommodates fewer children (and the caregiver-to-child ratio increases), the cost of teaching staff is spread over fewer children, raising the per-child cost of care. And smaller class sizes dictate lower capacity overall so that fixed costs like administrative expenses are spread across fewer total children, raising the per-child cost of care.

Assumptions about facility size, group sizes and ratios in the cost model reflect current knowledge about the relationship between these variables and the quality of childcare services, the guidelines of Utah's CCQS, and findings from the Market Rate Survey. Research from the National Institute of Child Health and Human Development associates lower group sizes

and higher numbers of adult caregivers per child with a higher quality of interaction between children and adults and better child development outcomes.[13] Utah's CCQS provides quality thresholds for these elements of care by provider type and child age.[14] And center-based providers report smaller group sizes and higher caregiver-to-child ratios at higher quality ratings in the Market Rate Survey. Utah's Cost of Quality model incorporates this information to define smaller classrooms and higher caregiver-to-child ratios at higher levels of quality, using the CCQS criteria as a guide.

Center Care

The baseline scenario for the Utah Childcare Cost Estimation Model includes one classroom for each age group, with age ranges that are primarily defined by the delineations used in the state's subsidy rate system. Although it is likely that classroom ages overlap in practice, the modeled classroom structure facilitates estimates that inform subsidy rate setting at every age. All classrooms are assumed to provide full-time, full-year care except for the classroom for school-aged children ages 6 to 12, which is modeled assuming part-time care during the 180 days of Utah's public-school calendar and full-time care for the remaining weeks. This classroom structure broadly aligns with the reported capacity of Utah's childcare centers. Among CCQS-rated providers that responded to the Market Rate Survey, 90 percent report serving all ages from 0 to 12 years, and 20 percent or fewer reported capacity supporting more than one classroom for any age group.

For center-based providers, Utah's CCQS awards points toward higher quality designations in the areas of caregiver-to-child ratios and group size. At the Foundations of Quality rating level in the CCQS framework, providers comply with the legal standards outlined by The Office for Childcare Licensing and may not necessarily achieve any additional quality points. Providers that meet higher standards for children ages two and older achieve points that contribute to higher quality ratings. For children ages four and older, the standards include a mid-tier and a higher-tier quality designation. Including the foundational standard, mid-tier, and highest-tier designations, the CCQS provides a gradation of quality with three levels. These three levels provide the model parameters for group size, caregiver-to-child ratios, and total center capacity

13 National Institute of Child Health and Human Development (2006). The NICHD Study of Early Child Care and Youth Development: Findings for Children Up to Age 4 Years. United States Department of Health, National Institutes of Health. Available at https://www.nichd.nih.gov/sites/default/files/publications/pubs/documents/seccyd_06.pdf.

14 Utah Department of Workforce Services Office of Child Care (2022). Ratios and Group Size Scoring Rubric. Available at https://jobs.utah.gov/occ/provider/ccqs/ccqsratiosgroupsize.pdf.

to demonstrate the cost of quality childcare for Utah providers.

The center-based cost estimation model adopts the CCQS framework to assign caregiver-to-child ratios for each age group and quality rating. The Foundations of Quality rating is defined at the legal standards for caregiver-to-child ratios by child age outlined by the Office of Childcare Licensing and specified as the foundational standard of the CCQS. The Certified Building Quality rating is defined at the legal standard for classrooms caring for children up to age three, and at the CCQS mid-tier designation for children ages four and older. The Certified High Quality/High Quality Plus rating meets the highest quality thresholds for caregiver-to-child ratios outlined in the CCQS for ages two and older. Table A1 below outlines these parameters by child age and quality rating.

The caregiver-to-child ratios reported in the Market Rate Survey support these assumptions. For most age groups and CCQS ratings, the median caregiver-to-child ratio aligns with the ratios defined in the model. Providers in the Foundations of Quality category report median caregiver-to-child ratios at the foundational standard for all age groups. Providers in the Building Quality category report median caregiver-to-child ratios that match the foundational standards for children up to age two, with ratios for older children that surpass the licensing standard but do not meet the thresholds awarding maximum quality points. Providers in the High Quality and High Quality Plus categories report median caregiver-to-child ratios that meet the highest standards from the CCQS for six out of seven age groups.

The group sizes reported in the Market Rate Survey provide more information about classroom and facility capacities. Providers at all quality levels report median group sizes at the legal maximum for children under two. For children ages three and older, centers at all quality ratings report group sizes below the legal maximum and in most cases below the highest CCQS point designation. Within each quality rating tier, the median reported group size for children ages three and older indicates classrooms that require one teacher present to meet caregiver-to-child ratios. Although all providers meet or exceed the foundational standards for group size, group sizes are smaller for children ages three and older at higher quality-rated providers. The group sizes modeled for each certified quality rating and child age group are presented in Table A1.

The Utah Cost of Quality Model classroom structure and capacity framework is presented in Table A1. The model parameters for caregiver-to-child ratio and group size are described for each quality rating tier and age group. At higher CCQS quality designations, ratios that pair more caregivers per child and lower group sizes impose a smaller total capacity at the center overall.

In the baseline framework presented in Table A1, total capacity is 99 children at centers in the Certified Foundation of Quality rating category, 87 children at centers in the Certified Building Quality rating category, and 75 children at Certified High Quality and High Quality Plus rated centers. Since greater total capacity is associated with economies of scale and lower-per-child costs, larger facility sizes are explored separately.

Table A1: Capacity, Group Size, and Caregiver-to-child Ratios

Center Licensed Childcare Facilities			
Caregiver-to-Child Ratios by Child Age and Certified Quality Rating			
Age Group	Certified Foundation of Quality	Certified Building Quality	Certified High Quality & Certified High Quality Plus
0 to 11 months	1/4	1/4	1/4
12 to 23 months	1/5	1/4	1/4
2 years	1/7	1/7	1/6
3 years	1/12	1/12	1/10
4 years	1/15	1/12	1/10
5 years	1/20	1/15	1/12
6 to 12 years	1/20	1/18	1/15
Group Size by Child Age and Certified Quality Rating			
Age Group	Certified Foundation of Quality	Certified Building Quality	Certified High Quality & Certified High Quality Plus
0-11 months	8	8	8
12 to 23 months	10	8	8
2 years	14	14	12
3 years	12	12	10
4 years	15	12	10
5 years	20	15	12
6 to 12 years	20	18	15
Total Capacity	99	87	75
Family Licensed Childcare Facilities			
	Certified Foundation of Quality	Certified Building Quality	Certified High Quality & Certified High Quality Plus
Caregiver-to-Child Ratio	1/8	1/6	1/6
Group Size	8	6	6
Family Childcare Ratio and Group Size Under Utah HB 15 (2022)			
Caregiver-to-Child Ratio	1/11		
Group Size	11		

Family Care

Home-based childcare programs operate as a single, mixed aged classroom with the classroom structure defined by caregiver-to-child ratio and group size. These characteristics apply to all children in care and, as a result, cost models are generally not equipped to estimate cost differences based on child age. Assumptions about the age distribution within family licensed facilities could enable an estimation of cost differences by age, but these differences would merely reflect the assumed distribution rather than variations in the requirements of care. Moreover, any differences in group size would necessitate a different age composition and undermine cost comparisons across CCQS ratings categories. Instead, the Utah Childcare Cost Estimation Model for Family Licensed care provides per-child cost estimates that apply to care for any age.

Utah's licensing standards and Family Child Care CCQS establish two quality thresholds for caregiver-to-child ratios and group size: the foundational standard for legal compliance and a higher threshold for the award of quality points. While the Market Rate Survey indicates that the median family licensed provider operates at the legal threshold for caregiver-to-child ratio, preliminary estimates from the temporary CCQS Framework for Family Child Care show average points for ratio and group size increase with quality rating. The parameters of the childcare cost estimation model for family licensed providers align with the CCQS and provider-reported standards as shown in Table A1 above. In this model, Family Licensed providers care for children according to the specified ratios for total children, children under 18 months, and children under 2 in care. Providers in the Certified Foundation of Quality category are assumed to operate at the legal threshold for caregiver-to-child ratio, with a group size achieved with a full-time owner/licensee caregiver. Certified Building Quality and Certified High Quality and Certified High Quality Plus providers are assigned the CCQS threshold for higher quality care.

In addition to the baseline thresholds for family care facilities, the model accounts separately for the impact of the Utah legislature's passing of HB 15 in 2022. Under this law, home-based childcare providers may exceed the licensing limits for caregiver-to-child ratio and group size by a total of three school aged children. The legislation did not change the licensed capacity of individual caregivers, but rather allows care in excess of licensed capacity. The change is not reflected in the CCQS, and thus applies a standard of care below the Foundation of Quality rating.

The parameters outlined in Table A1 have two important implications for the results of the cost model. First, at higher quality facilities, more caregivers-per-child result in higher costs on a per-child basis. Second, at higher quality facilities smaller group sizes spread facility-level costs over fewer children as well. Even in the absence of other quality-related distinctions, the result of these assumptions is that higher quality-rated providers will experience higher per-child costs.

Enrollment Efficiency

Enrollment efficiency describes the share of childcare slots (or units of enrollment available to consumers) that are filled at a point in time, or on average across time. Few, if any, providers are able to maintain full enrollment on a consistent basis. According to the ACF and the National Center on Early Childhood Quality Assurance, the industry standard for enrollment efficiency is 85 percent or higher.[15] Advocates such as the Bipartisan Policy Center suggest that per-child cost estimates should account for under enrollment, so that assumptions about enrollment efficiency redistribute the cost of unenrolled slots across the children in care.[16] This practice makes sense for understanding how providers accommodate under enrollment but is not typical of childcare cost models in use. The default value for enrollment efficiency in the PCQC is 85 percent, but this value does not factor into cost estimates. Instead, enrollment efficiency affects only revenue estimates in the PCQC. In alignment with this practice, the cost estimates presented in this paper represent provider costs per slot.

Enrollment efficiency is critical for the financial sustainability of childcare providers. Experts consider this characteristic to be one-third of the 'iron triangle' of childcare finances, which include full enrollment, timely collection of payments, and prices or other revenue sources set adequately high to cover total costs.[17] The reductions in revenue that accompany under-enrollment will increase the gap between costs and revenues and potentially undermine the viability of providers operating at slim margins. For this reason, enrollment efficiency should

15 National Center on Early Childhood Quality Assurance (2014). Early Care and Education Program Characteristics: Effects on Expenses and Revenues. Available at https://childcareta.acf.hhs.gov/sites/default/files/new-occ/resource/files/pcqc_ece_characteristics_final.pdf.

16 Aigner-Treworgy, Sam, Caroline Osborn, and Linda Smith (2022). Charting the Path Forward for Childcare: Using Cost Modeling to Design New Solutions. Bipartisan Policy Center. Available at https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2022/11/BPC_ECI_Cost-Model-Explainer_RV7.pdf.

17 National Center on Early Childhood Quality Assurance (2014). Early Care and Education Program Characteristics: Effects on Expenses and Revenues. Available at https://childcareta.acf.hhs.gov/sites/default/files/new-occ/resource/files/pcqc_ece_characteristics_final.pdf.

be a consideration in extensions of the Utah Childcare Cost Estimation Model that include revenue sources to evaluate the sustainability of markets in the state.

Classroom and Caregiver Staffing Costs

Personnel expenses present the largest portion of expenses for childcare providers. Because of this key role in driving costs, the assumptions about variations in staffing that are incorporated into a cost model can be decisive for its outcomes. The staffing model in Utah's Childcare Cost Estimation Model includes variations in classroom or caregiver staff time by quality rating category. The specific allocations are those necessary to meet the caregiver-to-child ratios and groups sizes outlined in the previous section plus the needs for teachers' and caregivers' non-classroom time associated with curricular planning, child development screenings and assessments, and engaging with families.

Center Care

The cost model for center-based care accommodates full-time, full-year care. Classrooms serving ages 0 to 5 years are assigned a full-time Lead Teacher. Classrooms for school-aged children, ages 6 to 12 years, are assigned a lead teacher at the level necessary to cover the average weekly hours of care, calculated based on the Utah public school calendar (36 weeks of part-time care during the school year and 16 weeks of full-time care during breaks). In classrooms where group sizes and caregiver-to-child ratios require more than one caregiver, a full-time Assistant Teacher is added to the classroom. Additional "floater" classroom coverage is modeled to account for mandatory breaks and operating hours outside of the Lead and Assistant Teachers' full-time schedules.

Table A2 outlines the classroom staffing model for the Cost of Quality Model. As shown in the table, floater coverage increases with quality rating. Many quality investments require additional staff time. A Lead Teacher who spends one hour per week in curricular planning needs an additional hour of classroom coverage. Additional classroom coverage is also necessary for time spent on child development screenings or assessments, for engaging with families, and for professional development and training. These non-classroom responsibilities are frequently identified as characteristics of higher quality providers because they increase the efficiency, consistency, and professionalism of care. The National Academy of Sciences, Engineering, and Medicine considers these non-classroom hours critical elements of high-quality care.[18]

18 National Academies of Sciences, Engineering, and Medicine. 2018. Transforming the Financing of Early Care and Education.

In Utah's CCQS framework for center-based facilities, non-classroom activities such as developmental screenings, family engagement, and caregivers' professional development are associated with quality distinctions across domains and can contribute up to one quarter of the available points.[19]

Floater coverage begins at a base of 0.25 FTE per caregiver for providers at the Foundation of Quality Rating. This base level affords the additional staff time necessary to meet caregiver-to-child ratios outside of the full-time schedules of Lead Teachers and Assistant Teachers for a facility with operating hours of 50 hours per week. An additional 0.05 FTE is added at the level of Building Quality to enable quality investments requiring teachers' non-classroom time, for a total floater coverage of 0.3 FTE. Further investment in non-classroom responsibilities brings floater coverage in High Quality and High Quality Plus centers to 0.35 FTE.

Table A2: Caregiver Staffing Model

Caregiving Staff by Age of Child and Certified Quality Rating			
Center Licensed Care			
	Certified Foundation of Quality	Certified Building Quality	Certified High Quality and Certified High Quality Plus
Number of Lead Teachers (FTE)			
Ages 0 to 5 years	1	1	1
Ages 6 to 12	0.725	0.725	0.725
Number of Assistant Teachers (FTE)			
Ages 0 to 2 years	1	1	1
Ages 3 and older	0	0	0
Classroom Floater Coverage (per FTE teaching staff)			
All Ages	0.25	0.3	0.35
Family Licensed Care			
	Certified Foundation of Quality	Certified Building Quality	Certified High Quality and Certified High Quality Plus
Owner/providers (FTE)	1	1	1
Full-time Assistants (FTE)	0	0	0
Part-time Assistants (per FTE caregivers)	0.25	0.3	0.35

Washington, DC: The National Academies Press. https://doi.org/10.17226/24984. Page 165.

19 Utah Department of Workforce Services Office of Child Care (2022). Child Care Quality System Framework for Centers. Available at https://jobs.utah.gov/occ/provider/ccqs/ccqsframework.pdf.

Family Care

The family childcare cost estimation model follows the center-based model with adequate staffing to meet caregiver-to-child ratios and additional staffing to support full operating hours and time spent on non-classroom responsibilities such as curricular planning, child assessment, and family engagement. Table A2 shows the staffing model for family childcare facilities operating at the caregiver-to-child ratios and group sizes indicated in Table A1. Responses from the Market Rate Survey indicate that the typical family childcare provider does operate with one owner/provider and one assistant at full-time and/or part-time hours. Additional evidence from the temporary CCQS Framework for Family Child Care shows that family engagement is highest at the highest quality-rated facilities and that quality distinctions are in part based on observational scores that include quality ratings for environment, use of materials, and interactions between children and caregivers. These elements of quality care rely on adequate support staff.

Caregiver Compensation

The cost of teacher and caregiver compensation includes wage and salary payments and spending on benefits. Childcare providers offered detailed information related to these expenses in the Market Rate Survey, including information about wages, the availability of health insurance and retirement plans, and the availability of paid holidays, paid vacation, paid sick days, and paid time off for professional development. These survey responses show that both wages and benefits increase with quality rating. The greater compensation observed at higher quality-rated centers may reflect higher levels of teacher education or investments in worker training and retention that are associated with higher quality care.

Teacher and Caregiver Wages

The wage and salary compensation of center-based classroom staff were reported by job title and age group in the Market Rate Survey. Over the period since the survey all childcare providers have had to compete for scarce labor in an increasingly tight labor market. The effect of this competition has been an increase in nominal wages. In order to reflect changes in the wage since the time of the survey, reported wages have been inflated to their 2022 Q2 values using the Employer Cost Index (ECI) for wage and salary compensation for all workers in service occupations (the major occupational category to which childcare workers belong). The ECI captures changes in provider wage costs in the broad labor market, but labor markets are

typically local and thus individual providers may have experienced wage changes that deviate considerably from the average. Also during this period, wage subsidy programs associated with COVID-relief funding have enabled some providers to raise wages without raising costs. The share of wages that is covered by COVID-relief subsidies may be necessary to employ high quality childcare workers and should be considered in the true cost of quality childcare, but it is not a cost to providers. The cost of high-quality-rated care with the subsidy-minimum $15 per hour wage is evaluated separately in the report.

As shown in Table A3, the reported hourly wages of lead and assistant teachers increase with the provider's CCQS quality rating for all age groups. The model incorporates the estimated median wages for a full-time Lead Teacher in each classroom. The estimated median wage for Assistant Teachers is applied to the full-time Assistant Teacher where applicable and to classroom floater coverage at each quality rating level.

Table A3: Estimated Median Wages of Teaching and Caregiving Staff by Child Age and Certified Quality Rating

Model Parameters for Center-based Childcare Facilities			
Estimated Median Wages by Child Age and Certified Quality Rating (Q2 2022 Values)			
	Certified Foundation of Quality	Certified Building Quality	Certified High Quality and High Quality Plus
Infant Classrooms			
Lead Teacher Median Estimated Wage	$11.66	$12.22	$14.44
Assistant Teacher Median Estimated Wage	$10.41	$10.83	$11.66
Toddler Classrooms			
Lead Teacher Median Estimated Wage	$12.22	$12.49	$13.88
Assistant Teacher Median Estimated Wage	$11.11	$11.11	$11.66
Preschool and School-age Classrooms			
Lead Teacher Median Estimated Wage	$12.22	$12.77	$15.55
Assistant Teacher Median Estimated Wage	$11.11	$10.55	$11.66
Model Parameters for Family Childcare Facilities			
	Certified Foundation of Quality	Certified Building Quality	Certified High Quality and High Quality Plus
Full-time Assistants	$12.22	$12.49	$13.88
Part-time Assistants	$11.11	$11.11	$11.66

Because the CCQS Framework for Family Child Care was not in place in 2020, the Market Rate Survey does not provide wage information by quality rating for family childcare providers. The median estimated wage for full time staff among the survey population of family providers was $12.22 (in Q2 2022 dollars), comparable to that of Lead Teachers at center-based facilities. The median estimated wage of part time staff was $11.11, comparable to that of assistant teachers at center-based facilities. These values suggest that family providers compete for labor in the same market as center-based providers and wages should be commensurate for similarly skilled work. Based on these findings, the family childcare cost model incorporates the median estimated wage at each CCQS quality rating for Lead Teachers in toddler classrooms for the wage of full-time assistants in family childcare settings. It incorporates the median estimated wage of Assistant Teachers in toddler classrooms at each quality rating for the wage of part-time assistants. The model parameters for staff wages by CCQS quality rating are presented in Table A3.

Teacher and Caregiver Benefits

Among the center-based providers that responded to the Market Rate Survey, employer-sponsored health insurance and retirement savings plans are available in only a minority of firms. Just 42 percent of all center-based childcare providers in the sample provide any type of health insurance benefits for staff, and just 37 percent contribute to retirement savings plans. Family licensed providers are even less likely to provide these benefits, with just two percent offering health benefits and one percent providing retirement. Despite the relative rarity of benefits, the data for center-based facilities shows that the share of providers that offer these benefits rises with quality rating. Table 4 shows the share of providers offering benefits among all center licensed and family licensed firms, and within each Certified Quality Rating for center-based providers. The higher quality-rated centers that do offer health benefits, including Certified Building Quality and Certified High Quality and Certified High Quality Plus rated providers, cover 90 to 100 percent of full-time workers under their health benefits spending.

Table A4: Share of Providers That Offer Health, Retirement and Leave Benefits to Full Time Staff

Share of Providers That Offer Health, Retirement and Leave Benefits to Full Time Staff			
	Health Insurance	Retirement Plan	Paid Leave (any)
All Centers (includes CCQS non-participants)	42%	37%	81%
Certified Foundation of Quality	27%	11%	72%
Certified Building Quality	40%	35%	87%
Certified High Quality and High Quality Plus	45%	29%	95%
All Family Childcare	2%	1%	42%

Based on the low levels of provision among all firms, it would be reasonable to exclude health and retirement benefits from provider costs at any CCQS rating. In the model for center-based care, both the Certified Foundation of Quality and Certified Building Quality ratings are modeled at a baseline of no health or retirement benefits for classroom staff. However, since these benefits can be critical to attracting and retaining the more educated and experienced staff necessary for higher quality care, health insurance coverage is included in teacher compensation for the Certified High Quality and High Quality Plus category in the cost model for center-based care. Benefits availability in this category is modeled to cover lead and assistant teachers at a level equal to 9.7 percent of the wage based on estimates from the Bureau of Labor Statistics reported Employer Costs for Employee Compensation for service occupations from Q1 2022.[20] This share translates to $1.13 per hour for assistant teachers and $1.35 to $1.51 for lead teachers. Although the survey data suggests that these benefits rates are too costly to be provided by most of Utah's childcare providers, they are significantly below the average cost of $2.84 per hour for workers in the Mountain West.[21] Due to the scarcity of health and retirement benefits reported among family providers, these benefits are not included in the model for any staff at family childcare facilities.

Paid leave benefits are more common than other types of benefits. These include paid vacation, paid holidays, paid sick leave, and paid time off for professional development. As shown in Table

20 Bureau of Labor Statistics Employer Costs for Employee Compensation Qtr1 2022 health insurance cost per hour worked for civilian workers in service occupations expressed as a share of Qtr1 2022 wages and salaries cost per hour worked for civilian workers in service occupations.

21 Bureau of Labor Statistics, June 17, 2022. Employer Costs for Employee Compensation for the Regions – March 2022. Table 1 Employer Costs for Employee Compensation for private industry workers by census region and division. https://www.bls.gov/regions/southwest/news-release/employercostsforemployeecompensation_regions.htm.

A4, more than 70 percent of centers in each quality rating tier offer some type of paid leave benefit, and 81 percent offer leave benefits among center-based providers overall. Forty-two percent of family licensed providers offer paid leave to staff. Paid vacation and paid holidays are the most common benefit of this type. The Market Rate Survey data for centers shows that the share of firms providing leave benefits increases with quality rating.

The reported prevalence of paid leave in the Market Rate Survey indicates that centers incur costs for paid leave in each quality rating category and that the availability of leave benefits increases with quality rating. The assumptions for paid leave in the Center-based Cost of Quality Model align with these findings. Table A5 shows how benefits are modeled for each CCQS quality rating. The cost of paid leave benefits is set equal to 7.2 percent of wages for each teacher, based on estimates from the Bureau of Labor Statistics Employer Costs for Employee Compensation for service occupations.[22] For center-based care, each Certified Quality Rating is modeled with leave benefits for both lead and assistant teachers where applicable. Among family childcare providers, only high quality and high quality plus-rated facilities are modeled with paid leave benefits, and leave benefits only apply to full-time staff.

In addition to the employee benefits described above, providers are responsible for mandatory benefits including Social Security and Medicare taxes for all workers at a rate of 7.65 percent of wages, and contributions to unemployment insurance and workers compensation for full time workers at 0.3 percent and 2.5 percent of wages respectively.[23] In the compensation parameters described in Table A5, these mandatory benefits are applied to all classroom workers and caregivers.

22 Bureau of Labor Statistics Employer Costs for Employee Compensation Qtr1 2022 paid leave cost per hour worked for civilian workers in service occupations expressed as a share of Qtr1 2022 wages and salaries cost per hour worked for civilian workers in service occupations.

23 The minimum employer tax rate for unemployment insurance is 0.3 percent; the maximum is 7.3 percent. Department of Workforce Services https://jobs.utah.gov/ui/employer/Public/Questions/TaxRates.aspx. The estimate of workers compensation contributions is calculated from the cost of compensation values for wages and salaries and workers compensation among civilian workers in service occupations reported in the Bureau of Labor Statistics Employer Costs for Employee Compensation for Q1 2022.

Table A5: Compensation of Teaching and Caregiving Staff - Benefits as a Percent of the Wage

Model Parameters for Center-based Childcare Facilities			
Compensation of Teaching Staff - Benefits as a Percent of the Wage			
	Certified Foundation of Quality	Certified Building Quality	Certified High Quality & High Quality Plus
Health Benefits	0	0	9.7
Retirement Benefits	0	0	0
Paid Leave Benefits	7.2	7.2	7.2
Mandatory Benefits	10.45	10.45	10.45
Model Parameters for Family Childcare Facilities			
	Certified Foundation of Quality	Certified Building Quality	Certified High Quality and High Quality Plus
Full-time Assistants			
Health Benefits	0	0	0
Retirement Benefits	0	0	0
Paid Leave Benefits	0	0.72	0.72
Mandatory Benefits	10.45	10.45	10.45
Part-time Assistants			
Health Benefits	0	0	0
Retirement Benefits	0	0	0
Paid Leave Benefits	0	0	0
Mandatory Benefits	10.45	10.45	10.45

Facility-level personnel expenses

At center licensed facilities, staff positions outside of the classroom include senior administrators, professional specialists, and office support positions. These positions generally bolster services for all children at the center and are considered facility-level costs. Other facility-level personnel expenses include substitute teachers and expenditures related to professional development.

The Market Rate Survey provides information on the number of employees in facility-level staff positions at center-based childcare facilities and their associated wages. As shown in Table A6, most center-based childcare facilities in Utah employ a Director and an Assistant Director, while just over half (55 percent) employ an administrative assistant and 31 percent employ consultants, coaches, or educational coordinators. Centers in the highest quality rating categories were more likely to have administrative assistants and consultants/coaches on staff compared to the total provider population.

Table A6: Share of Center Licensed Providers Employing Facility-level Staff by Position and Certified Quality Rating

Model Parameters for Center-based Childcare Facilities				
Share of Firms Employing Staff in Each Position by Certified Quality Rating				
	All Centers (includes CCQS non-participants)	Certified Foundation of Quality	Certified Building Quality	Certified High Quality and High Quality Plus
Director	100%	100%	100%	100%
Assistant Director	81%	86%	86%	72%
Administrative Assistant	55%	53%	57%	72%
Consultants/Coaches/Coordinators	31%	51%	33%	56%

Drawing on these findings, the center-based cost model assumes that providers in each CCQS rating category are staffed with one full-time Director, one full-time Assistant Director, and one full-time Administrative Assistant. These assumptions reflect the prevalence of the positions observed in the survey data and are further supported by the baseline assumptions for large facilities documented by the National Academy of Sciences, Engineering, and Medicine, the Provider Cost of Quality Calculator, and other state cost modeling resources.[24]

Consultant, coaching, and coordinator positions are complementary to classroom staff. They provide professional support and services that improve the quality of classroom interactions but are employed by a minority of firms overall. The center licensed cost model includes staff in these positions in the CCQS Quality Ratings tiers for Certified Building Quality and Certified High Quality/Certified High Quality Plus, with one half-time consultant or coordinator employed by centers in these categories.

Facility-level Staff Compensation

The Market Rate Survey did not include questions regarding substitute teachers and substitute teacher compensation. In the absence of Utah-specific data to inform the cost model we adopt the broad national recommendations outlined in the Provider Cost of Quality Calculator. These

24 National Academies of Sciences, Engineering, and Medicine. 2018. Transforming the Financing of Early Care and Education. Washington, DC: The National Academies Press. https://doi.org/10.17226/24984. Page 276.
US Department of Health and Human Services Administration for Children and Families (2022). Provider Cost of Quality Calculator: "Typical center-based childcare expenses with default values." Available at: https://www.ecequalitycalculator.com/Login.aspx.

allocate 60 hours of substitute teacher employment per year per FTE classroom staff. Since FTE classroom staff increase with quality rating category in our model, substitute teaching expenses increase with quality rating category as well.

Facility-level Staff Wages

Compensation for facility-level positions includes wage and salary compensation and any associated benefits. Center-based providers reported wage and salary information for Directors, Assistant Directors, Administrative Assistants, and Consultants/Coaches in the Market Rate Survey. Table A7 shows the estimated median wage reported for each position by job title and CCQS Rating category. These reported values are inflated to reflect Q2 2022 values using the Employer Cost Index by occupation.[25]

Table A7: Median Reported Wage by Staff Position and Certified Quality Rating

Model Parameters for Center-based Childcare Facilities			
Facility Level Estimated Median Wages by Certified Quality Rating (Q2 2022 Values)			
	Certified Foundation of Quality	Certified Building Quality	Certified High Quality & High Quality Plus
Director Median Estimated Wage	$18.40	$18.60	$23.39
Assistant Director Median Estimated Wage	$13.82	$14.88	$15.95
Administrative Assistant Median Estimated Wage	$12.91	$15.06	$17.22
Consultants/Coaches/Coordinators Estimated Wage	$13.88	$13.88	$21.10
Model Parameters for Family Childcare Facilities			
	Certified Foundation of Quality	Certified Building Quality	Certified High Quality and High Quality Plus
Owner/provider	$18.40	$18.60	$23.39

The rise in the estimated median wage at higher-quality certified providers may represent the higher wages necessary to attract and retain highly qualified staff. Research has demonstrated a link between a childcare Director's education and the quality of care through program development and implementation, upskilling caregivers, and constructive community

25 Director and Assistant Director reported wages were inflated using the BLS Employer Cost Index for All Civilian Workers in Management, Business, and Financial Occupations (the broad occupation category to which childcare administrators belong). The reported wages of Administrative Assistants were inflated using the BLS Employer Cost Index for All Civilian Workers in Office and Administrative Support Occupations. Consultant/Coach/Coordinator wages were inflated using the BLS Employer Cost Index for All Civilian Workers in Service Occupations.

relationships.[26] Utah's CCQS framework reflects this link to quality with points awarded based on the educational attainment of Center Directors. Data from the Market Rate Survey and the CCQS reveal that the points attained in this category rise significantly with quality rating and that higher-quality certified providers are more likely to employ Directors with a bachelor's or a graduate degree.

The cost model for center-based care uses the estimated median wage from the Market Rate Survey for each quality rating tier for Directors, Assistant Directors, Administrative Assistants, and Consultants, Coaches, and Coordinators. The higher reported wages paid by higher quality-rated providers result in facility-level costs that rise with quality rating. The inclusion of consultants, coaches, and coordinators among higher quality-rated centers raises costs for those providers as well.

As shown in Table A7, the family childcare model adopts the estimated median wage of directors for the owner/provider wage at each CCQS quality rating. Owner/providers typically divide their labor time between children in care and business activities including facility management, bookkeeping, and shopping for food.[27] Their responsibilities are analogous to that of a center director and their earnings should be comparable. However, the structure of earnings for family childcare providers is substantially different from that of center directors. Many family providers earn only income from profit – the difference between facility total costs and total revenues – and do not pay themselves a wage. Family licensed providers that reported earning wages in the Market Rate Survey indicated much lower rates – a median of $13.33 per hour in 2022 Q2 value. These lower wages are allocated over more total working hours than the typical 40 hour per week full-time schedule. The Provider Cost of Quality Calculator does not include owner/provider wages in their home scenario and instead invites a comparison between total profit and annual labor compensation.[28] Incomplete revenue data for Utah providers makes this approach imprecise. Instead, owner/provider annual earnings are set at the annual earnings of center directors for each CCQS rating.

Data from Utah's CCQS temporary Framework for Family Child Care supports the use of

26 Morgan, Gwen G (2000). The Director as a Key to Quality. In M. Culkin (Ed.) Managing quality in young children's programs: The leader's role (pp. 40-58). New York: Teacher's College Press. Available at https://www.the-registry.org/Portals/0/Documents/Credentials/Leadership/Documents/The%20Director%20as%20a%20Key%20to%20Quality.pdf.

27 Provider Cost of Quality Calculator, Home Scenario Personnel Costs. Available at https://pcqc.acf.hhs.gov/form/home-scenario.

28 National Center on Early Childhood Quality Assurance. 2022. Provider Cost of Quality Calculator User Guide. Available at https://pcqc.acf.hhs.gov/sites/default/files/2022-10/PCQC%20User%20Guide.pdf.

increasing wages for owner/providers by quality rating. In the preliminary ratings, the primary factor distinguishing points allocations between ratings is in the domain of leadership and professional development. The framework places substantial weight on this domain, with Education of Primary Caregiver comprising over 1/3 of the available points. The preliminary data shows that points awarded for Education of Primary Caregiver rise considerably with projected quality rating. The increase in compensation accompanying higher quality ratings represents the higher opportunity cost of owner/providers with more cumulative education and experience and the link between these providers and higher quality-rated care.

Facility-level Staff Benefits

The Cost Estimation Model includes benefits costs for facility-level staff based on the availability of benefits reported in Table A4 and modeled in Table A5. For center-based care, both the Certified Foundation of Quality and Certified Building Quality ratings are modeled at a baseline of no health benefits. The Certified High Quality and High Quality Plus category is modeled with health benefits available for all staff except substitute teachers. In this model the value of health benefits is assigned a level equal to the share of wages spent on health insurance from the Bureau of Labor Statistics Employer Costs for Employee Compensation for each occupational category. [29] These shares amount to 10.2 percent of the wage for Directors and Assistant Directors, 16.4 percent of the wage for Administrative Assistants, and 9.7 percent of the wage for Consultants, Coaches, and Coordinators. No retirement benefits are included in the center-based model at any Certified Quality Rating. Paid leave benefits are available to staff at all facilities and modeled according to the Employer Costs for Employee Compensation for each occupational category: at 14.1 percent of wages for Directors and Assistant Directors, 10.9 percent of wages for Administrative Assistants, and 7.2 percent of wages for Consultants, Coaches, and Coordinators. Mandatory benefits are set equal to 10.45 percent of the wage for all staff positions. The family provider model includes no health, retirement, or paid leave benefits for the owner/provider.

29 Director and Assistant Director benefits are based on the Bureau of Labor Statistics Employer Costs for Employee Compensation Qtr1 2022 health insurance cost per hour worked for civilian workers in management, business, and financial occupations expressed as a share of Qtr1 2022 wages and salaries cost per hour worked for civilian workers in management, business, and financial occupations. Administrative Assistant benefits are based on the same calculation for civilian workers in office and administrative support occupations. Consultant/Coach/Coordinator benefits are based on this calculation for civilian workers in service occupations.

Professional Development

In addition to employee compensation for facility-level staff positions, childcare centers incur expenses for providing professional development and training opportunities for classroom, caregiving, and office staff. Responses to the Market Rate Survey show that approximately 80 percent of centers in each CCQS rating category pay for staff training and development. In the center-based cost model, the costs of classroom coverage for teachers engaged in professional development is included in the classroom-level costs and the compensation of substitute teachers. But spending for professional consultants, learning materials, enrollment, or teacher assessment are separate expenses.

Family childcare providers are less likely than center-based providers to pay for staff training and development. In the Market Rate Survey sample of family licensed providers, 45 percent make this type of investment.

Because professional development is part of the expense of higher-quality staff, this spending is included in the model as a personnel cost assessed at the facility level per FTE teaching or caregiving staff. The baseline cost of $250 per FTE classroom staff is the default cost in this category from the Provider Cost of Quality Calculator. In the Market Rate Survey, centers in the highest quality rating category report the highest annual training budgets in this area. To reflect this higher spending the center-based cost model assumes spending at $250 per FTE teaching staff for the Certified Foundation of Quality rating, at $300 per FTE teaching staff for the Certified Building Quality rating, and at $350 per FTE staff for the Certified High Quality/ High Quality Plus rating. The family childcare cost model reflects the lower share of firms in this category investing in staff training, with no spending on professional development at the CCQS rating Certified Foundation of Quality, $250 per FTE staff for Certified Building Quality, and $300 per FTE staff at the Certified High Quality and Certified High Quality Plus rating.

Non-personnel expenses

The Market Rate Survey did not include questions about fixed costs such as telephone and internet, or variable non-personnel costs such as food and kitchen supplies or facility insurance coverage. In the absence of local data on these elements of facility-level costs, the model applies national data from the Provider Cost of Quality Calculator for the baseline estimates of non-personnel expenses. These national data were adjusted to reflect price levels in Utah

using the Regional Price Parity Index for all goods from the Bureau of Economic Analysis.[30] The expenditure categories and baseline estimates for Utah are provided in Table A8.

Table A8: Non-personnel Expenses Adjusted from the PCQC

Non-personnel Expenses: Utah Baseline Values Adjusted from the Provider Cost of Quality Calculator		
	Center-based Childcare	Family Childcare
Telephone & Internet	$4289.49 per center	$1059.03 per site
Accounting and Professional Fees	$2859.66 per center	$698.71 per site
Fees/Permits	$476.61 per center	$116.29 per site
Food & Food Prep	$1376.45 per child	$1376.45 per child
Kitchen Supplies	$53.38 per child	
Vehicle Expenses		$291.69 per site
Education Supplies	$105.81 per child	$529.99 per site
Education Equipment	$119.15 per child	
Classroom Supplies	$132.50 per child	
Office Supplies and Equipment	$105.81 per child	$211.61 per site
Medical Supplies	$53.38 per child	
Insurance (liability, accident, etc.)	$116.29 per child	$524.27 per site
Advertising	$20.97 per child	$159.19 per site
Child Assessment System	$23.83 per child	$190.64 per site
Developmental Screening Tool	$11.44 per child	$87.70 per site
Curriculum	$33.36 per child	
Miscellaneous	$23.83 per child	
Building Insurance	$1.91 per square foot	
Homeowners/Renters Insurance		$783.55 per site
Utilities	$3.53 per square foot	$2097.08 per site
Cleaning Supplies		$280.25 per site
Maintenance/Repair/Cleaning	$3.91 per square foot	$582.42 per site

The Market Rate Survey indicates that providers in all Certified Quality Rating categories are likely to employ developmental screening tools and a purchased curriculum. These cost

30 United States Bureau of Economic Analysis (December 2021). Real Personal Income and Regional Price Parities. Available at https://www.bea.gov/data/prices-inflation/regional-price-parities-state-and-metro-area.

elements are included in the model for all quality tiers. Utah's Childcare Cost Estimation Model also includes costs of accreditation, which are not listed in Table A8. The Utah CCQS frameworks include a domain for National Accreditation that awards points for accreditation from any of five professional membership organizations, including National Early Childhood Program Accreditation, the National Association for the Education of Young Children, the Council on Accreditation, the National Accreditation Commission, and Head Start and Early Head Start Programs. A review of accreditation fees from these organizations reveals that accreditation fees including membership, site visits, and other fees, cost up to $2000 per year. However, few centers or family providers in Utah participate in these accreditation programs, even among those centers at the highest quality ratings tiers. In the baseline cost model, all tiers are assigned a cost of zero for accreditation fees.

Finally, rent and mortgage payments represent significant facility-level costs with substantial variation by region. The center-based cost model follows the guidance of the Provider Cost of Quality Calculator by estimating 80 square feet of facility space per child. According to the PCQC notes: "The general rule for figuring out classroom size is 50 square feet per child for a classroom with adequate storage, plus an extra 30 square feet per child to account for hallways, bathrooms, office space, and so forth."[31] The cost of center rent is drawn from the National Association of Realtors (NAR) Commercial Real Estate Metro Market Report for Q1 2022, using market rent per square foot for retail space. The NAR reports market rent for five metro areas in Utah which cover 93 percent of the provider population. Market rent for nonmetro providers was estimated using the Regional Price Parity Index for the nonmetro portion of Utah. For state-level analysis, rent or mortgage payments are estimated at $19.66 per square foot. This value represents the weighted average market rate where weights represent the regional shares of childcare slots for the five metro areas and the nonmetropolitan regions of Utah. Regional analysis within Utah relies on the regional market rent per square foot, rather than the weighted average. The family provider cost model follows the Provider Cost of Quality Calculator by including home mortgage or rent payments in an annual total rather than per-child. Mortgage payments are drawn from the NAR County Median Home Prices and Monthly Mortgage Payment report for Q1 2022 and added to the weighted average property tax for Utah family childcare providers from the Utah Property Tax 2021 Annual Statistical Report.[32]

31 Provider Cost of Quality Calculator (2022) Center Custom PCQC Center-wide Cost Drivers.

32 Property Tax Division Utah State Tax Commission (2022). 2021 Annual Statistical Report. Utah State Tax Commission. Available at https://propertytax.utah.gov/annual-reports/2021annual.pdf.

These payments are adjusted for a Time-Space percentage of 40 percent representing the portion of a home that is a tax-deductible business expense following the Provider Cost of Quality Calculator, ACF National Center on Early Childhood Quality Assurance Resources for Family Child Care Businesses, and Civitas Strategies Early Start.[33]

33 Tom Copeland. 2022. Resources for Family Child Care Businesses. US Department of Health & Human Services Administration for Children and Families National Center on Early Childhood Quality Assurance. Available at https://childcareta.acf.hhs.gov/resource/resources-family-child-care-businesses-series-articles-tom-copeland.

APPENDIX B: MODEL EXTENSIONS

Large Facilities and Economies of Scale

The cost model for large center and family care environments adjusts the assumptions about group size to reflect regulatory and institutional guidelines rather than the group sizes reported in the Market Rate Survey. The only change in the model is to impose the maximum group sizes for each child age allowable under the legal standard for Certified Foundation of Quality-rated providers, and the CCQS framework for Certified Building Quality and Certified High Quality and High Quality Plus-rated providers. This change increases the class sizes for classrooms serving children ages 3 years and older.

For center-based care, the CCQS awards points for group sizes that meet standards beyond the legal threshold beginning at age 2, with 1-point and 2-point tiers designated for children ages 4 and older. This system creates three levels of quality benchmarks that are applied to the CCQS Quality Ratings Categories as shown in Table A2 below. Comparable information for the baseline model is included in Appendix A Table A1. There is only one threshold for group size in the CCQS for Family Childcare. In the large family model both Certified Building Quality and Certified High Quality and High Quality Plus-rated providers are modeled with the CCQS group size. The group size assumptions for both Center and Family Childcare providers are included in Table A2.

Table B1: Group Size Parameters for Cost Model of Large Facilities

Large Center Group Size Based on Maximum Legal and CCQS Thresholds			
Age Group	Certified Foundation of Quality	Certified Building Quality	Certified High Quality & Certified High Quality Plus
0-11 months	8	8	8
1 year	10	8	8
2 years	14	14	12
3 years	24	24	20
4 years	30	24	20
5 years	40	30	24
6 to 12 years	40	36	30
Total Capacity	166	144	122
Large Family Childcare Group Size Based on Maximum Legal and CCQS Thresholds			
	Certified Foundation of Quality	Certified Building Quality	Certified High Quality & Certified High Quality Plus
Group Size	16	12	12
Family Childcare Ratio and Group Size Under Utah HB 15 (2022)			
Group Size	19		

Geographic Variations in Cost

Modeling the geographic variation in the provider cost of care requires adjusting input costs to reflect different prices, wages, and resource availability across regions.

Estimating costs for rural areas poses a challenge because the population of quality-rated childcare centers in Utah is dominated by urban providers. Over 90 percent of providers who participated in the CCQS at the time of the survey were in metropolitan areas. Among rural providers in the CCQS, most were in frontier areas, which include areas with small populations located 60 minutes or more from an urban area of at least 50,000 people.[34] Rather than using potentially unreliable data for rural and remote areas, the regional analysis in this section depends on nationally available alternative sources of data. This method provides costs per-child by provider type, age group, and CCQS rating category, although in the interest of readability only average per-child costs are reported here.

Sources of data for the regional estimates include the Bureau of Labor Statistics Occupational Employment and Wage Estimates (BLS OEWS), the National Association of Realtors Commercial

34 See USDA Frontier and Remote Area Codes for more information: https://www.ers.usda.gov/data-products/frontier-and-remote-area-codes/.

Real Estate Metro Market Report (NAR), and the Bureau of Economic Analysis (BEA) Regional Price Parities. Table B2 presents the adjustment factors.

Table B2: Regional Wage and Price Adjustments

Regional Wage and Price Adjustments Regional Wage or Price Expressed as a Share of Utah Wage or Price Level			
Region	Personnel Wage Differential	Rent Differential (Centers)	Other Nonpersonnel Price Differential
Utah	100%	100%	100%
Logan	94.8%	84.4%	95.7%
Ogden-Clearfield	99.7%	84.4%	99.9%
Provo-Orem	100.8%	102.7%	100.6%
St. George	102.8%	94.1%	98.6%
Salt Lake City	101.1%	109.4%	102.5%
Nonmetropolitan Region		87.6%	92.2%
Central Nonmetropolitan Region	99.5%		
Eastern Nonmetropolitan Region	127.1%		
Sources	BLS OES, median hourly wage of childcare workers	NAR, retail space market rate per square foot	BEA Regional Price Parity

The Personnel Wage Differential reported in Table B2 is calculated from the Bureau of Labor Statistics Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates (OES). The OES includes childcare worker wages for each metropolitan and nonmetropolitan region within Utah and the differential is each region's median hourly wage for childcare workers expressed as a share of the median hourly wage for childcare workers statewide. All wages in the model, including classroom and administrative staff, are adjusted to reflect this wage differential. (Other childcare occupations such as Education and Childcare Administrators, Preschool and Daycare are not reported for all regions by the BLS.) Since substitute teachers are paid the minimum wage, their wages are not adjusted. The rent differential is the ratio of the regional market rent per square foot for retail space reported in the National Association of Realtors Commercial Real Estate Metro Market Report as a share of the weighted average for center licensed providers in Utah. The price differential for other non-personnel expenses is the Regional Price Parity from the Bureau of Economic Analysis adjusted

to reflect regional differences from the state level.

The regional analysis presented here incorporates regional price adjustments in three key cost categories: wages, rent, and other non-personnel expenses. Each cost category is adjusted by a regional price differential specific to the cost category and geographic area. These price differentials are reported in Table B2, expressed as the regional price level as a share of the price level for Utah. Mortgage and property tax payments for family childcare providers are input directly as the weighted median payment for the metropolitan or nonmetropolitan area.

For-profit and Not-for-profit Provider Costs

Table B3 presents a selection of characteristics of the for-profit and not-for-profit provider sample that reveals key distinctions between the two groups. Not-for-profit providers in the sample pay higher wages and are more likely than for-profit providers to offer health and retirement benefits to full-time staff. Not-for-profit providers also report higher caregiver-to-child ratios for children ages 3 and older. Implementing these reported wages, benefits, and ratios in the cost model raises the personnel costs of not-for-profit providers relative to for-profit care.

Table B3: Key Features of the For-profit and Not-for-profit Samples

Key Features of the CCQS-rated For-profit and Not-for-profit Provider Sample		
	For-Profit	Not-for-Profit
Share of Sample in Each CCQS Rating Category		
Certified Foundation of Quality	41%	43%
Certified Building Quality	39%	36%
Certified High Quality and High Quality Plus	20%	21%
Staff includes		
Director	100%	100%
Assistant Director	90%	63%
Administrative Assistant	54%	63%
Consultants/Trainers/Coaches	45%	56%
Estimated Average Wage of Teaching Staff		
Infant Lead Teacher	$11.94	$12.49
Toddler Lead Teacher	$12.22	$12.77
Preschool Lead Teacher	$12.22	$13.33
Benefits Offered to Full Time Staff		
Health	27%	58%
Retirement	13%	58%
Paid Leave	96%	83%
Pays for Training and Professional Development	83%	84%
Median Caregiver-to-child Ratios		
Ages 0 to 23 months	1:4	1:4
2 years	1:7	1:7
3 years	1:12	1:10
4 years	1:14	1:10
5 years	1:16	1:12
6 to 12 years	1:20	1:20