2023

TEXAS CHILD CARE COST OF QUALITY PRICE MODELING

Final Report

2023 Texas Child Care Cost of Quality Price Modeling Report

Conducted for the Texas Workforce Commission by:

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Glossary of Terms

Accredited	Refers only to child care providers with national accreditation bestowed by one of seven accrediting organizations, including NAEYC and others listed in the Appendix. Some accredited providers are also Texas Rising Star certified.
Certified	Refers only to providers with Texas Rising Star certification, including a designation as a Two- Three- or Four-Star provider. Some certified providers are also nationally accredited.
Non-Accredited	Describes the comparison group of providers used to provide context when examining outcomes for accredited providers. Non-Accredited includes only providers who have neither national accreditation nor Texas Rising Star certification.
Non-Certified	Refers to the comparison group used to provide context for outcomes among Texas Rising Star Certified facilities. Non-Certified includes only providers who have neither national accreditation nor Texas Rising Star certification.
Higher Quality	Refers generically to providers who have either national accreditation or Texas Rising Star certification, or both.
Baseline	Refers to prices charged by providers of child care that at a minimum meet state licensing standards. In the context of calculators presented below, the baseline may refer to providers who have none of the quality addressed, such as external supports.
Metropolitan	Describes an urban area with 50,000 or more inhabitants.
Micropolitan	Describes an urban area with a population of at least 10,000 but fewer than 50,000 inhabitants. Micropolitan areas of Texas include Alice, Andrews, Athens, Bay City, Beeville, Big Spring, Bonham, Borger, Brenham, Brownwood, Corsicana, Del Rio, Dumas, Eagle Pass, El Campo, Fredericksburg, Gainesville, Granbury, Hereford, Huntsville, Jacksonville, Kerrville, Kingsville, Lamesa, Levelland, Lufkin, Marble Falls, Marshall, Mineral Wells, Mount Pleasant, Nacogdoches, Palestine, Pampa, Paris, Pecos, Plainview, Raymondville, Rio Grande City-Roma, Snyder, Stephenville, Sulphur Springs, Sweetwater, Uvalde, and Vernon.

Structural quality components

Structural quality indirectly influences child development by creating conditions that support quality environments and interactions with children. Examples include staffing ratios and staff turnover; staff education and experience; staff training expenses; earnings and benefits; and curriculum, assessment, and staff planning time.

Executive Summary

This study explores the incremental costs of providing quality child care in licensed centers in the State of Texas, relative to a baseline of care that merely meets state licensing standards. It does this in part by measuring and modeling the prices charged for quality care among certified Texas Rising Star and other nationally accredited providers, relative to prices charged by comparison groups of centers who are not Texas Rising Star certified nor nationally accredited but are otherwise as similar as possible to quality providers. In addition to the overall cost of quality care, the relative contributions to costs of individual structural components of quality are explored.

The empirical approach of this study diverges from the child care cost literature in that this study seeks to determine the *costs* of providing care based on extensive modeling of the *prices* charged. The present study attempts to replicate the methodology of the 2021 version of this study. A sample of center-based child care facilities was surveyed to capture important quality factors and pricing information. In addition, extensive data from various publicly available sources were assembled to develop statistical models of the price of quality child care. These models estimate the marginal price of providing quality care based on quality choices individual facilities make, as revealed by the survey, as well as features of the local markets in which they operate, as measured by public data.

This report presents several "calculators" focused on factors related to the structural quality of ECE programs. These factors include, for example, staffing ratios and staff turnover; director and staff education and experience; staff training expenses; staff earnings and benefits; and curriculum, assessment, and staff planning time. The calculators are intended to assist providers, Local Workforce Development Boards, and the State in understanding cost drivers for improving quality as well as revealing which structural quality factors are typically used by providers to reach higher quality tiers. These calculators represent the results of statistical models that control for differences in external supports facilities receive, including reduced cost services, donations, participation in the Child and Adult Care Food Program, and others. Controlling for these extraneous costs increases the precision of the estimated price of quality and related factors.

Calculators show that overall, prices charged for quality care for younger children provided by nationally accredited centers in 2023 were 18 to 26 percent higher than prices charged for care from non-accredited centers, and 30 to 38 percent higher for school-age children. Similarly, prices charged for care of young children at Four-Star Texas Rising Star facilities in 2023 were routinely about 10 to 15 percent higher than care at comparable non-certified centers, and 14 to 22 percent higher for school-age children. These patterns essentially replicate the findings from 2021. Furthermore, prices for care at Three-Star providers is typically 9 to 15 percent higher than at comparable non-certified centers.

A stable, consistent, and nurturing relationship between child and teacher is crucial to the practice of quality care. The findings of this study reinforce this idea in that nationally accredited centers and Three-Star and Four-Star certified centers reported employing fewer part-time staff compared to non-accredited and non-certified centers. The reduced staff turnover ratios observed in the 2021 study were not replicated in 2023.

One might say it was unexpected that children per teacher ratios in 2023 showed no statistically significant relationship with pricing, however the same null results were seen in 2021. In contrast to the expectation of the standard ECE quality model, accredited and Texas Rising Star certified centers did not on average care for fewer children per teacher, and in the case of school-aged children they actually cared for more children per teacher. There was some evidence that lower children per teacher ratios were offset or compensated for by other policies, such as employing less educated teachers and/or paying them less, perhaps explaining the lack of findings.

Higher quality centers stand out in terms of greater educational achievement of staff, greater CDA credentialing rates, lesser deployment of inexperienced staff members, and more use of experienced staff. Much of this replicated similar findings from 2021.

Annual market rate surveys have repeatedly shown that child care pricing varies widely in Texas based on geography, and this study again confirms that the most expensive child care in the state occurs in major metropolitan areas, Austin in particular. Most statistical models of child care pricing, including those that underlie our calculators, need to take geographic variation into account in order to clearly observe quality effects. A simple method of doing this relies on geographic categories consisting of major metropolitan areas as well as minor metropolitan, micropolitan, and rural areas. Other approaches have worked well also, including simplified versions in the 2021 report that relied on average local real estate prices. In the current report, the wage and benefits calculator (Calculator 9) works well without accounting for geography, which suggests that varying wage and benefits levels are responsible for much of the geographic variation in prices. Staff earnings and benefits factors played significant roles in this calculator,

and prices charged for care increase as individual benefits and teachers' hourly wages are increased. As one might expect, the offer of health insurance had the biggest pricing impact.

Perhaps the area in which quality centers most distinguished themselves from comparable non-accredited and non-certified centers in 2023 was in benefits provided to staff. Accredited and Four-Star certified centers were more generous in terms of benefits provided, including dramatic differences in health insurance, retirement plans, days off, and tuition assistance. Whereas in 2021, higher earnings were seen for all quality centers, relative to providers in the comparison group, this pattern was only observed for accredited centers in the current report. It is possible that the expected 2023 earnings impacts among Texas Rising Star centers were obscured by the extensive availability of CCRF funds to supplement wages during this period.

Patterns in staff training were largely unrelated to quality. Although reported use of a curriculum, or a prepared set of learning and play activities, was high among all centers, accredited and Texas Rising Star centers were still more likely to utilize curricula. Quality centers were more likely to use formal assessments and less likely to use informal assessments, relative to comparable non-accredited and non-certified centers. Quality centers were more likely to get their curriculum from their corporate office, and less likely to develop their own or to buy a curriculum. Regarding pricing, those centers that conduct formal assessments charge the highest prices for care, informal assessments are the second highest, and those not conducting assessments have the lowest priced care. Also, as expected, the number of paid planning hours provided to teachers each week is associated with higher pricing.

Altogether, these findings largely replicate patterns seen in the 2021 study, thus reinforcing their relevance for a late-pandemic child care industry. It remains to be seen how the pricing of quality child care in Texas evolves in the near future as much of the pandemic-era relief funding recedes into memory.

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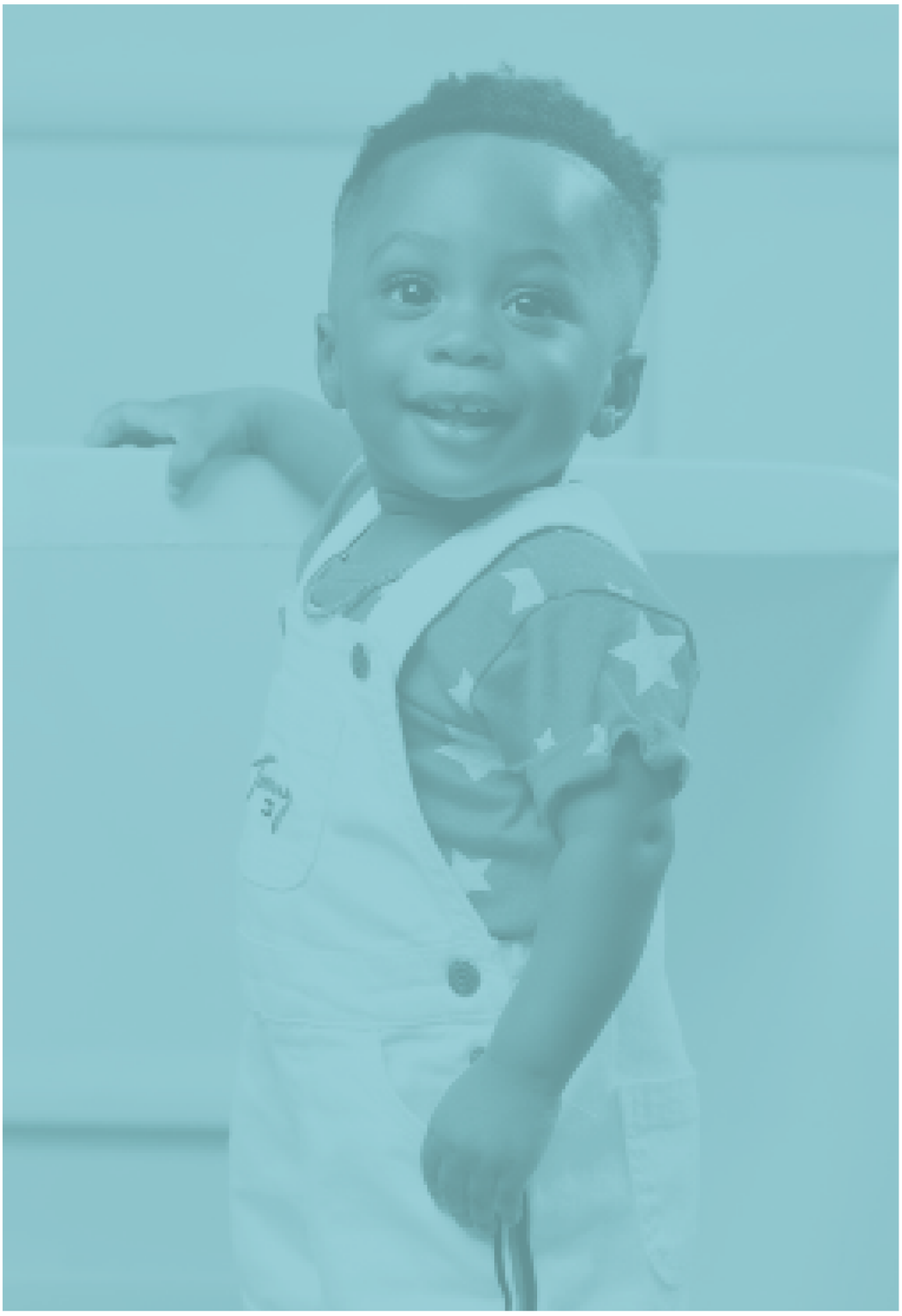

2023 Texas Child Care Cost of Quality Price Modeling Report

INTRODUCTION

Researchers from the Ray Marshall Center (RMC), LBJ School of Public Affairs and the Texas Institute for Child & Family Wellbeing at The University of Texas at Austin conducted this study of the cost of providing quality child care in the State of Texas. The purpose of this study was to provide estimates of the cost of providing higher-quality care under Texas Rising Star in licensed centers, relative to comparable child care providers who are not Texas Rising Star certified. Using an approach that includes extensive price modeling, this report provides estimates of the overall costs of providing quality child care, as well as a detailed look at the pricing implications of a variety of structural quality factors.

REPORT STRUCTURE

An abbreviated review of the relevant literature and history of quality rating systems is presented first, followed by a detailed examination of pandemic relief funding distributed by the state in recent years, and continuing to the present. Following that is a section presenting analysis and pricing calculators, including estimates of the overall price of quality care in 2023, as well as estimates of the pricing of individual structural components of quality. A concluding discussion of the study results is followed by sources and two appendices in a separate document containing details of the study design, data analysis, and the survey instrument.

BACKGROUND AND LITERATURE REVIEW

The science of early childhood development (birth through age 8) presents evidence indicating that children's health, development, and early learning provide a foundation for continued learning. Young children experiencing positive interactions and learning experiences accrue future benefits as they grow, while children who lack these experiences or suffer from undue stress face later barriers to learning and social-emotional growth. Healthy development during these early years requires reliable, positive, and consistent interactions between the developing child and caring adults (National Research Council, 2015). Extensive evidence demonstrates that high-quality education and care positively impact children's cognitive, language, and social-emotional development (Burchinal et al, 2008; Melhuish et al, 2015). Further, exposure to adversity and stress—experiences disproportionately prevalent in low-income communities—may have direct and potentially long-term negative effects on the structure of brain development (Hertzman, 2012), an effect that may be mitigated by consistent relationships with caring adults.

Texas Children

In 2021, approximately 1,384,000 (62%) Texas children under the age of six lived in a household with all available parents in the labor force; likewise, approximately 1,873,000 (64%) Texas children between the ages of 6 and 12 lived in a household with all available parents in the labor force (Kids Count, 2022).[1] These estimates represent approximately 3,257,000 children potentially needing care; furthermore, approximately 25 percent of these children live in households that are low-income working families (Kids Count, 2022).[2] For children younger than six, 29 percent (approximately 581,000) live in low-income working families (Kids Count, 2022). Families rely on early childhood professionals to provide positive interactions and experiences that young children need to thrive.

Available Child Care in Texas

Texas child care providers were hit hard during the COVID-19 pandemic, with many providers going out of business or operating on the edge of solvency. The 2021 Texas Child Care Cost of Quality Price Modeling Report chronicled drastic changes in the child care market due to the pandemic. In September 2019, prior to the pandemic, there were over 14,500 centers and licensed and registered homes in the Texas HHSC Child Care Regulation (CCR) registry. This number dropped to 9,500 in May 2020. By September 2020, the number of registered facilities was back around 11,500; by May 2021, the number registered was over 12,900; and by January 2022, the number registered was over 13,200. The bulk of provider losses occurred among registered homes, whose numbers declined by 19.9 percent, while nationally accredited and Texas Rising Star Four-Star providers and providers of subsidized care were more likely than other providers to remain open and provide care throughout the pandemic, suggesting these programs had protective effects (Schroeder, et al., 2021).

Children At Risk (2021) reported similar trends in the child care market during the pandemic. The report estimated that from March 2020 to September 2021, 21 percent of Texas child care providers appeared to have closed, with 41 percent of these providers serving infants and toddlers, and 79 percent being child care homes. However, only 2.9 percent of Texas Rising

[1] For children living in a married-couple family or subfamily, this means that both parents are in the labor force. For children living in a single-parent family or subfamily, this means the resident parent is in the labor force. The civilian labor force includes persons who are employed and those who are unemployed but looking for work. Source: https://datacenter.kidscount.org/

[2] Low income family means: children under age 13 living in families that met two criteria: (1) the family income was less than twice the federal poverty level; (2) at least one parent worked 50 or more weeks during the previous year. Source: https://datacenter.kidscount.org/

Star providers closed from March 2020 and September 2021, further supporting the suggestion of the protective effects of these programs.[3]

In 2021, the number of children under age six, living in a household were both parents are working greatly outpaced the available licensed and regulated care. The Texas Health and Human Services Commission (HHSC) is responsible for the regulation of all child care settings across the state of Texas, including the child care settings chosen for this study: licensed child care centers and licensed and registered child care homes. Table 1 presents for FY 2021, the number of providers and provider's capacity for each category of child care within the scope of this study, noting that homes will be surveyed in 2024.

Table 1. Texas Child Care Centers and Homes: FY 2021

Child Care Regulation Operation Type	FY 2021	
	Count	Capacity
Licensed Child Care Centers (excluding school age and before/after-school programs)*	9,404	1,089,100
Licensed Child Care Home	1,548	18,460
Registered Child Care Home	2,700	31,270
Total	**13,724**	**1,132,728**

Source: Texas Health and Human Services Commission– Child Day Care Licensing – Operations on August 31.
*Licensed child care centers category includes types of programs that were excluded from the sample i.e. Head Start and Early Head Start programs.

In addition, for many working low-income families the cost of child care is burdensome. In Texas, the pricing of available child care varies by region with the large metro areas having the most expensive child care while more rural areas and especially the Rio Grande valley have the least expensive care. Across the state of Texas, the average daily price of full-day infant center-based care is $35.60, and the average full-day price of center-based toddler care is $33.80 (Texas Workforce Commission, 2022). At these rates, in 2022 a family of three making 200% of the federal poverty guidelines ($46,060) would have spent on average $9,256 for one year of full-time infant care, 20 percent of the family gross income, and $ $8,788 for one year of full-time toddler care, approximately 19 percent of the family gross income.[4]

[3] All child care providers regardless of age of children served were included in this analysis, though child care homes were only available after the first 6 months examined due to availability of data from HHSC. A closure is defined here as a child care provider with an operation status not listed as open at the end of the period examined. For additional information see: https://childrenatrisk.org/childcareclosuremap/.
[4] Federal Poverty Guidelines are available at: https://aspe.hhs.gov/2022-poverty-guidelines.

Child Care and Development Fund

The mission of the Child Care and Development Fund (CCDF)—a federally funded block grant to state, territory, and tribal governments—is to provide child care subsidies to help eligible low-income families access child care and more generally to improve the quality of care across the broader market.[5] In Texas, the Texas Workforce Commission (TWC) is the lead agency for administering CCDF, the Child Care Services (CCS) program, through 28 local workforce development boards. Local CCS programs are supported through a combination of federal, state, and for some communities local funding as well. In 2014, the reauthorization of the Child Care and Development Block Grant Act included an increase in the share of CCDF funds dedicated to initiatives that improve the quality of care (CCDBG Act, 2014), including the implementation of quality rating and improvement systems, educating parents seeking care about indicators of quality and provide evaluation, support, and incentives to child care providers to improve the quality of the care provided. Since reauthorization, Texas' annual federal allocation for CCDF has risen from $475 million in FY 2014 to $1,140,395,275 million in FY 2022.[6]

Beginning in March 2020, billions of dollars in CCDBG COVID relief funds were distributed throughout the child care industry, including funds targeted to support the stabilization, expansion, and quality improvements for CCS providers. Information regarding relief funding distributed to licensed centers and homes, and registered homes is discussed later in this report.

Definition of Early Childhood Quality Care

Research measuring quality care and the association between quality care and child outcomes identifies two broad dimensions of quality that support child development: structural and process quality measures (Friedman & Amadeo, 1999; Halle et al, 2010; Vandell & Wolfe, 2000; Gootman & Smolensky, 2003). Structural quality measures include group size and adult-child ratio; staff education and credentials; the physical environment and materials; and training and professional development (Slot et al, 2015). Process quality includes children's daily experiences while they interact with caregivers, the environment, curriculum, and the pedagogy of curriculum implementation (Slot et al., 2015). Structural and process quality measures are specific to the age and development of groups of children and apply to both centers and homes. Research suggests that early development is directly influenced by process quality and indirectly

[5] Administration for Children and Families, Office of Child Care, OCC Fact Sheet: https://www.acf.hhs.gov/occ/fact-sheet-occ

[6] https://www.acf.hhs.gov/occ/data/ccdf-state-and-territory-funding-allocations

by characteristics of structural quality in that structural quality program aspects create conditions to support quality environments and interactions with children (Burchinal et al, 2015). Quality teacher-child interactions and child care environments lead to larger gains in children's cognitive and social skills (Mashburn, 2008; Pianta et al, 2009).

The Early Childhood Education (ECE) literature has identified specific structural and process program features that support quality. A literature review conducted by Burchinal and others (2015), provides replicated evidence with moderate effect sizes for several quality factors as they relate specifically to child outcomes:

1. **Group sizes and adult-child ratio:** Programs with large numbers of children per teacher and with larger group sizes have been reported to be of lower quality and to produce more behavior problems and smaller gains in academic skills.
2. **Staff education and credentials:** Programs with care providers with higher levels of education have been shown to be of higher quality and to produce larger gains in academic skills (although researchers suggest confounding factors may influence this finding).
3. **Curriculum and staff training in curriculum pedagogy:** Programs using an evidence-based curriculum along with training or coaching of staff on curriculum implementation tend to have greater gains in children's literacy, math, and social skills. Curriculum planning and implementation are linked to child assessment. The ongoing assessment of children provides information to guide instructional decisions and is supported by NAEYC (2003) as a component of high-quality ECE.
4. **Program administration and leadership:** Program directors with more education and ECE training have been rated as providing higher classroom quality in multiple studies.
5. **Staff compensation and benefits:** Programs offering higher wages and benefits to their staff have been rated as providing higher classroom quality (some studies were unable to replicate these findings).

The literature further supports additional program components' impact on program quality:

1. **Training and professional development:** Studies have identified the capacity of professional development to improve program quality (Egert et al, 2018).
2. **Physical environment and material:** While the physical environment and learning materials are closely related to the pedagogical approach of the teachers and the relationship between educator and children, Mashburn (2008) found that pre-K classrooms with higher-quality physical resources were not overall associated with

children's development of academic, language, and literacy skills. However, the quality of physical environments, such as furnishings for care, play and learning, and room arrangements had a stronger positive association with children's academic and literacy skills among children who experience social and economic risk factors.

The evolving research regarding the quality of child care and child outcomes identifies certain structural and process elements of care that enhance the quality of care and impact child outcomes. With the increase in the share of CCDF funds dedicated to initiatives that improve the quality of care (CCDBG Act, 2014), state agencies that administer the CCDF funds are implementing quality rating and improvement systems to educate parents seeking care about indicators of quality and provide evaluation, support, and incentives to child care providers to improve the quality of the care provided.

Relationship Between Costs and Quality of Early Childhood Care

There have been limited empirical studies on the association between quality and costs in ECE center-based programs. The existing body of research indicates that a positive relationship exists between cost and quality; higher-quality centers tend to have higher costs.[7] However, the magnitude of the relationship ranged considerably across studies, likely due to the wide variation in approaches for measuring cost and quality.

The Cost, Quality, and Child Outcomes (CQO) study was a study of 401 child care centers in four states conducted in the mid-90s; the study found that on average, a 1-point difference in quality scores on a 7-point scale, as measured by the Environment Rating Scales (ERS), was associated with a 10 percent difference in a center's total variable costs (Helburn, 1995). Blau and Mocan (2002) reanalyzed CQO data and calculated a 6 percent difference in costs for a 1-unit difference in ERS scores. Glantz and Layzer (2000) used the CQO data to estimate the cost-quality relationship at the classroom level; their results suggest a $5,000–$10,000 difference in annual per-child costs between classrooms with ECERS or ITERS scores that differ by 1 rating point.

The Massachusetts Cost and Quality Study collected cost and quality data from 102 community-based centers serving infants and 104 full-day, full-year community-based centers serving toddlers in Massachusetts. It revealed that costs were 13 percent higher in infant rooms

[7] Source: Assessing the Implementation and Cost of High-Quality Early Care and Education: A Review of the Literature

with ITERS scores of at least 4 versus those with scores less than 4 while costs were 14 percent higher in toddler rooms with ITERS scores of at least 4 versus those with scores less than 4 (Marshall et al, 2004a). A similar study conducted using data from centers in Maine founds that centers that achieve at least "minimal" quality (ECERS scores of 3 and above) had costs that were 17 percent higher than centers that do not reach this benchmark (Marshall et al, 2004b).

Belfield and Schwartz (2007) explored the cost-quality relationship using data from 745 public and private preschool programs in the Abbott districts in New Jersey and estimated a statistically significant two percent difference in per-child costs associated with a 1-point difference on the ECERS-R. Levin and Schwartz (2007) used national data to examine the relationship between cost and quality at the state level and found that states that provided higher-quality preschool as measured by the state preschool quality rating scale of the National Institute for Early Education Research (NIEER) spent about seven percent more than average based on state-reported expenditures.

Investing in Quality

Mathematica conducted a review of the literature and research syntheses in the areas of ECE quality, implementation science, and costs (Caronongan et al, 2016). The review found that the current measurement of the cost-to-quality relationship provided little direction for those who wished to invest in quality. Most studies examined total costs or broad categories of aggregate costs which limits understanding of how costs that are tied to ECE center functions could be reallocated to improve quality. "*The field needs more knowledge about what an ECE center needs to do to offer better quality*."

A few studies have considered the financial costs of increasing structural measures of quality (Vandell & Wolfe, 2000). Powell and Cosgrove (1992) studied data from a survey of 265 child care centers conducted by the U.S. General Accounting Office and found that decreasing the average child/staff ratio by one, for example from 11:1 to 10:1, would increase costs by 4.5 percent; increasing the average education of staff by one year would increase costs by 3.4 percent; increasing staff experience by one year would reduce costs by 0.6 percent; and, the departure of an additional 10 percent of the center's teaching staff increases costs by 6.8 percent. This study is limited as it relies on data that are more than 30 years old, only includes accredited centers, and only includes data for the care of 4- and 5-year-old children.

The U.S. Administration for Children and Families' Office of Child Care's Provider Cost of Quality Calculator (PCQC) is based on an assumption that Quality Cost Drivers tend to fall into three categories (U.S. Administration for Children and Families' Office of Child Care, 2022):

1. Classroom enrollment information,
2. Personnel costs, and
3. Non-personnel costs.

Quality Rating and Improvement Systems

In the late 1990s, states across the country began developing and implementing early childhood education (ECE) Quality Rating and Improvement Systems (QRIS) to support the improvement of quality by establishing "star ratings" systems (QRIS Resource Guide). These systems were designed to encourage quality initiatives by identifying programs along a continuum of quality and to help families identify quality care. QRISs share five common structural elements that support and promote quality: standards, a rating system parents can use in selecting care, a quality improvement process, financial incentives to assist with the purchase of equipment and materials as well as higher reimbursement rates for higher-quality programs, and parent education regarding quality ECE (Tout et al, 2010; Zellman & Perlman, 2008). QRIS is intended to act as a motivator to programs to improve quality in that educated parents will use the ratings to select care; programs receive assistance with quality improvements and an increased reimbursement rate for higher quality rated programs. In essence, QRIS intends to improve quality by affecting both the demand for high-quality care and the supply.

Texas Rising Star

Until 2021 the Texas QRIS (Texas Rising Star), was a voluntary quality-based rating system of child care providers participating in the Texas Workforce Commission's subsidized child care program.[8] The program intends to assist parents in understanding the level of the quality of care their family is receiving through a given program while assisting providers to improve the quality of care. Providers that achieve Texas Rising Star certification offer care that exceeds the State's Minimum Child Care Licensing Standards.

Texas Rising Star evaluates programs to assign a quality rating of Two- Three- or Four-Stars, with each level exceeding minimum standards and with Four-Stars representing the highest quality of care. Based on the data collected regarding a provider's performance in the

[8] In 2021, the Texas legislature enacted legislation that requires all providers in TWC's Child Care Services subsidy program to participate in Texas Rising Star. TWC is currently implementing this new requirement through modifications to TWC's administrative rules and will be moving toward a mandatory Texas Rising Star program for the Child Care Services program.

four Texas Rising Star areas, TWC awards the provider a Texas Rising Star rating while also providing support to continue to ensure and improve quality. As providers progress through the levels of Texas Rising Star certification, they improve their programs' capacity to contribute to the development of the children served.

In September 2017, TWC partnered with the Children's Learning Institute (CLI) at The University of Texas Health Science Center at Houston to conduct The Strengthening Texas Rising Star Implementation Study. This study focused on three areas of Texas Rising Star implementation: (1) to evaluate the reliability and validity of the Texas Rising Star assessment system and make recommendations for improvement; (2) to develop a sustainable certification and training system for Texas Rising Star Assessors and mentors to ensure ratings are consistent across LWDA areas and assessors; and (3) to test delivery of mentoring protocols aligned with Texas Rising Star standards, enhancing Texas Rising Star's Quality Improvement (QI) capabilities. In addition to recommendations to strengthen the Texas Rising Star assessment tools, the CLI team developed the Texas Rising Star Assessment Training and Certification Program designed to ensure all assessors are trained to a standard of reliability before data collection and include systems for monitoring reliability and preventing drift among assessors over time. The program includes online learning modules, practice assignments, and a tiered support approach for assessors who do not meet reliability criteria, including small group Professional Learning Communities and individualized feedback.

Incentivizing Investing in Quality

In September 2021, the Texas Legislature enacted legislation to require all providers in TWC's CCS program to participate in Texas Rising Star, effective October 2022. Providers not initially meeting certification standards must meet specified *Entry Level* designation criteria and attain Texas Rising Star certification within 24 months of receiving *Entry Level* designation.[9] Between October 2021 and December 2022, an additional 133 CCS providers entered the Texas Rising Star program with hundreds of Texas Rising Star providers progressing to higher levels of quality. Table 2 illustrates the decrease in the number of CCS Two-Star providers and the increase in Three-Star and Four-Star providers over time. These certification levels are tied to graduated enhanced reimbursement rates for children enrolled in the CCS program.

[9] Entry level designation extensions may be granted to providers operating in a child care desert, or providers unable to meet the requirements due to a declared emergency/disaster or other circumstances beyond the provider's control.

Table 2. Child Care Services Texas Rising Star Certified Providers: 2021 & 2022

Month	Texas Rising Star			
	Two-Star	Three-Star	Four-Star	Total
Oct. 2021 n=1,962	492	387	1083	1962
Dec. 2022 n=2,096	148	568	1380	2095
Changes Over Time	-344	181	297	133

Source: TWC: https://www.twc.texas.gov/programs/child-care-numbers

All regulated providers including CCS providers received Child Care Relief Funds (CCRF) awards (detailed in the next section). CCS providers received larger CCRF awards to assist them in improving the quality of care and participate in the Texas Rising Star quality improvement system. In addition, TWC requires Boards to increase their Texas Rising Star maximum reimbursement rates at or above the following levels[10]:

- Four-Star providers, at least 9 percent higher than the 75th percentile of the most recent Market Rate Survey
- Three-Star providers, at least 7 percent higher than the 75th percentile
- Two-Star providers, at least 5 percent higher than the 75th percentile[11]

The present Cost of Quality Study (CQS) builds on this earlier work by exploring the incremental costs of providing quality child care in the State of Texas, relative to care that merely meets state licensing standards. It does this in part by modeling the prices charged for higher-quality care among certified Texas Rising Star and other nationally accredited providers, relative to prices charged by similar providers who are neither Texas Rising Star certified nor nationally accredited. In addition to the overall cost of quality, this study attempts to determine the relative contributions to costs of individual structural components of quality, including staffing ratios and staff turnover; director and staff education and experience; staff training expenses; earnings and benefits; and curriculum, assessment and staff planning time. Both lines of inquiry will serve the greater goal of helping to ensure that quality child care in the Texas market is adequately

[10] Previously, Boards were guided to establish maximum CCS Texas Rising Start maximum reimbursement rates for Four-Star providers at or above the 75th percentile of the most recent Market Rate Survey, with Three-Star providers receiving at least 90 percent of the Four-Star amount and Two-Star programs receiving at least 90 percent of the Three-Star amount.

[11] See TWC Child Care Services Rule §809.20. Maximum Provider Reimbursement Rates at https://www.twc.state.tx.us/files/twc/rules-chapter-809-child-care-services-twc.pdf

reimbursed and that care providers are adequately incentivized to improve the quality of care they provide.

PANDEMIC AND FUNDING RESPONSE

The original Cost of Quality study (2021) had the misfortune of being conducted during a pandemic that wrought havoc on child care markets. The current study, in comparison, encounters a child care industry that has adapted to late-pandemic conditions, in part due to extensive financial support from the federal government. Because this study is concerned with modeling costs of providing care, and financial supports could potentially mask true costs, it is imperative that we account for these financial supports that providers have received in the recent past, and in many cases continued to receive while the survey was being conducted.

As noted earlier, Texas child care providers were hit hard during the COVID-19 pandemic, with many providers going out of business or operating on the edge of solvency. The number of licensed and registered providers in Texas dropped from over 14,500 in September 2019 to as low as 9500 in May 2020 (Schroeder, et al., 2021).

To help child care providers recover from the pandemic, the TWC established the Child Care Relief Fund (CCRF) to distribute funds made available through the following Child Care and Development Block Grant (CCDBG) relief funds. These included:

- CRRSA- Coronavirus Response and Relief Supplemental Appropriations Act (December 2020); and
- ARPA – American Rescue Plan Act (March 2021).

The following report section describes the funding provided directly to child care providers across the state.

Early Pandemic Response

During the initial COVID-19 pandemic outbreak, child care was identified as an essential industry and exempted from mandatory state lockdowns. TWC began to implement supports to stabilize the segment of the Texas child care industry contracted to provide CCS subsidized care in early March 2020. Temporary supports to providers of subsidized care and families receiving subsidized care included:

1. Providers continued to receive reimbursement when subsidized children were absent, or the provider temporarily closed their doors.
2. Enrollment eligibility redetermination for subsidized care was suspended.

3. The definition of children needing protective care was expanded to include children of essential workers.
4. A statewide eligibility threshold for subsidized care was implemented at 150% of the state median income.
5. Parents were allowed to self-attest that they are essential workers. All enrolled children of essential workers received three months of subsidized care.
6. For several months, parents' share of the cost was waived, allowing TWC to reimburse providers 100 percent of the cost of care even while children were absent.
7. Termination for excessive absences was waived, allowing children to remain eligible, and allowing providers to continue to be paid, past the prior 40-day absence policy.

In addition, millions in federal funding dollars marked for child care allowed Boards to issue supplemental payments to all subsidized care providers that remained open during the pandemic. The supplemental payments authorized providers to receive an additional 25 percent over their regular reimbursements. Further, stabilization grants became available for closed providers (homes or centers) participating in the subsidy program. CCS programs received the following additional funding to serve additional low-income families: $204.4 million in FY 20-FY 21; FY 2022, $46.25 million; FY 2023, $138.75 million; and FY 2024, $129.75 million.[12]

Child Care Relief Funding 2021

During the summer of 2021, TWC made $775 million available for CCRF, plus an initial investment of $15 million to provide child care business coaching. The funds were made available to registered and licensed homes, and licensed centers (Table 3). Applications were accepted to reimburse providers for specific operating expenses incurred from January 1, 2021 through August 31, 2021 (including expenses resulting from the winter ice storm). The application window for this round of funding closed on July 31, 2021 and providers approved for funding were required to draw down awarded funding by November 30, 2021. There was no time line for spending the awarded funds as the provider is being reimbursed for incurred expenses. Applications were open from June 11, 2021 through July 31, 2021. Technical assistance and business coaching were available to assist child care providers in accessing additional funding and documenting expenditures as well as to provide general business education support.

[12] CCRF information is available at: https://www.twc.texas.gov/news/child-care-stimulus-resources.

Children at Risk reports that only 1.6% of providers receiving stabilization grants had closed by September 2021.[13]

Table 3. Child Care Relief Funding 2021 Summary

Provider Type	Number of Applications Approved	Average Award Amount	Total Awarded
Licensed Child Care Center	6,717	$83,936	$563,797,820
Licensed Child Care Home	1,113	$6,904	$7,684,156
Registered Child Care Home	1,649	$6,497	$10,713,480
Total	**9,479**	**$61,420**	**$582,195,456**

Source: TWC see: https://www.twc.texas.gov/news/child-care-stimulus-resources

Child Care Relief Funding 2022

In March 2022, another round of CCRF funding was made available, including total available funds of $3.45 billion allocated through American Rescue Plan Act funds and COVID stimulus funding. The funds were made available to registered and licensed homes, and licensed centers to support expenses necessary to maintain or resume services, including fixed costs and increased operating expenses (Table 4). Examples of allowable expenses included rent or mortgage, insurance, utilities (gas, electric, water, sewer, phone, internet), payroll and personnel (salaries, wages, benefits), personal protective equipment, cleaning supplies/services, maintenance, and supplies. Additional approved expenses included wage supplements and one-time bonuses to attract and retain high-quality staff, including hiring or retention bonuses, paid time off, and other supports.

TWC identified eligible providers, those that continued to serve children, or temporarily closed due to public health, financial hardship, or other COVID related reason and committed to remaining open until May of 2023. TWC notified providers of their eligibility to apply for funding and accepted applications until May 31, 2022. The deadline for all providers to spend the award funding was November 30, 2023. In addition, CCS providers were eligible to receive additional funding to assist in meeting new requirements to improve the quality of care and participate in the Texas Rising Star quality improvement system.

Table 4. Child Care Relief Funding 2022 Summary

[13] A closure is defined here as a child care provider with an operation status not listed as open at the end of the period examined. For additional information see: https://childrenatrisk.org/childcareclosuremap/.

Provider Type	Number of Applications Approved	Average Award Amount	Total Awarded
Licensed Child Care Center	7,741	$378,983	$2,933,703,679
Licensed Child Care Home	1,235	$32,129	$39,678,803
Registered Child Care Home	1,835	$29,121	$53,437,155
Total	**10,811**	**$279,976**	**$3,026,819,597**

As of March 2023, Source: TWC, https://www.twc.texas.gov/news/child-care-stimulus-resources

Among all providers eligible to apply for funding, centers had the highest rate of submitting applications, as high as 83 percent for the 2022 funding. Across both funding cycles, registered homes were the least likely to respond to the invitation to apply for funding (approximately 71%).

Expansion Funding

TWC approved additional funding to expand the availability of child care in identified child care deserts across the state; for providers opening or expanding partnerships with a local employer; and, to expand the availability of infant care around the state totaling $234 million ($75MM in February 2022, $75MM in September 2022, and $84MM in February 2023). Child care deserts were defined as areas in which the number of children younger than six years of age who have working parents is at least three times greater than the capacity of the licensed child care providers in the area (Texas Labor Code, §302.0462). Across Texas 1,194 Zip Code Tabular Areas (ZCTAs) were identified as child care deserts within the 28 Local Workforce Development Board Areas.[14] Identified child care deserts varied across the state with the Cameron Board region having only five ZCTAs identified as child care deserts, while 132 were identified within the Gulf Coast Board region.

In September 2022, an additional $75 million was dedicated to this expansion project. New and existing home and center-based providers opening or expanding their child care business after March 1, 2022, were eligible to apply (Table 5). Funding was available to offset

[14] ZCTA is a generalized areal representatin of USPS ZIP Code service area. In most instances ZCTA and ZIP Codes are equal, however, there are some instances where a ZCTA includes multple ZIP Codes.

operation costs incurred during startup and/or the first few months of opening or expansion. Funding was not available for major renovations or construction.

Table 5. Expansion Funding Awards by Eligibility Type as of June 28, 2023

	Child Care Desert	Onsite Employer Partnership	Near Site Employer Partnership	Additional Infant Capacity	Total
Applications Submitted	230	48	297	464	1,039
Applications Approved	153	32	234	297	716
Child Care Slots (18+ months) Proposed	7,679	1,932	14,280	1,664	25,555
Infant Slots Proposed	2,401	414	5,978	5,777	14,570
Total Child Care Slots Proposed	10,080	2,346	20,258	7,441	40,125
Total Funding Approved	**$34,352,198**	**$8,122,304**	**$76,171,798**	**$23,573,829**	**$142,220,129**
Total Funding Paid	**$14,817,104**	**$2,970,911**	**$26,363,558**	**$11,965,796**	**$56,117,369**

Source: TWC, https://www.twc.texas.gov/news/child-care-stimulus-resources#childCareExpansionInitiative

Addition Child Care Quality Improvement Funds

Child care stimulus funds were also allocated to support the following quality improvement initiatives, including;

- the development of child care registered apprenticeship programs;
- secondary education scholarships for child care professionals;
- the development of new online training modules; and
- funds to support activities to increase participation in the Texas Rising Star program and improve the quality of care across the state.

While the Texas child care industry continues to recover from the pandemic influences and efforts to stabilize the industry continue, the impacts upon the Texas Rising Star and CCS programs are evident in the currently available data.

ANALYSIS

The biggest limitation of our empirical approach to estimating the cost of providing quality child care is that we are not able to provide estimates for any factor that does not pan out statistically in relation to daily rates. In light of this limitation, all of the price calculators reported below present clear findings that meet our standards as useful estimators of factors involved in

the price of providing quality child care. That is, the statistical model(s) behind each calculator is good enough, in terms of its ability to explain significant variation in child care rates charged around the state, that the price estimates derived from them can be trusted to provide accurate pricing guidance to providers and program administrators. In the prior version of this study (CQPMR 2021), a handful of somewhat weaker calculators were included to illustrate important policy findings but were insufficient to provide unbiased pricing guidance. We present only the more robust calculators here, in the interest of advancing knowledge about the pricing and dynamics of quality care.

This analysis and calculators section addresses three kinds of questions for licensed child care centers:

1. How much do centers typically charge for care at each quality tier (including non-accredited or non-certified) for any combination of age group and local factors?
2. Which quality factors, of the ones we measured, are actually utilized by facilities at higher tiers, and to what extent? Examples include staffing ratios and staff turnover; staff education and experience; staff training expenses; earnings and benefits; and curriculum, assessment, and staff planning time.
3. How much is typically charged for child care at varying levels of the quality factors we measured?

All three forms of questions are customizable to produce different estimates for different age groups, and for different geographic areas when possible. Questions of the first type are discussed for centers in the next section.

Analysis of the cost of quality among licensed child care centers is based on responses from 794 centers, which included a total of 5,111 rate observations. Processing of the data in preparation for the analyses reported here, including adjustments made to correct for non-response bias and ensure facilities met minimum licensing standards, are described in Appendix A.

Although the number of Texas Rising Star accredited facilities in Texas has been increasing in recent years, our goal was to over-sample some tiers of higher quality facilities to gain enough statistical power to estimate the overall price of providing care at all quality tiers. Unfortunately, an error in finalizing the sample largely defeated this aim, the consequences of which are discussed in Appendix A. Because of this shortcoming, this report largely omits analysis of Texas Rising Star 2-Star facilities, the responses from whom were too few to produce interpretable pricing impacts.

The first price calculators reported here include those designed to estimate the price of providing higher quality care, relative to the pricing of 'baseline' care that simply meets state standards.

ACCREDITATION

The first calculator looks at the incremental price of providing accredited child care[15], beyond the price of providing care that simply meets state licensing standards, for any chosen combination of geographical area, age group, and time interval.

> **Calculator 1** can be accessed by **double-clicking**, which activates an embedded Excel spreadsheet (clicking elsewhere in this document will close the spreadsheet). This and other calculators may work best if you avoid scrolling the document while it is open, so it may be preferable to have the calculator fully on-screen before opening.

Monthly, weekly, or daily pricing[16] for accredited care can be estimated for different age groups, and for the entire state of Texas or one of the various metropolitan areas or non-metro areas of the state, by selecting the teal-colored drop-down boxes. The calculator also estimates the incremental pricing of accreditation in terms of the percentage of the baseline daily price of care among non-accredited facilities that it represents.

While some omit school-age children from the definition of early childhood education, the provision of school-age care can influence the rates charged for younger children, as shown in later sections (especially Calculator 8). Thus, we include estimates for school-age children in calculators where appropriate. Importantly, all calculators in this report that estimate the pricing of school-age care present *afterschool* or part-day rates for this age group, whereas the rates presented for all other age groups are full-day rates. This is done both to maximize the usefulness of the information, since after-school care is far more common than full-day care for school-age children, and to focus on categories of care in which the sample size is large enough to make precise estimates.

Calculator 1 shows estimated pricing for accredited child care for four age groups at the same time, following the old age group scheme (infant, toddler, preschooler, school-age).

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[15] Note that, as described in the glossary, accredited may also include Texas Rising Star Certified facilities, whereas the non-accredited comparison group includes providers who are neither accredited nor Texas Rising Star Certified.
16 Weekly rates are estimated as 5 times daily rates, and monthly as 21.667 times daily rates.

Accredited care is estimated to be priced around 18 to 22 percent more than non-accredited care in the most expensive urbanized areas of the state, and closer to 30 percent more for school-age children. In less populous areas, the premium for accreditation represents a higher fraction of the price of child care that is generally much less expensive compared to urban areas. Estimated accreditation pricing in micropolitan and rural areas is typically 21 to 26 percent higher for younger children, and 35 to 38 percent more for school-age children.

Calculator 1. Center Accreditation by Area, all Ages

The following calculator allows you to estimate the baseline cost of childcare by accreditation status and age group based on your area.

Please make the following selections to determine your baseline cost.

Step 1: Please select an area

State of TX

Step 2: Please select an interval

Weekly

Double Click to Activate

State of TX area		*Baseline weekly cost*	*Percent Premium for Accreditation*
Infant, full day	*Non-Accredited*	$232 per week	
	Accredited	$279 per week	20.2%
Toddler, full day	*Non-Accredited*	$209 per week	
	Accredited	$253 per week	21.4%
Preschool, full day	*Non-Accredited*	$184 per week	
	Accredited	$226 per week	22.8%
School age, afterschool	*Non-Accredited*	$103 per week	
	Accredited	$135 per week	31.0%

Source: RMC statistical analysis of the cost of quality data.

Calculators can be designed or customized to more specific applications. For example, Calculator 2 displays the same results as Calculator 1, except that it shows estimates following

the new eight-age group scheme published in the Texas Register February 16, 2018, and issued in the March 2023 Texas Minimum Standards for Child-Care Centers (Tex. Admin. Code § 746.1601). The eight-age group scheme is intended to replace the four-age-group scheme from the prior calculator.

Calculator 2. Center Accreditation by Area, New Age Groups

The following calculator allows you to estimate the baseline cost of childcare by accrediation status based on your area and age group using the 8 age group scheme.

Please make the following selections to determine your baseline cost.

Step 1: Please select an area

Dallas

Double Click to Activate

Step 2: Please select an age group

Infant 0 to 11 months

Step 3: Please select an interval

Monthly

Estimating costs for full day care

0 to 11 months age group in the Dallas area	*Baseline monthly cost*	*Percent Premium for Accreditation*
Non-Accredited	$1013 per month	
Accredited	$1213 per month	19.7%

Source: RMC statistical analysis of the cost of quality data.

The possibilities for different ways to display the estimated incremental price cost of accreditation are endless, limited only by the imaginations of the authors, policymakers, stakeholders, and the questions they might ask. Additional examples follow.

Whereas the first two calculators provide estimates for different geographic areas of the state as divided into metropolitan areas, as well as less populated micropolitan and rural areas, that seem to best represent natural variation in child care costs, there is also interest in knowing how much accredited care costs in other areas defined by different geographic units. To address this possibility, we developed an extensive statistical model (see Appendix A) based on detailed

local data from a wide variety of sources to estimate pricing for accredited and non-accredited care at the county level. Calculator 3 presents the results of this estimation.

Calculator 3. Center Accreditation by County and Age

The following calculator allows you to estimate the baseline cost of childcare by accrediation status based on your county and age group.

Please make the following selections to determine your baseline cost.

Double Click to Activate

Step 1: Please select your county

Hopkins

Step 2: Please select an age group

Toddler (full day)

Step 3: Please select an interval

Monthly

Estimating costs for full day care. Estimates for counties in which few or no centers responded should be interpreted with caution.

Toddler age group in Hopkins County	*Baseline monthly cost*	*Percent Premium for Accreditation*
Non-Accredited	$624 per month	
Accredited	$747 per month	19.6%

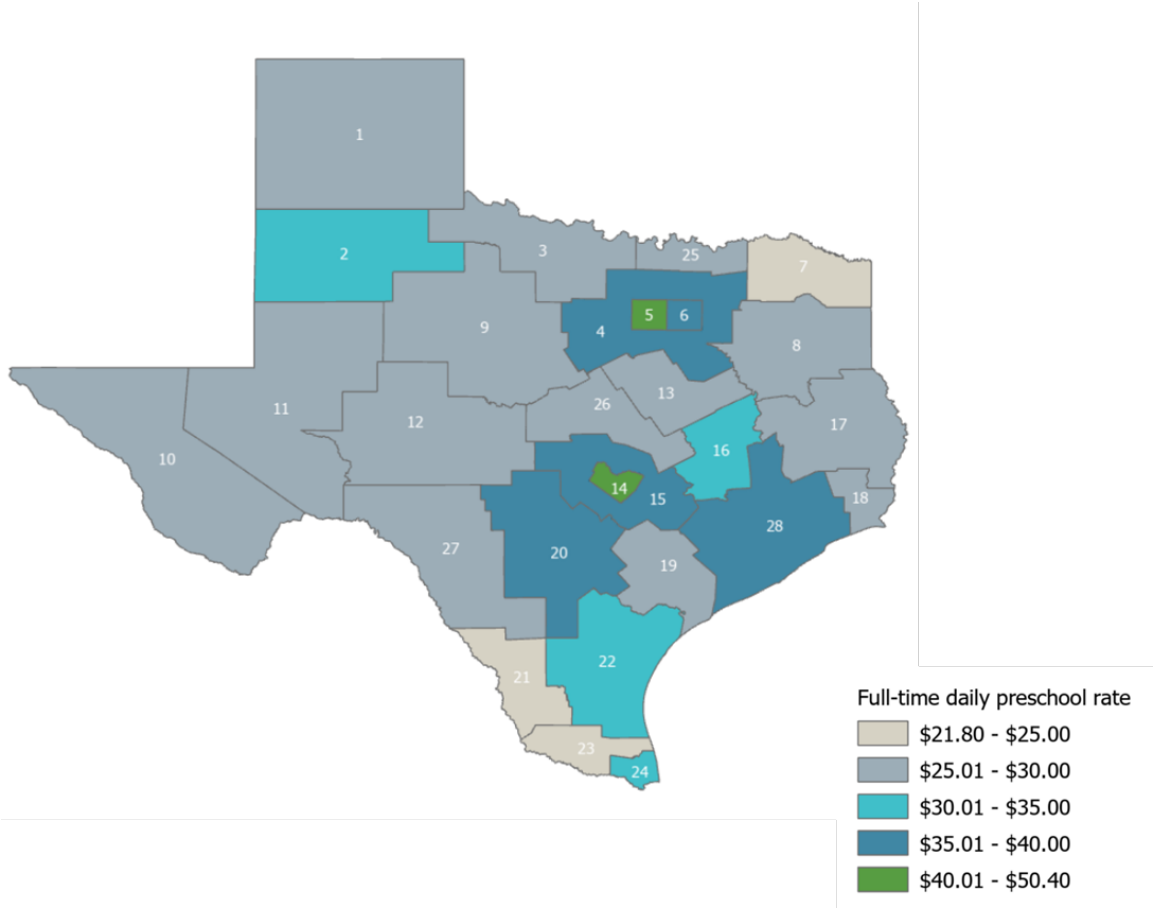
Source: RMC statistical analysis of the cost of quality data coupled with statistical modeling of publicly available data. Estimates based on the county are statistical approximations and do not imply that accredited or any child care is available in any listed county.

Calculator 3 can be utilized to show how pricing of care is concentrated and distributed within the larger areas on which most market-based pricing is currently gauged, such as local workforce development areas (LWDAs). For example, Harris County contains the urban core of the Houston area, but market rates for child care are typically reported for the entire Gulf Coast workforce development area, which is the largest in the state (by population) and encompasses 13 counties. But child care pricing is not homogenous within this area. Accredited care for full-day preschoolers is estimated to cost $221 per week in Harris County, for example. In contrast, just one county to the west in Waller County, accredited care for preschoolers is estimated to cost slightly less, at $207 per week. Meanwhile, in the heavily suburban Fort Bend County,

immediately southwest of Harris County, accredited care for preschoolers is estimated to cost more, at $233 per week.

The county-level estimates underlying Calculator 3 can also be aggregated to create summaries using other geographical schemes, for example, Local Workforce Development Area (LWDA). Estimated geographic variation in child care rates may be easier to visualize using a map like that in Figure 1, which illustrates LWDA-level estimates of the cost of preschooler care that were created by taking population-weighted averages of the county-level estimates. A quick visual survey of this figure shows many major metropolitan areas of the state are estimated to have among the most expensive care, as shown on the map in green and teal. For the most part, the least populated areas of the state are estimated to have the least expensive care, as shown on the map in beige and gray.

Figure 1. Estimated Full-Time Preschooler Rates by LWDA



Source: RMC statistical analysis of the cost of quality data coupled with statistical modeling of publicly available data. Estimates based on the county are statistical approximations and do not imply that accredited or any child care is available in any county.

Calculator 4 presents the estimated pricing of providing accredited vs non-accredited care by Local Workforce Development Area (LWDA).

Calculator 4. Center Accreditation by Local Workforce Area and Age

The following calculator allows you to estimate the baseline cost of childcare by accrediation status based on your local workforce area and age group.

Please make the following selections to determine your baseline cost.

Double Click to Activate

Step 1: Please select your local workforce area

13 Heart Of Texas

Step 2: Please select an age group

Preschool (full day)

Step 3: Please select an interval

Weekly

Estimating costs for full day care.

Preschool age group in local workforce area 13 Heart Of Texas	*Baseline weekly cost*	*Percent Premium for Accreditation*
Non-Accredited	$141 per week	
Accredited	$169 per week	19.9%

Source: RMC statistical analysis of the cost of quality data coupled with statistical modeling of publicly available data. Estimates based on local workforce areas are statistical approximations and do not imply that accredited or any child care is widely available in any listed area.

LWDAs comprise the unit of analysis underlying the bulk of reporting of Texas child care market data. However, the total population sizes and the availability of child care in the counties that comprise each LWDA vary widely, with the result being that for some areas, rates are estimated with far greater precision than for other areas. Thus, in some populous areas the estimates are based more on actual rate data, whereas in other, less populous areas the estimates lean more heavily on modeling. Both Calculator 3 and Calculator 4 give a warning when displaying estimates based on very little data; these estimates should be interpreted with caution.

TEXAS RISING STAR

Estimating the cost of providing care at varying levels of Texas Rising Star certification[17] was not possible for all quality tiers. In part due to the small numbers of Two-Star facilities, their pricing impacts were found to be inconsistent, and thus Two-Star centers are omitted from this analysis. As Calculator 5 shows, the incremental price of care at the Three-Star level is almost as much as the incremental price of care at the Four-Star level.

Texas Rising Star certified care at the Three-Star level is priced around 9 to 15 percent more on a statewide basis, as compared to non-certified care.[18] On the other hand, Texas Rising Star certified care at the Four-Star level is priced 12 to 19 percent more than non-certified care, depending on the age group. Unfortunately, due to limitations of the distribution of Three-Star providers across areas, estimates of the incremental pricing of Three-Star estimates were not available for sub-state areas, and only available on a statewide basis.

Calculator 5 also presents estimated pricing for Texas Rising Star certified care in various major metropolitan areas of the state, or for Micropolitan and rural areas of the state, geographic divisions that represent natural variation and require no approximations. As seen elsewhere, child care is far more expensive in major metropolitan areas and least expensive in micropolitan and rural areas. Although we have no evidence that the pricing of Texas Rising Star certification varies geographically, when the model estimates are computed as a percentage of non-certified rates, the pricing associated with Three-Star or Four-Star certification is typically a smaller percentage in areas with more expensive care.

[17] Note that certified facilities may or may not be accredited, and accredited facilities may or may not be certified, although some organizations' accreditation can lead to automatic 4-Star certification upon request.
[18] Note that the "non-certified" comparison group is distinct from the "non-accredited" comparison group above, although there is overlap between the two.

Calculator 5. Center Texas Rising Star by Area and Age

The following calculator allows you to estimate the baseline cost of childcare by Texas Rising Star certification level based on your area and age group.

Please make the following selections to determine your baseline cost.

Step 1. Please select an area

Austin

Double Click to Activate

Step 2: Please select an age group

Infant (full day)

Step 3: Please select an interval

Weekly

Estimating costs for full day care

Infant (full day) age group in the Austin area	*Baseline weekly cost*	*Percent Premium for TRS Certification*
Non-certified centers	$272 per week	
TRS 3 Star centers	not estimated	
TRS 4 Star centers	$298 per week	9.5%

Source: RMC statistical analysis of the cost of quality data.

Similar to national accreditation, there is also interest in knowing how much more Texas Rising Star certified care might cost, relative to non-certified care, in other areas defined by different geographic units. As above, we developed a statistical model based on detailed local data from a wide variety of sources to estimate pricing for Texas Rising Star certified and non-certified care at the county level. This model is similar to but distinct from the one used in the accreditation section above (see details in Appendix A). Calculator 6 below, like Calculator 3 did for national accreditation, estimates pricing for care provided at varying levels of Texas Rising Star at the county level rather than the metropolitan area.

Calculator 6. Center Texas Rising Star by County and Age

The following calculator allows you to estimate the baseline cost of childcare by Texas Rising Star certification level based on your county and age group.

Please make the following selections to determine your baseline cost.

Step 1. Please select your county

Dallas

Double Click to Activate

Step 2: Please select an age group

Infant (full day)

Step 3: Please select an interva

Monthly

Estimating costs for full day care

Infant age group in Dallas County	*Baseline monthly cost*	*Percent Premium for TRS Certification*
Non-certified centers	$944 per month	
TRS 3 Star centers	$1008 per month	6.8%
TRS 4 Star centers	$1035 per month	9.6%

Source: RMC statistical analysis of the cost of quality data coupled with statistical modeling of publicly available data. Estimates based on the county are statistical approximations and do not imply that accredited or any child care is available in any listed county.

Calculator 7 presents similar estimates to those in Calculator 6, except they have been aggregated to the local workforce area. As before, both Calculator 6 and Calculator 7 provide warnings to the user when displaying estimates for areas with few survey respondents, an indication that they are based more heavily on modeling and less on rate data.

Calculator 7. Center Texas Rising Star by Local Workforce Area and Age

The following calculator allows you to estimate the baseline cost of childcare by Texas Rising Star certification level based on your local workforce area and age group.

Please make the following selections to determine your baseline cost.

Step 1. Please select your local workforce area

5 Tarrant County

Double Click to Activate

Step 2: Please select an age group

Infant (full day)

Step 3: Please select an interval

Monthly

Estimating costs for full day care

Infant age group in local workforce area 5 Tarrant County	*Baseline monthly cost*	*Percent Premium for TRS Certification*
Non-certified centers	$1041 per month	
TRS 3 Star centers	$1108 per month	6.5%
TRS 4 Star centers	$1135 per month	9.1%

Source: RMC statistical analysis of the cost of quality data coupled with statistical modeling of publicly available data. Estimates based on local workforce area are statistical approximations and do not imply that accredited or any child care is widely available in any listed area.

PROGRAM ELEMENTS

This section provides context for the analysis of pricing of quality program components by first describing basic features of accredited and Texas Rising Star certified child care centers, and second by looking at external support factors that could impact pricing but are theoretically independent of quality.[19]

[19] Centers identified as accredited or non-accredited both include TRS certified and non-TRS certified centers.

Elements of Program Structure

Basic elements of the ECE program structure are discussed here, including the age ranges of children served and whether providers maintained waitlists for each age range. Child care can be difficult to find, particularly for those parents with infants, and to a lesser extent, toddlers. Thus, the existence of provider waitlists for child care identifies categories of care for which demand for care exceeds the supply available. Table 6 breaks down these features for accredited vs non-accredited centers, while Table 7 does so for Texas Rising Star certified vs non-certified centers (more detailed versions of these tables, including sample sizes and additional statistics, are included in Appendix A).

Examination of Table 6 indicates that while essentially all centers serve preschoolers, accredited centers are slightly more likely to serve toddlers. The waitlist data confirm the common observation that demand exceeds supply for the youngest children, as those seeking infant or toddler care are more likely to encounter a waitlist for such care. However, in contrast to findings from the 2021 version of this report, waitlists are now common among both accredited and non-accredited facilities. This could be an indication that the matching done this year (see Appendix A) produced better-matched comparison groups.

Table 6. Elements of Program Structure by Accreditation

	Non-Accredited	Accredited	Accreditation Difference
Center serves…			
Infants	78.1%	85.9%	+7.8%
Toddlers	85.4%	94.3%	+8.9% *
Preschoolers	100.0%	98.9%	-1.1%
School-age children	69.5%	68.4%	-1.1%
Waitlist exists for…			
Full-time infants	85.7%	75.7%	-10.0%
Full-time toddlers	65.8%	55.4%	-10.4%
Full-time preschoolers	44.0%	36.7%	-7.3%
Full-time school-age children	31.7%	31.2%	-0.5%

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Table 7 identifies similar but generally stronger patterns of differences between non-certified and Texas Rising Star certified centers for age categories of children served. Both Three-Star and Four-Star certified centers are significantly more likely to serve infants and Four-

Stars more likely to serve toddlers, as compared to non-certified centers. As with accreditation above, the differences in waitlists for TRS-certified vs non-certified care are not statistically significant. Again, this could suggest better-matched comparison groups due to changes in the study design.

Table 7. Elements of Program Structure by Texas Rising Star

	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Center serves…					
Infants	54.1%	70.3%	+16.2% *	82.6%	+28.5% **
Toddlers	76.8%	78.0%	+1.2%	90.8%	+14.0% **
Preschoolers	100.1%	100.1%	0%	98.7%	-1.4%
School-age children	81.1%	88.1%	+7.0%	70.8%	-10.3% *
Waitlist exists for…					
Full-time infants	77.8%	66.3%	-11.5%	76.6%	-1.2%
Full-time toddlers	62.5%	45.7%	-16.8%	61.6%	-0.9%
Full-time preschoolers	43.9%	36.8%	-7.1%	43.8%	-0.1%
Full-time school-age children	34.9%	34.7%	-0.2%	38.7%	+3.8%

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Table 8 displays the Texas Rising Star Four-Star difference and the accreditation difference from the prior two tables side-by-side for easy comparison of these two major quality 'effects,' relative to their respective comparison groups. The common findings are that higher quality facilities are more likely to serve toddlers, but not more likely to have waitlists for care.

Table 8. Elements of Program Structure, Four-Star vs Accreditation Effects

	Texas Rising Star Four-Star Difference	Accreditation Difference
Center serves…		
Infants	+28.5% **	+7.8%
Toddlers	+14.0% **	+8.9% *
Preschoolers	-1.4%	-1.1%
School-age children	-10.3% *	-1.1%
Waitlist exists for…		

Full-time infants	-1.2%	-10.0%
Full-time toddlers	-0.9%	-10.4%
Full-time preschoolers	-0.1%	-7.3%
Full-time school-age children	+3.8%	-0.5%

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

External Supports

The ultimate goal of the price calculators in the next section is to estimate pricing for structural components of quality care, relative to pricing associated with 'baseline' care that simply meets minimum state standards. But first, to improve the estimation of pricing for care, in this section, we look at some measured factors that may be related to prices charged but not necessarily related to quality. The goal is to improve the accuracy of our final pricing of quality models by statistically accounting for these extraneous cost factors.

Direct external supports to a child care facility may consist of free or reduced-cost services, and financial or other donations the facility may receive. In addition, other more subtle forms of support could be observed through affiliations or associations between a child care facility and other organizations such as churches or schools.

Financial support

Additional sources of income, beyond that paid directly by families may help to lower the cost of care, and thus must be accounted for in estimating the pricing of quality care. The present survey assessed eight sources of such external supports, narrowing the list from the prior version of this study by half by focusing on the sources most important for pricing. These include four potential sources of donations and four free or reduced-cost services (see the first column of Table 9; see Appendix B, pp. B-6 and B-7, items 31 and 34, for the survey items).

Table 9 shows the percentages of accredited and non-accredited centers that reported receiving financial donations or reduced-cost services. One of the most common supports reported is the Child and Adult Care Food Program (CACFP), a federal program that provides reimbursements for nutritious meals and snacks to eligible children who are enrolled for care at participating centers. In direct contrast to what was seen in 2021, accredited centers are now substantially more likely to receive this support, with more than 40 percent of accredited centers participating in the CACFP program. Perhaps not coincidentally, finding "new, sustainable revenue streams" is one focus of business coaching made available by TWC in recent years to any child care providers in Texas (for example, Curantis LLC, 2023).

Both accredited and non-accredited centers are also much more likely to report receiving support from the local, state, or federal government than they did in 2021, perhaps reflecting the pandemic-era support programs discussed earlier. Accredited centers are almost twice as likely as non-accredited centers to have received such support. In fact, receipt of external supports seems to be higher overall, in comparison to the levels seen in 2021.

Table 9. External Supports: Donations and Reduced Cost Services by Accreditation

	Non-Accredited	Accredited	Accreditation Difference
Financial donations			
Federal Child Care Food Program	24.1%	42.4%	+18.3% **
Local, state or federal government funding	26.3%	46.4%	+20.1% **
Private or individual donations	22.6%	28.4%	+5.8%
Other donations	4.3%	7.7%	+3.4%
Reduced cost services			
Building use	25.1%	17.0%	-8.1%
Utilities	12.9%	9.8%	-3.1%
Volunteer work	2.8%	8.0%	+5.2%
Other	0.8%	0.9%	+0.1%

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05

Turning now to Texas Rising Star certified centers in Table 10, we find even greater receipt of financial support from the CACFP food program, with 60 or more percent of Three-Star and Four-Star centers receiving this support. The "non-certified" comparison group in Table 10 was about half as likely to receive this support.

Table 10. External Supports: Donations and Reduced Cost Services by Texas Rising Star Status

	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Financial donations					
Federal Child Care Food Program	28.7%	60.5%	+31.8% **	61.0%	+32.3% **
Local, state or federal government funding	33.8%	54.5%	+20.7% *	45.5%	+11.7% *
Private or individual donations	26.8%	17.8%	-9.0%	19.6%	-7.2%
Other donations	5.1%	2.4%	-2.7%	9.4%	+4.3%
Reduced cost services					
Building use	27.0%	25.9%	-1.1%	20.3%	-6.7%
Utilities	24.0%	20.5%	-3.5%	12.4%	-11.6% **
Volunteer work	3.0%	2.4%	-0.6%	5.2%	+2.2%
Other	0.4%	0.0%	-0.4%	1.1%	+0.7%

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-certified at p<.01, *= at p<.05

Three-Star and Four-Star certified providers were also more likely to report receiving local, state, or federal government support, as compared to non-certified centers. Aside from the government support and the food program, the vast majority of certified and non-certified centers do not receive external financial supports or reduced-cost services.

Table 11 displays the Texas Rising Star Four-Star difference and the Accreditation differences in external supports from the prior two tables in a side-by-side format to simplify comparison of these two major quality 'effects.' Again, the common findings among higher quality providers are for increased food program support, and government support more generally.

Table 11. External Supports, Four-Star vs Accreditation Effects

	Texas Rising Star Four-Star Difference	Accreditation Difference
Financial Donations		
Federal Child Care Food Program	+32.3% **	+18.3% **
Local, state or federal government funding	+11.7% *	+20.1% **
Private or individual donations	-7.2%	+5.8%
Other donations	+4.3%	+3.4%
Reduced cost services		
Building use	-6.7%	-8.1%
Utilities	-11.6% **	-3.1%
Volunteer work	+2.2%	+5.2%
Other	+0.7%	+0.1%

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Associations or Affiliations

Child care centers that affiliate with other organizations, such as a churches or schools, may also experience cost benefits through these associations that they may not have been aware of, and not reported as direct financial support on the survey questions discussed above. Potential benefits of affiliation may include free or reduced costs in building use, utilities, equipment, and/or supplies, among others. The data presented in Table 12 indicate that non-accredited centers are much more likely to be associated with a church or religious organization than accredited centers, a difference not seen in 2021.

Table 12. Associations or Affiliations by Accreditation

Associations	Non-Accredited	Accredited	Accreditation Difference
Church or religious organization	54.4%	19.4%	-35.0% **
School	12.5%	9.3%	-3.2%

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05

Similarly, as shown in Table 13, Three-Star and Four-Star centers are much less likely to be affiliated with churches than non-certified centers. This was a new finding compared to 2021, but the relative absence of affiliation between Four-Star providers and schools was not new.

Table 13. Associations or Affiliations by Texas Rising Star

	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Church or religious organization	41.1%	14.0%	-27.1% **	21.5%	-19.6% **
School	23.2%	22.4%	-0.8%	10.4%	-12.8% **

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-certified at p<.01, *= at p<.05

Table 14 displays the Texas Rising Star Four-Star difference and the Accreditation difference columns from the two tables above in a side-by-side format, allowing for quick comparison of the quality 'effects' of the two quality rating systems. The only consistent tendency is for higher quality centers not to be affiliated with churches.

Table 14. Associations or Affiliations, Four-Star vs Accreditation Effects

	Texas Rising Star Four-Star Difference	Accreditation Difference
Church or religious organization	-19.6% **	-35.0% **
School	-12.8% **	-3.2%

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

We used a price model to simultaneously test all the potential external support factors discussed in this section, including financial supports, reduced-cost services, and associations. We found eight sources that each bear a strong and independent statistical relationship with prices charged for care. Some child care centers receive a public service benefit from their local utility provider that reduces their utility costs, savings which are then passed on to parents. Others receive volunteer labor from parents, or the use of reduced cost building space. Often, meals and snacks served to children are included in the cost of services, but child care facilities participating in the CACFP receive funds from the federal government to provide meals and snacks, savings which appear to be passed on to parents. In addition to these factors, we found that some associations, such as with churches or religious organizations and schools, were reliably associated with the pricing of care.

The single biggest factor among the external supports studied here is participation in the Federal Child Care Food program, which we found in 2021 to be associated with a reduction in the price of care of between ten and twenty percent (CQPMR). We do not include a calculator for external supports here, as the goal is not pricing guidance but to statistically control for external

supports as described next. There are other ways to compare the level of external supports from then to now. One way to compare the current 2023 analysis of external supports to that done in 2021 is to examine the overall proportion of variance in prices accounted for by the external supports model. In 2021, the external supports model accounted for 15 percent of variation in prices (R-squared = 0.15), whereas this 2023 model accounts for 23 percent of variation in child care prices (R-squared = 0.23). Thus, it is fair to conclude that external supports play a large role in the pricing for child care, even larger than the role they played the prior study.

The logic behind this analysis of external supports suggests that if we can account for the cost difference among facilities that receive services or donations, or those that participate in the federal food program, we have a better chance of more precisely estimating the pricing for quality factors in which we are interested. In the analysis of quality factors in centers presented below, external supports are controlled statistically by the inclusion of a composite measure in the model (see Appendix A for model details). The ultimate effect of this approach is that the estimated prices are adjusted to reflect what they would be if all centers received the average amount of external support. This helps to isolate the estimated price of quality factors, the signal of interest, by reducing the influence of noise, in this case, the external supports.

COMPONENTS OF QUALITY CARE

Having established a reasonable method for controlling extraneous pricing differences among centers in their levels of external supports, we turn our attention to structural quality factors, which represent choices that center directors can make to affect the level of quality care provided.

The current model of ECE quality is founded on the interactions between the caregiver and the young child, referred to as process quality, which includes children's daily experiences while they interact with caregivers, the environment, and the pedagogy of curriculum implementation (Slot et al., 2015). The current model suggests that early child development is influenced directly by process quality and indirectly by program structural factors such as ECE providers' education and training, the ratio of children to providers, group sizes, and providers' wages and benefits, among other factors. A simplified view of the current ECE model suggests that structural quality factors support the process quality that influences child outcomes. Thus, structural quality factors indirectly influence child outcomes (Burchinal et al, 2015). Essentially all of the components of quality care measured in this survey and discussed here in relation to child care pricing are structural quality factors that can be measured by objective indicators and are potentially subject to policy regulations and funding decisions.

In this section, elements related to structural quality factors of care are discussed, with particular focus on how they differ between nationally accredited and non-accredited centers, as well as between Texas Rising Star certified and non-certified centers. This comparison shows the extent to which these quality factors are actually utilized or implemented by centers that have achieved accreditation or each level of certification. In other words, they represent common policy levers used by center directors to implement higher quality. The following elements that support the structural quality of ECE programs are discussed: staffing ratios and staff turnover; staff education and experience; staff training expenses; earnings and benefits; and curriculum, assessment, and staff planning time.

Staffing Patterns

Early childhood socioecological, attachment, and learning theories present child development frameworks based on the quality of the relationship between the caregiver and child (Bronfenbrenner, U., & Morris, P., 2006; Ainsworth, M., 1989; and Gopnik, A., Meltzoff, A., & Kuhl, P., 1999). Child care models of quality are built upon these theories holding that the quantity and quality of interactions between a young child and his or her primary caregivers, including ECE providers, are the most important factors in early development (Burchinal, M., 2018). One central premise of the ECE quality model purports that lower children per teacher ratios improve child outcomes by increasing opportunities for individual interactions and educational instruction from caregivers. Research on this factor has reported modest effect sizes on children's outcomes for fewer children per teacher or smaller group sizes (Mashburn, A., et al., 2008), with the strongest effect of child-to-caregiver ratio upon children's outcomes occurring in groups of younger children: infants and toddlers.[20]

The following tables present information on staffing ECE centers, including child-to-caregiver ratios and group sizes as measured by teacher to classroom ratios.

[20] Information on Texas Day Care Licensing Standards ratios and group size is available at: Texas Department of Family and Protective Services. Minimum Standards for Child Care Centers. 2018. Available at: https://hhs.texas.gov/doing-business-hhs/provider-portals/protective-services-providers/child-care-licensing/minimum-standards

Table 15. Child and Teacher Ratios by Accreditation

	Non-Accredited	Accredited	Accreditation Difference
Children per teacher ratio			
Infants	4.1	4.1	0
Toddlers	6.9	7.0	+0.1
Preschoolers	9.4	10.7	+1.3 *
School-age children	13.9	17.8	+3.9 **
Teachers per classroom ratio			
Infants	2.0	2.1	+0.1
Toddlers	1.7	1.8	+0.1
Preschoolers	1.7	1.6	-0.1
School-age children	1.5	1.4	-0.1

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05

Unexpectedly, the data on children per teacher ratios shown in Table 15 revealed essentially no statistically significant differences in ratios in the expected direction. The data suggest that on average, accredited centers in Texas simply do not appear to be caring for fewer children per teacher as the ECE quality model would predict. In fact, the one consistently significant finding for ratios was for school-age children and was opposite in direction: accredited centers tend to care for more school-age children per teacher than non-accredited centers.

Table 16 illustrates essentially the same finding for Texas Rising Star Four-Star providers, who were found to take care of significantly more school-age children per teacher. We call these results unexpected because they go against the expectations of the standard ECE quality model, but in fact they should have been expected because the results fell into the same patterns in the 2021 version of this report. The fact that these findings were replicated across the 2021 and 2023 reports, and across designation systems (accreditation and Texas Rising Star), lends confidence that these are real findings. The higher ratios for school-age children at higher quality centers could indicate that such centers commonly boost quality for younger children by relying on the greater profit margins typically generated in the provision of school-age care.

Regarding group sizes, there were no significant differences between accredited centers and non-accredited centers in the reported number of teachers per classroom. The same was true for Texas Rising Star certified providers, for whom the reported number of teachers per classroom were no different in comparison to non-certified providers.

Table 16. Child and Teacher Ratios by Texas Rising Star

	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Children per teacher ratio					
Infants	4.3	4.0	-0.3	4.3	0
Toddlers	7.0	7.1	+0.1	7.2	+0.2
Preschoolers	10.1	11.5	+1.4	10.7	+0.6
School-age children	13.3	15.0	+1.7	15.6	+2.3 **
Teachers per classroom ratio					
Infants	1.9	1.9	0	1.9	0
Toddlers	1.7	1.7	0	1.7	0
Preschoolers	1.5	1.6	+0.1	1.5	0
School-age children	1.6	1.4	-0.2	1.4	-0.2

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Table 17 facilitates comparison of the Four-Star and Accreditation effects on child and teacher ratios. Again, the primary pattern that emerges is higher children per teacher ratios for school age children in higher quality centers.

Table 17. Child and Teacher Ratios, Four-Star vs Accreditation Effects

	Texas Rising Star Four-Star Difference	Accreditation Difference
Children per teacher ratio		
Infants	0	0
Toddlers	+0.2	+0.1
Preschoolers	+0.6	+1.3 *
School-age children	+2.3 **	+3.9 **
Teachers per classroom ratio		
Infants	0	+0.1
Toddlers	0	+0.1
Preschoolers	0	-0.1
School-age children	-0.2	-0.1

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Given that labor expenses represent one of the biggest cost areas to centers, one might expect children per teacher ratios to bear a strong and obvious relationship to prices charged for care, even in the absence of evidence that accredited or certified centers have lower ratios. Unfortunately, a clear link between ratios and pricing has been difficult to establish, both in the 2021 report and now.

The 2021 CQPMR report included a calculator featuring the best price model with children per teacher ratios included. Although it illustrated some factors important to child care pricing, children per teacher ratios did not emerge as an important determinant, and thus the calculator did not provide reliable pricing guidance on ratios. Similarly, efforts behind this 2023 report did not yield a compelling price model on which to base a decent ratios calculator. Because we have determined to limit the calculators in this report to only those that provide decent or better pricing guidance, no ratio calculator is included here.

This seemingly null effect is an important finding, separate from the finding that higher quality providers do not appear to serve fewer children per teacher. The fact that children per teacher ratios do not strongly correlate with pricing suggests that other variables are interfering, and perhaps suppressing the ratio-pricing effect. To test this possibility, we ran separate multivariate models for each age group, in which ratios were pitted against other structural policy levers to find the best model for predicting price. In each case, we found that holding other quality levers constant caused the ratio effect on price to disappear. The mechanism was slightly different in each age group, but all of the models prominently featured staff wages and education levels. This suggests that providers on average compensate for low children per teacher ratios by, for example, paying staff less, or by employing staff with lesser education levels, and this largely blunts the impact of ratios on prices charged.

Turning to other ECE staffing measures, the following tables present information on the use of part-time staff, staff turnover rates, whether the director regularly provides care, and how staff absences are covered in the classroom.

Table 18. Staffing Patterns by Accreditation

	Non-Accredited	Accredited	Accreditation Difference
Part-time staffing ratio: Percent of staff members that are part-time	35.7%	21.2%	-14.5% **
Turnover ratio: percent of teachers leaving in the last year	30.7%	35.6%	+4.9%
Director provides direct care on a regular basis (as opposed to filling in)	15.5%	9.0%	-6.5%

Cover for absent staff: director substitutes	4.8%	11.5%	+6.7%
Cover for absent staff: existing staff member substitutes	78.1%	73.8%	-4.3%

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05

Table 18 indicates that accredited centers employ fewer part-time staff than non-accredited centers. This replicates the findings from the 2021 CQPMR of lesser reliance on part-time staff among accredited providers.

Central to the practice of quality care is a stable, consistent, and nurturing relationship between child and teacher. Professional organizations and researchers report varying and concerning statistics regarding staff turnover. A 2015 Child Care Aware, Inc. report reported a staff turnover rate as high as 25 percent, while Whitebook, Phillips, and Howes (2014), reported a 2012 mean staff turnover rate at child care centers of 13 percent.[21] In the 2021 CQPMR we reported lower turnover among accredited centers, but that effect was not replicated here. The turnover rate in both accredited and non-accredited centers in this study is high, at over 30 percent.

Table 18 does not show significant differences among Texas Rising Star levels in how teacher absences are covered.

Similar to the findings for accreditation, Table 19 indicates that Three-Star and Four-Star centers generally employ fewer part-time staff compared to non-certified centers. Three-Star centers showed a puzzlingly high turnover rate, which was not observed in 2021 and may be anomalous.

Table 19. Staffing Patterns by Texas Rising Star

	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Part-time staffing ratio: Percent of staff members that are part-time	43.1%	30.4%	-12.7% *	22.4%	-20.7% **

[21] New data on staff turnover was collected by the 2019 National Survey of Early Care and Education and will be available by summer 2021. Visit: https://www.childandfamilydataarchive.org/cfda/archives/cfda/studies/37886

Turnover ratio: percent of teachers leaving in the last year	38.3%	64.3%	+26.0% **	37.0%	-1.3%
Director provides direct care on a regular basis (as opposed to filling in)	18.2%	18.0%	-0.2%	17.3%	-0.9%
Cover for absent staff: director substitutes	20.5%	17.9%	-2.6%	11.3%	-9.2% *
Cover for absent staff: existing staff member substitutes	60.0%	73.1%	+13.1%	77.8%	+17.8% **

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-certified at p<.01, *= at p<.05

The tendency of Four-Star centers to be more likely to have an existing staff member substitute for absent staff, and less likely to have the director cover for them, is a replication of this finding from 2021.

Table 20 facilitates comparison of the Four-Star and Accreditation effects on staffing patterns. Again, the only consistent finding is reduced reliance on part-time staff among higher quality providers.

Table 20. Staffing Patterns, Four-Star vs Accreditation Effects

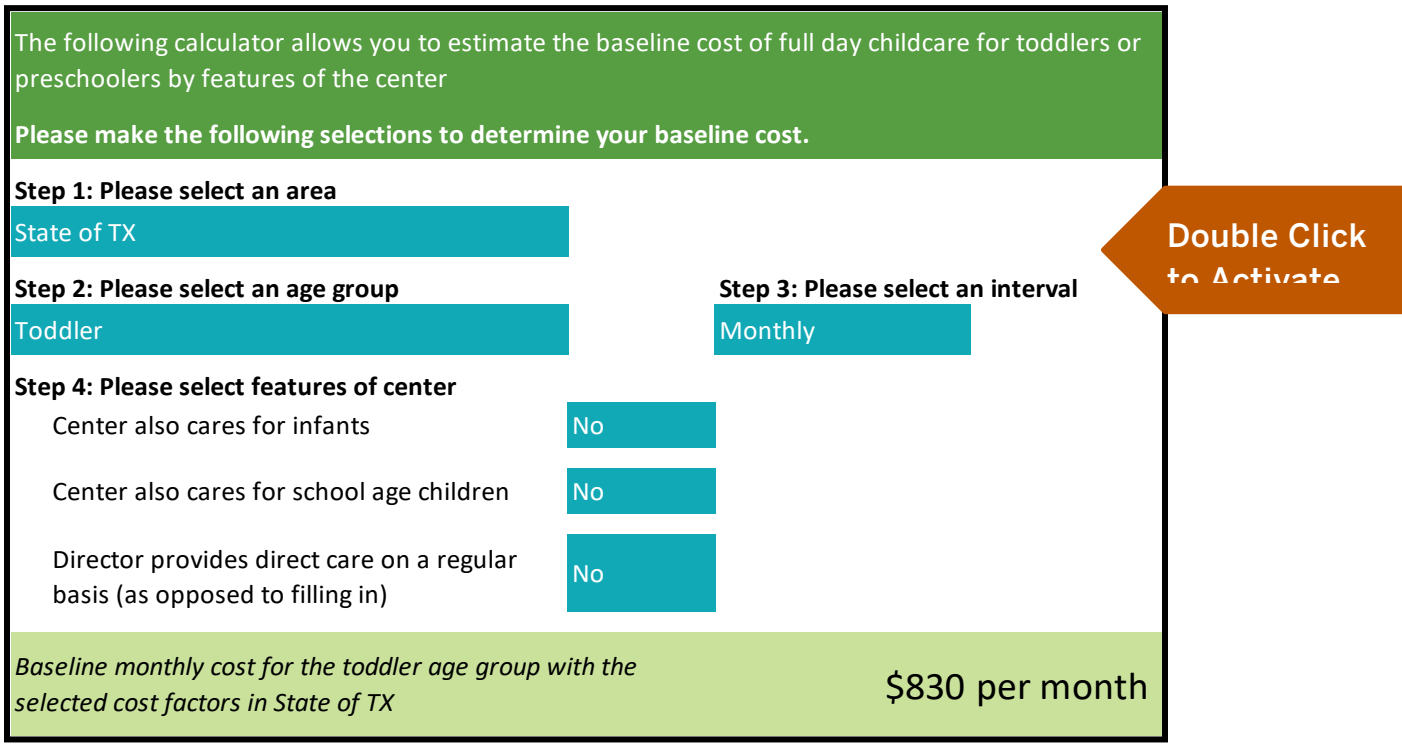
	Texas Rising Star Four-Star Difference	Accreditation Difference
Part-time staffing ratio: Percent of staff members that are part-time	-20.7% **	-14.5% **
Turnover ratio: percent of teachers leaving in the last year	-1.3%	+4.9%
Director provides direct care on a regular basis (as opposed to filling in)	-0.9%	-6.5%
Cover for absent staff: director substitutes	-9.2% *	+6.7%
Cover for absent staff: existing staff member substitutes	+17.8% **	-4.3%

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

One approach to modeling prices charged for care based in part on staffing is shown in Calculator 8. A unique feature of Calculator 8 is that it tests for cross-subsidization of pricing across age groups by focusing narrowly on prices for toddlers and preschoolers, then including factors indicating whether the center also serves the youngest (infants) and oldest (school-age) children.

Indeed, the results indicate that price subsidization does seem to occur among centers that serve infants: their rates for toddlers and preschoolers are higher than those of centers that do not serve infants. It is widely recognized that care for infants is expensive to provide, so much so that many facilities do not serve this age group at all or serve them in limited numbers. This evidence points to a pricing strategy that may help to keep infant care somewhat affordable, by spreading the costs to parents of older children. Cross-subsidization was also observed among centers that serve school-age children, with cost savings in that age group apparently lowering the costs for toddlers and preschoolers. Similar cross-subsidization effects were also observed in 2021, thus these replicated findings seem to be robust.

Calculator 8. Center Facility Features and other Pricing Factors



Source: RMC statistical analysis of the cost of quality data plus publicly available data.

Finally, the staffing strategy of having the director provide direct care on a regular basis was also found to play a role in pricing. This was a new measure introduced for the 2023 survey. The calculator shows that providers that use this strategy often charge in the range of 10 percent less than providers for whom the director does not regularly provide care.

Director Education and Experience

Also new for the 2023 version of this study are several measures of the director's level of education and experience. As shown in Table 21, these measures show directors to have impressive qualifications overall, but directors of accredited providers do not tend to be more educated or experienced than directors of non-accredited centers.

Table 21. Director Education and Experience by Accreditation Status

Director has…	Non-Accredited	Accredited	Accreditation Difference
Highest degree - High school or GED	15.5%	8.0%	-7.5%
Highest degree - Associate or some college	32.5%	28.4%	-4.1%
Highest degree – Bachelor's	33.6%	43.3%	+9.7%
Highest degree – Master's or above	18.5%	20.3%	+1.8%
CDA credential	35.1%	36.3%	+1.2%
Child Care Administrator certificate or credential	85.6%	85.5%	-0.1%
Years of experience	24.0	22.0	-2.0

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05

The typical director has a bachelors or higher degree and twenty or more years of experience in ECE. More than a third of directors have Child Development Associate credentials, and around 85 percent have a Child Care Administrators credential. Table 22 shows similar patterns when comparing directors of Texas Rising Star Three-Star and Four-Star providers against directors of non-certified centers, with one exception. Directors of Three-Star centers are more likely to have a Child Care Administrators credential, but since these are relatively common among directors overall, it is difficult to draw conclusions regarding this isolated finding.

Table 22. Director Education and Experience by Texas Rising Star

Director has…	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Highest degree - High school or GED	14.6%	15.9%	+1.3%	10.5%	-4.1%
Highest degree - Associate or some college	37.0%	30.1%	-6.9%	40.4%	+3.4%
Highest degree – Bachelor's	30.5%	45.3%	+14.8%	36.8%	+6.3%
Highest degree – Master's or above	17.9%	8.8%	-9.1%	12.3%	-5.6%
CDA credential	34.5%	29.4%	-5.1%	41.9%	+7.4%
Child Care Administrator certificate or credential	80.7%	94.2%	+13.5% *	87.9%	+7.2%
Years of experience	23.4	19.0	-4.4 *	24.3	+0.9

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05. Texas Rising Star certified Four-Star centers may also have national accreditation.

Table 23 illustrates the comparison of the Four-Star and accreditation effects on director education and experience levels. As noted, there are few or no differences in education and experience among directors of higher versus lower quality providers.

Table 23. Director Education and Experience, Four-Star vs Accreditation Effects

Director has…	Texas Rising Star Four-Star Difference	Accreditation Difference
Highest degree - High school or GED	-4.1%	-7.5%
Highest degree - Associate or some college	+3.4%	-4.1%
Highest degree – Bachelor's	+6.3%	+9.7%
Highest degree – Master's or above	-5.6%	+1.8%
CDA credential	+7.4%	+1.2%
Child Care Administrator certificate or credential	+7.2%	-0.1%
Years of experience	+0.9	-2.0

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Staff Education and Experience

A meta-analysis of studies related to teacher educational attainment and the ECEC environment as measured by Environmental Rating Scales (ERSs), identified that higher teacher qualifications are significantly correlated with higher quality ECEC environments (Manning, et al., 2019). In addition, research has found that providing professional development to teachers, including ongoing training and coaching, can improve classroom quality and teachers' instructional practices as well as children's outcomes (Clements, D. et al., 2011; Powell, D. et al., 2010). The following two tables in this section examine the relationships between accreditation or Texas Rising Star certification and staff education and experience levels. As such, they represent the extent to which quality care is implemented through the hiring and retention of more educated and experienced staff.

Table 24 shows staff education and experience, revealing that the most common highest level of education among ECE staff members is a high school diploma (HSD) or GED. In general, comparing accredited to non-accredited enters shows that accredited centers participating in this study tended to employ staff with higher educational attainment, as compared to non-accredited centers. Accredited centers employ fewer HSD/GED staff than do non-accredited centers. Conversely, accredited centers employed more staff with Associate degrees and child development associate (CDA) credentials, compared to non-accredited centers. The pattern of

these findings essentially replicates the staff education findings from 2021, except that no differences in experience levels were seen among accredited facilities in the present wave.

Table 24. Staff Education and Experience by Accreditation Status

Staff have…	Non-Accredited	Accredited	Accreditation Difference
Highest degree - High school or GED	72.1%	56.6%	-15.5% **
Highest degree - Associate or some college	7.6%	16.7%	+9.1% **
Highest degree – Bachelor's	17.3%	21.1%	+3.8%
Highest degree – Master's or above	2.5%	2.3%	-0.2%
CDA credential	9.0%	20.9%	+11.9% **
8 or more years of experience working in ECE	46.1%	46.2%	+0.1%
< 3 years of experience working in ECE	25.4%	25.6%	+0.2%

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05

Table 25 illustrates this comparison for Texas Rising Star certified vs non-certified centers. Similar to accreditation, the data indicate that Four-Star centers have higher proportions of staff with Associate degrees and child development associate (CDA) credentials, compared to non-certified centers. Further, Four-Star centers have fewer inexperienced staff, as measured by those with less than three years of experience, and more experienced staff, in comparison to non-certified centers.

The differences between Texas Rising Star Three-Star centers and non-certified centers are quite modest. In contrast, the comparisons between Four-Star centers and non-certified centers were more robust.

Table 25. Staff Education and Experience by Texas Rising Star

Staff have…	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Highest degree - High school or GED	71.7%	74.6%	+2.9%	68.8%	-2.9%
Highest degree - Associate or some college	8.6%	13.6%	+5.0%	15.0%	+6.4% **
Highest degree – Bachelor's	15.6%	9.2%	-6.4%	11.9%	-3.7%

Highest degree – Master's or above	3.0%	1.8%	-1.2%		1.7%	-1.3%	
CDA credential	9.1%	15.9%	+6.8%		25.2%	+16.1%	**
8 or more years of experience working in ECE	39.3%	27.5%	-11.8%	**	45.7%	+6.4%	*
< 3 years of experience working in ECE	35.5%	38.4%	+2.9%		26.6%	-8.9%	**

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05. Texas Rising Star certified Four-Star centers may also have national accreditation.

Table 26 illustrates the comparison of the Four-Star and Accreditation effects on staff education and experience levels. Common to both quality frameworks were higher proportions of staff members with Associate degrees and CDA credentials.

Table 26. Staff Education and Experience, Four-Star vs Accreditation Effects

Staff have...	Texas Rising Star Four-Star Difference		Accreditation Difference	
Highest degree - High school or GED	-2.9%		-15.5%	**
Highest degree - Associate or some college	+6.4%	**	+9.1%	**
Highest degree – Bachelor's	-3.7%		+3.8%	
Highest degree – Master's or above	-1.3%		-0.2%	
CDA credential	+16.1%	**	+11.9%	**
8 or more years of experience working in ECE	+6.4%	*	+0.1%	
< 3 years of experience working in ECE	-8.9%	**	+0.2%	

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Although we have developed pricing calculators for centers that utilize staff education and experience to estimate child care pricing, none of them make a compelling case for substantial price swings based on the education or experience levels of the staff. Thus, they are not presented here.

Staff Training

In-service training, that is training provided to staff during their employment, is an ongoing requirement of Texas HHSC Child Care Regulation, Texas Rising Star certification, and national accreditation organizations. Research has reinforced the importance of ongoing training for ECE teachers. A meta-analysis of randomized controlled trials, published articles, and dissertations measuring the effects of in-service training reported that training is generally

effective in improving child care quality, caregiver interaction skills, and children's development (Werner et al, 2016). Staff training varies in cost from conferences that may include travel and accommodation expenses, to relatively affordable online and onsite training. Texas Rising Star certified providers have access to no-cost training supports through their local Boards and the Children's Learning Institute (CLI). Local Boards use quality funding to offer face-to-face training opportunities that are accessible to many programs and that can be provided at individual centers or the locations in their service area. They may also offer centers grants to attend other types of trainings and conferences. Further, the CLI offers Texas Rising Star certified centers no-cost online training resources, including CDA classes.

The data in Table 27 show no significant differences in training expenses paid by accredited vs non-accredited centers. Over half of all accredited and non-accredited centers reported paying conference and workshop training fees, and over 60 percent of accredited and non-accredited centers report paying onsite training fees.

Table 27. Staff Training by Accreditation

	Non-Accredited	Accredited	Accreditation Difference
Conference or workshop fees	60.3%	51.2%	-9.1%
Online training fees	65.2%	58.5%	-6.7%
Onsite training fees	72.5%	64.4%	-8.1%
Payments to substitutes to cover the classroom while staff are in training	21.3%	19.0%	-2.3%
Travel costs for off-site training	19.9%	28.2%	+8.3%

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05

Turning to training by Texas Rising Star status, Table 28 indicates that Three-Star centers were not distinguishable from non-certified centers in the reporting of training expenses, regardless of the type of training. Four-Star centers did report a lesser likelihood of having expenses for online training, as compared to non-certified centers.

Table 28. Staff Training by Texas Rising Star

	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Conference or workshop fees	61.9%	58.7%	-3.2%	52.5%	-9.4%
Online training fees	71.3%	74.1%	+2.8%	54.3%	-17.0% **

Onsite training fees	70.7%	61.2%	-9.5%	63.7%	-7.0%
Payments to substitutes to cover the classroom while staff are in training	19.4%	7.7%	-11.7%	19.6%	+0.2%
Travel costs for off-site training	33.6%	36.6%	+3.0%	33.0%	-0.6%

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-certified at p<.01, *= at p<.05

Table 29 compares the Texas Rising Star Four-Star effects against the Accreditation effects on measures of staff training. These mostly null effects stand in contrast to the 2021 findings, many of which were not replicated here. Four-Star providers being less likely to pay for online training in 2023 may be the exception, since in 2021 it was accredited providers who were less likely to pay for online training.

Table 29. Staff Training, Four-Star vs Accreditation Effects

	Texas Rising Star Four-Star Difference	Accreditation Difference
Conference or workshop fees	-9.4%	-9.1%
Online training fees	-17.0% **	-6.7%
Onsite training fees	-7.0%	-8.1%
Payments to substitutes to cover the classroom while staff are in training	+0.2%	-2.3%
Travel costs for off-site training	-0.6%	+8.3%

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Although there is some evidence that online training is associated with reduced pricing of care, and conference fees are associated with higher prices, this was not deemed sufficiently compelling to support a calculator featuring training effects on pricing.

Wages and Benefits

One way to boost child care quality is to improve the compensation package for teachers through a combination of salary and benefits, thereby increasing the chances of hiring and retaining better quality staff members. Higher wages and benefits may also support a healthier workforce with less dependence on public assistance. The following three tables examine the relationship between accreditation or Texas Rising Star certification and staff wages and benefits. Following that, Calculator 9 illustrates the estimated pricing for full-day care based on average compensation levels and benefits provided to teachers.

Table 30 shows that accredited and non-accredited centers differ significantly on most measures of wages and benefits, with accredited centers being more generous in their pay and benefits. Accredited centers pay significantly higher wages for both lead and assistant full-time teachers than non-accredited centers. Perhaps the most impressive finding is the dramatically increased hourly wage levels in comparison to the 2021 version of this study. The 2023 average accredited provider full-time teacher wage of $16.23 per hour, for example, is a more than $4 increase since 2021, or about a 33 percent increase! Even the non-accredited comparison group earned over $3 per hour more than they did in 2021. Since providers were allowed to use Child Care Relief Funds to support wage supplements and one-time bonuses (see earlier discussion), it is not clear to what extent these gains will persist after November 2023, when CCRF funds expire.

Table 30. Wages and Benefits by Accreditation

	Non-Accredited	Accredited	Accreditation Difference
Hourly wages			
Full-time teacher	$14.13	$16.23	+$2.10 **
Full-time assistant teacher	$12.71	$14.49	+$1.78 **
Full-time lead teacher	$15.31	$17.74	+$2.43 **
Difference between highest and lowest paid teachers	$3.41	$3.76	+$0.35
Benefits			
Retirement programs such as annuity, 401(k) or 403(b) plan	35.4%	86.9%	+51.5% **
Reduced tuition for staff children enrolled in your program	93.4%	94.0%	+0.6%
Tuition assistance for college/CDA courses	48.1%	87.7%	+39.6% **
Health insurance	43.2%	84.0%	+40.8% **
Paid time off for vacation, holidays, or other	80.7%	96.5%	+15.8% **

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05

Accredited centers are also more likely to provide benefits than non-accredited centers, including being more than twice as likely to provide health insurance, easily the most valuable benefit. More than 87 percent of accredited centers offer tuition assistance benefits, compared to about half of non-accredited centers. Well over 80 percent of accredited centers offer retirement benefits, compared to only about a third of non-accredited centers. Essentially all accredited centers provide staff with paid time off, compared to about four-fifths of non-accredited centers. Finally, over 93 percent of both accredited and non-accredited centers offer reduced tuition for staff children enrolled in a program. A 'ceiling effect' is likely responsible for the absence of a significant accreditation effect on this last measure, as reduced tuition for staff children seems to have become a near-universal benefit.

Turning now to Texas Rising Star status, data in Table 31 show no significant differences in wages, with both Three-Star and Four-Star centers being no more generous in wages paid than non-certified centers.

In contrast to the wages results, both Three-Star and Four-Star centers were found to provide benefits at much higher rates than non-certified centers. Illustrating the largest gap, both Three-Star and Four-Star centers are about twice as likely to offer tuition reimbursement for college and CDA courses, as compared to non-certified centers. The gap in retirement benefits

offered is around 25 percentage points, and the gap in health insurance offered is about 30 percentage points, representing valuable benefits for teachers at both Three-Star and Four-Star providers. Well over 92 percent of centers offer reduced tuition for staff children enrolled in a program, with no significant difference between the two groups, again likely due to a ceiling effect.

This pattern of findings represents a shift for Three-Star providers, for whom results were mostly null in 2021, but who now have become much more generous with benefits. On the other hand, Four-Star providers in 2021 were more generous in wages paid, but now the rest of the market seems to have caught up in that area, perhaps due to the availability of CCRF funds for supplementing wages.

Table 31. Wages and Benefits by Texas Rising Star Status

	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Hourly wages					
Full-time teacher	$13.65	$13.07	-$0.58	$14.16	+$0.51
Full-time assistant teacher	$13.05	$12.23	-$0.82	$13.27	+$0.22
Full-time lead teacher	$15.78	$14.20	-$1.58	$15.28	-$0.50
Difference between highest and lowest paid teachers	$3.50	$3.03	-$0.47	$3.28	-$0.22
Benefits					
Retirement programs such as annuity, 401(k) or 403(b) plan	31.3%	55.2%	+23.9% **	59.2%	+27.9% **
Reduced tuition for staff children enrolled in your program	91.1%	95.1%	+4.0%	92.4%	+1.3%
Tuition assistance for college/CDA courses	43.4%	80.9%	+37.5% **	82.3%	+38.9% **
Health insurance	38.1%	67.8%	+29.7% **	68.7%	+30.6% **
Paid time off for vacation, holidays, or other	75.0%	94.3%	+19.3% **	92.7%	+17.7% **

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-certified at p<.01, *= at p<.05

Table 32 facilitates comparison of the Texas Rising Star Four-Star effects against the accreditation effects on staff wages and benefits measures. Again, the general pattern is for

accredited centers to both pay higher wages and offer more benefits, whereas Four-Star centers tend to offer more benefits without the wage premium.

Table 32. Wages and Benefits, Four-Star vs Accreditation Effects

	Texas Rising Star Four-Star Difference	Accreditation Difference
Hourly wages		
Full-time teacher	+$0.51	+$2.10 **
Full-time assistant teacher	+$0.22	+$1.78 **
Full-time lead teacher	-$0.50	+$2.43 **
Difference between highest and lowest paid teachers	-$0.22	+$0.35
Benefits		
Retirement programs such as annuity, 401(k) or 403(b) plan	+27.9% **	+51.5% **
Reduced tuition for staff children enrolled in your program	+1.3%	+0.6%
Tuition assistance for college/CDA courses	+38.9% **	+39.6% **
Health insurance	+30.6% **	+40.8% **
Paid time off for vacation, holidays, or other	+17.7% **	+15.8% **

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Calculator 9 illustrates the estimated pricing of care based on compensation levels and benefits provided to teachers. In addition to the usual choices, the user enters their average hourly salaries for lead and assistant teachers, or only one value if they do not have assistant teachers. Then the user selects which benefits are offered.

Calculator 9. Center Teacher Wages and Benefits Provided

The following calculator allows you to estimate the baseline cost of childcare by age group based on your average salaries for lead teachers and assistant teachers, with and without benefits.

Please make the following selections to determine your baseline cost.

Step 1: Please select an age group: Preschool (full day)

Step 2: Please select an interval Weekly

Double Click to Activate

Step 3: Please enter your average hourly salary for teachers:

Lead teacher salary: $15.00 **per hour**

Assistant teacher salary: $12.00 **per hour**

(Leave blank if you do not have assistant teachers)

Estimating costs for full day care

Baseline weekly cost without benefits for the preschool age group $132 per week

Step 4: To calculate baseline cost with benefits, please select the benefits you provide:

Health insurance	Yes
Reduced tuition for staff children	No
Tuition assistance (college, CDA)	No
Paid time off (vacation, holidays)	No
Retirement program (annuity, 401K)	No

Baseline weekly cost with selected benefits for the Preschool (full day) age group $152 per week

Difference with selected benefits $20 per week

15.5%

Source: RMC statistical analysis of the cost of quality data.

The upper section of Calculator 9 displays baseline pricing without benefits. Not surprisingly, child care prices increase as teachers' hourly wages are increased. In the bottom section of the calculator, the additional price associated with providing the selected benefits to teachers is presented. As one might expect, the provision of health insurance has the biggest impact on child care pricing, but all of the listed benefits have significant and measurable pricing impacts. Notably, care at a center that provides all five of these benefits is priced around 50 to 80 percent more than at facilities that provide none of them.

Another interesting feature of this calculator is that it is the only one included in this report that does not contain a geographic component. Geography makes such a big difference to the cost of care in Texas that almost all of our calculators need to include a geographic component to be able to detect the other patterns of interest that only emerge when geography is held constant. In the 2021 version of this report, we included a handful of calculators in which the local cost of real estate, in the form of average single-family home selling price, performed the same function as geography. The lesson from Calculator 9 above is that average hourly wages perform this same function, accounting for much of the large variation in prices for care across areas, and that statistically controlling for average wages allows smaller effects in the same model to be clarified.

Curriculum and Assessment

The assessment of children's progress toward developmental gains informs the implementation of the curriculum and the planning of learning activities for the classroom and individual children. Assessment and the time required to plan learning activities are integral to curriculum implementation. Several studies evaluating the use of evidence-based curricula, combined with staff training or coaching, report curricula and staff training are related to substantial gains in children's literacy skills (Wasik & Hindman, 2011; Powell et al., 2010). Similarly, large impacts have been reported for evidence-based math curricula (Clements & Sarama, 2008), and curricula that promote knowledge of emotions, executive functioning, and social skills (Raver, et al. 2008). However, in a review of research examining the relationships between ECE program structural quality components and children's outcomes, Burchinal (2018), found that not all curricula are effective, and many do not have the anticipated impacts on children's outcomes.

The data in Table 33 show statistically significant differences between accredited and non-accredited centers on a number of measures of curriculum use and how it is acquired. Almost all centers now report using a curriculum, or prepared set of learning and play activities; it is still, however, more common among accredited centers. Accredited centers are less likely to report purchasing a curriculum or using a curriculum developed by the provider, but more likely

to report using a curriculum developed by their corporate office, as compared to non-accredited centers.

Table 33. Curriculum by Accreditation

	Non-Accredited	Accredited	Accreditation Difference
Use a curriculum or prepared set of learning and play activities	92.1%	98.3%	+6.2% *
Purchase curriculum	58.4%	28.6%	-29.8% **
Get curriculum from corporate office / organization	4.2%	41.3%	+37.1% **
Develop curriculum in-house	30.6%	16.2%	-14.4% *
Get curriculum through Texas Rising Star	1.0%	4.4%	+3.4%
Get curriculum through Texas School Ready	1.9%	2.9%	+1.0%
Get curriculum somewhere else	5.4%	8.2%	+2.8%

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05

Every Local Workforce Development Board receives funding to enhance the quality of Texas Rising Star participant programs. Many Boards offer a curriculum at no cost to area Texas Rising Star providers, which may have distorted the results of price models and calculators in the 2021 study. Such distortions are less likely now that more measures have been designed around how providers acquire their curriculum. We also have data on which curricula providers use, but we found that matters less for pricing than how centers acquire the curricula they use.

Three- and Four-Star Texas Rising Star providers can also access child assessment and individual instruction resources from GOLD® by Teaching Strategies, although it is not clear to what extent these resources are actually accessed by providers. Texas Rising Star programs also have access to no-cost supports provided by the Children's Learning Institute and the Texas Association for the Education of Young Children. These resources provide access to curricula, online professional development, child progress monitoring tools, classroom observation tools, and technical assistance.

The data presented in Table 34 indicate that curriculum effects among Texas Rising Star certified centers are widespread, regardless of the number of stars. Both Three-Star and Four-Star centers are significantly more likely to use a curriculum or prepared set of learning and play activities, even when compared to non-certified centers that are above 90 percent usage themselves. As one would hope, providers at both tiers are more likely to report getting their curriculum through Texas Rising Star. Both Three-Star and Four-Star centers are also less likely to develop their own curriculum, and more likely to use one from their corporate office.

Table 34. Curriculum by Texas Rising Star

	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Use a curriculum or prepared set of learning and play activities	90.6%	96.4%	+5.8%	98.8%	+8.2% **
Purchase curriculum	51.4%	57.8%	+6.4%	42.8%	-8.6%
Get curriculum from corporate office / organization	4.9%	21.2%	+16.3% **	25.2%	+20.3% **
Develop curriculum in-house	35.3%	2.7%	-32.6% **	11.1%	-24.2% **
Get curriculum through Texas Rising Star	1.7%	12.6%	+10.9% *	15.2%	+13.5% **
Get curriculum through Texas School Ready	1.7%	0.1%	-1.6%	4.0%	+2.3%
Get curriculum somewhere else	9.0%	7.9%	-1.1%	6.4%	-2.6%

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-certified at p<.01, *= at p<.05

Table 35 presents a side-by-side comparison of the Texas Rising Star Four-Star effects against the Accreditation effects on curriculum use and how it is acquired. Generally speaking, all higher quality providers are more likely to use a curriculum, and more likely to get their curriculum from their corporate office as opposed to developing it in house. Texas Rising Star providers are also more likely to get their curricula from the Texas Rising Star program.

Table 35. Curriculum, Four-Star vs Accreditation Effects

	Texas Rising Star Four-Star Difference	Accreditation Difference
Use a curriculum or prepared set of learning and play activities	+8.2% **	+6.2% *
Purchase curriculum	-8.6%	-29.8% **
Get curriculum from corporate office / organization	+20.3% **	+37.1% **
Develop curriculum in-house	-24.2% **	-14.4% *
Get curriculum through Texas Rising Star (TRS)	+13.5% **	+3.4%
Get curriculum through Texas School Ready (TSR)	+2.3%	+1.0%
Get curriculum somewhere else	-2.6%	+2.8%

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Measures of planning time and assessment are summarized by accreditation status in Table 36.

Table 36. Planning Time and Assessment by Accreditation

	Non-Accredited	Accredited	Accreditation Difference
Total paid hours each week direct care staff are given for planning children's activities	2.2	3.3	+1.1 **
Use formal assessments to measure children's developmental progress	54.3%	90.2%	+35.9% **
Use informal assessments to measure children's developmental progress	27.6%	8.9%	-18.7% **

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-accredited at p<.01, *= at p<.05

While the majority of centers report assessing children, a formal child assessment tool is used by over 90 percent of accredited centers but just over half of the non-accredited centers. Non-accredited centers, in contrast, are more likely to report using informal assessments. Finally, accredited centers report providing staff with about 50 percent more paid time to plan class activities, which works out to about an extra hour and six minutes of planning time per week, relative to non-accredited centers. All of these findings replicate the patterns seen for accredited centers in 2021.

Table 37. Planning Time and Assessment by Texas Rising Star

	Non-Certified	Texas Rising Star 3-Star	3-Star Difference	Texas Rising Star 4-Star	4-Star Difference
Total paid hours each week direct care staff are given for planning children's activities	2.5	2.7	+0.2	3.2	+0.7 *
Use formal assessments to measure children's developmental progress	52.0%	94.7%	+42.7% **	89.0%	+37.0% **
Use informal assessments to measure children's developmental progress	22.3%	2.8%	-19.5% **	6.2%	-16.1% **

Source: RMC statistical analysis of the cost of quality data. Note: **=significantly different from non-certified at p<.01, *= at p<.05

Similarly when looking at assessments among Texas Rising Star providers (Table 37), both Three-Star and Four-Star certified providers are more likely to use formal assessments and less likely to use informal assessments, as compared to non-certified centers. Four-Star

providers also provide additional paid planning time, a difference of about 42 extra minutes per week. Again, all of these findings were seen previously in the 2021 CQPMR study, with the only exception being that the increased planning time effect is now statistically significant for Four-Star providers.

Table 38 presents a side-by-side comparison of the Texas Rising Star Four-Star effects against the accreditation effects on assessment and planning time measures. The general pattern, again, shows strong tendencies toward more formal assessments and fewer informal assessments among higher quality providers, as well as more paid planning time.

Table 38. Planning Time and Assessment, Four-Star vs Accreditation Effects

	Texas Rising Star Four-Star Difference	Accreditation Difference
Total paid hours each week direct care staff are given for planning children's activities	+0.7 *	+1.1 **
Use formal assessments to measure children's developmental progress	+37.0% **	+35.9% **
Use informal assessments to measure children's developmental progress	-16.1% **	-18.7% **

Source: RMC statistical analysis of the cost of quality data. Note: **=significant at p<.01; *= significant at p<.05

Calculator 10 below illustrates a price model including curriculum, assessment, and planning time measures. As expected in light of the observation that some curricula are provided free to Texas Rising Star providers, selecting how the curriculum is acquired sometimes provides strange results. The results may not only be signaling price guidance, but it could also be the case that curriculum choices are used to signal quality. Providers who report getting their curricula from their corporate office, for example, consistently offer the highest priced child care by a significant margin.

Regarding assessments, those centers that conduct formal assessments offer the highest priced care, with those using informal assessments being second highest, and those not conducting assessments having the lowest priced care. Also as expected, in one of the minor effects in the model, the number of paid planning hours provided to teachers each week is associated with higher-priced care.

Calculator 10. Center Curriculum, Assessment, and Planning

The following calculator allows you to estimate the baseline cost of full day childcare based on your curriculum, assessment, and planning for a selected age group.

Please make the following selections to determine your baseline cost.

Step 1: Please select an area

Austin

Step 2: Please select an age group

Preschool

Step 3: Please select an interval

Weekly

Step 4: Please select how you get your curriculum

Get it from Texas Rising Star

Step 5: Please select assessments done

formal assessment

Step 6: Please enter average hours teachers spend planning each week

1.5

Double Click to Activate

Baseline weekly cost for the Preschool age group $220 per week

Source: RMC statistical analysis of the cost of quality data.

DISCUSSION

The current ECE model of quality child care holds that components of *structural* quality, including the environment, teacher education, training and experience, and other structural factors, act as supports of *process* quality: the child's daily experiences and relationships with caregivers and other children. Process quality can be difficult to define precisely or measure; in contrast, structural quality factors can be objectively measured and made subject to policy regulations and funding decisions. This report examined the role of major structural quality components for child care centers, including staffing ratios and staff turnover; director and staff education and experience; staff training expenses; earnings and benefits; and curriculum, assessment, and staff planning time. Comparisons were made between nationally accredited and non-accredited centers, and between Texas Rising Star certified and non-certified centers. Structural quality components were also studied as factors in *price* models, which in many cases were found to provide good estimates of the marginal *cost* to providers of increasing quality along these dimensions.

The empirical approach utilized here diverges from the child care cost literature in that this study attempted to estimate costs of providing care based on extensive modeling of real-world prices charged rather than making assumptions about the dynamics of the interplay of cost factors. The term 'cost' is used throughout this paper to refer to the overarching concept we are studying, and the term 'price' when referring to estimates arising from the data.

The most robust findings we have are estimates of the overall price of providing quality child care in licensed child care centers, relative to a baseline of care that merely meets state licensing standards. As in the prior version of this study, completed in 2021, we utilize two approaches to defining quality in order to maximize the generality of our findings: quality as recognized by national accrediting organizations, and quality as defined by the Texas QRIS, Texas Rising Star. The 2023 calculators consistently show that care for younger children from nationally accredited centers is priced 18 to 26 percent more than care from non-accredited, non-certified (i.e., baseline) centers that simply meets licensing standards. Similarly, care provided for younger children at Four-Star facilities is routinely priced at about 10 to 15 percent more than care at non-certified, non-accredited (i.e., baseline) facilities in 2023 (quality care for school age children is generally higher in percentage terms). These findings essentially replicate the major results from 2021. In addition, prices for care at Three-Star providers was typically found to be 9 to 15 percent higher than at comparable non-certified centers.

As in 2021, the present study evaluated the receipt of external supports, financial donations or reduced-cost services, and reports that over 60 percent of Texas Rising Star certified centers now receive support through the CACFP. This is not a new finding: as in 2021,

Texas Rising Star centers are still roughly twice as likely to participate in CACFP than non-certified centers in their comparison group. Often, meals and snacks served to children are included in the cost of services, but child care facilities participating in CACFP receive funds from the federal government to support the provision of meals and snacks. This represents a savings estimated in our 2021 report to be associated with a substantial reduction in the cost of care of between ten and twenty percent. We suggested then that any comprehensive effort to improve child care quality while controlling costs should include the goal of encouraging greater take-up of this program. Interestingly, we now find that nationally accredited centers in 2023 are *more* likely to report participation in the CACFP than non-accredited providers, a complete reversal of the pattern from 2021, and a seeming victory in the pursuit of quality care at lower prices.

In the prior analysis of wage levels in 2021, data from the CQS indicated that higher-quality providers tended to both pay higher wages and provide better benefits. In the present report, the finding of dramatically increased offer of benefits was replicated across both quality systems, but higher earnings levels were only seen in 2023 for nationally accredited providers. Texas Rising Star providers, both Three-Star and Four-Star, did not pay significantly higher wages in 2023 than providers in the non-accredited comparison group. It is difficult to interpret this inconsistent wage finding, however, given the wide availability of CCRF funds that could be used for wage supplementation during this period.

This 2023 Cost of Quality Price Modeling Report has replicated some important findings from the 2021 report, as well uncovering some new knowledge about the state of the Texas child care industry late in a pandemic, but significant work remains to be done. The child care industry continues to function in this difficult environment with massive amounts of government aid funneled through TWC and local boards. Much of that aid seems likely to come to an end as the pandemic recedes from memory. The basic disconnect seems to be that, in the absence of continued federal funding on a large scale, providers in Texas will likely continue to struggle to provide higher quality care at prices that most working parents can afford. We extensively documented the billions of dollars in financial support Texas child care providers have received in the last couple of years. But our models only reflect this fact through a rather blunt measure. Over 45 percent of accredited and Texas Rising Star providers reported receiving “Local, state or federal government funding” in 2023, whereas only five to thirteen percent reported such funding in 2021. As much of this funding comes to an end, the continued availability and affordability of quality Texas child care hangs in the balance.

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