# Appendices



## Appendix A. Data Analysis

This section includes data and further details supporting the analyses that are briefly described in the main report body.

### Fielding a Survey during a Pandemic

Unfortunately, the Cost of Quality survey was fielded to coincide almost perfectly with the arrival in Texas of the COVID-19 pandemic. Because the pandemic caused widespread disruption to the child care market, we expected it to have been a major factor influencing the tendency of providers to complete the survey. To assess the likelihood of this, we linked each sampled facility to official coronavirus case growth rates in their county during the exact weeks we tried to call them.

Daily confirmed covid case counts at the county level were accessed from the Texas Department of State Health Services (DSHS).[[1]](#footnote-2) The daily case data were rather noisy, so we cleaned the data by computing weekly new case count averages while excluding the lowest and highest days from each week’s count. We further expressed the case counts in per capita terms by dividing the numbers of new cases by county population estimates. Finally. we computed various lags to determine what time frame would best capture any potential influence of covid trends on providers’ tendencies to respond to the survey. We thus determined that local confirmed covid case count growth rates around 8 to 14 days before we made the last call to a facility were most strongly predictive of whether that facility responded to the survey.

For purposes of illustrating this effect, we divided the case growth rates into low, moderate, and high based on whether they fell into the bottom, middle, or upper third of the distribution of case growth rates around center response dates. We thus found that among centers, over 62% percent of eligible facilities were found to have completed the survey when their county covid case growth rate was low or moderate, but this fell to 34% percent when local covid case growth rates were high. Since the homes survey was fielded during an objectively worse period of the pandemic, when covid case rates were surging in Texas, we again divided the distribution into thirds but labeled the categories moderate, high, and very high. We found that over 70% percent of eligible homes responded to the survey when county covid case growth rates were moderate, but this fell to 39% percent and 21% percent when local growth rates were high or very high.

Because the covid case rates varied extensively among localities over time, it was not possible to fully correct for the impact of the pandemic on what types of providers responded to the CQS. Instead, we beefed-up the non-response model with the addition of extensive contextual and geographical data, described in the Correcting for Non-Response Bias section below.

### Analysis of Survey and Rate Data

The data preparation and analysis followed very closely the procedures detailed for the 2021 Texas Market Rate Survey (TWC, 2020), using methods refined over many years. Project researchers summarized the survey data and conducted analyses at several distinct levels. The most basic analyses were done at the level of individual providers. These results document the proportion of providers responding to the survey that, for example, offer infant care, have wait lists for preschooler care, or other features.

The remaining analyses were conducted at either the rate observation level or at the level of the child care slot, as described below. Each center or home-based facility can contribute more than one rate observation to the analysis, and each rate observation can represent more than one slot. However, the nature of this relationship depends on the type of facility, as described below.

Daily market rates for licensed centers were captured by the survey for all categories of care offered, regardless of whether any children were currently being served in such categories. The categories consisted of all possible combinations of age group (gathered for actual age categories in which each center offered rates, then aggregated to the four standard categories for reporting) by full-day status (part-day vs full-day). Thus, one center could contribute as many as eight independent rate observations, each representing any number of children (including zero). These rate observations were then weighted by the number of child care slots they represent (described below) when calculating market rate distributions.

In contrast, market rates for home-based facilities, including registered homes and licensed homes, were gathered at the level of the individual child currently being served. Each child’s age, detailed weekly schedule, and rates charged were gathered for purposes of calculating daily market rates. In this case, the individual children were treated as independent rate observations, and each facility could contribute as many as nine observations (or fewer depending on the facility type and number of children enrolled). Because of this, there was no need to differentially weight the rate observations when estimating features of surveyed home-based facilities: each child (or rate) started with a weight equal to one (but see weighting discussion below).

For the analysis of center rates, the number of child care slots for each rate category was determined in one of two ways. First, for categories of care in which children were currently being served, the number of children in each category served as a proxy for the number of slots. Second, rate categories in which no children were currently being served were also included in the analysis, since they were also theoretically part of the market. This was done by estimating the number of slots for each of these rate categories with a formula that multiplies the number of children served at each facility by the average proportion of children, across all licensed centers, served in each rate category. Thus, for example, a facility that served 100 children and had an existing part-day infant rate schedule, but did not currently serve any part-day infants, would have its number of slots for this category of care estimated at two (100 child capacity X 2 percent of children served in the part-day infant category across all licensed centers). If the same facility served no part-day preschoolers, its number of slots would be estimated at seven (100 child capacity X 7 percent served in this category across all licensed centers). This method allows fuller use of the rate information gathered from centers, especially for rare forms of care in which rate observations are otherwise scarce.

After the survey data were collected, all rates that appeared extremely high or low (known as outliers) were identified, and researchers individually checked each rate report and corrected any errors they found. After these corrections, a small portion of the most extreme outliers remaining in the sample were corrected[[2]](#footnote-3) to remove their excessive influence on statistical measures of the rate distributions. In addition, similar procedures were implemented to detect instances in which the number of slots reported for a given rate was too extreme, whether too high or too low, and to correct these extremes to more reasonable values.

Prior to any estimation of rate parameters, the daily rates themselves were first transformed to make them assume a more normal distribution. This transformation was done by taking the positive square root of the daily rate. The effect of this is to minimize the influence of high-end outliers on estimates of the parameters of distributions. This transformation is reversed later, following all estimation, by squaring the rates.

In estimating models describing the typical patterns among rates of varying facility type, age group, and rate type, only full-day rates were included for infants, toddlers, and preschoolers, and only part-day rates were included for school-age children. This estimation was done using one model for licensed centers that included independent predictor variables for the four age groups. A second model was used to estimate these parameters for all homes combined, but an additional variable was included that coded for Licensed or Registered Home.

### Correcting for Non-Response Bias

To adjust for any bias due to variation in what types of facilities responded to the survey, several response models were developed using logistic regression: one for centers in the initial survey, one for homes in the initial survey, and a third for centers in the follow-up survey. Predictors available for these regressions primarily included measures derived from Child Care Registry (CCR) data, as well as county-level measures described below in Public Data Sources. The CCR measures available for this analysis involved indicators for self-reported features of care provided, including accreditation, offers transportation, accepts subsidies, serves infants, toddlers, preschoolers, school age, special needs children, special skills, field trips, get well care, as well as after school, drop in, part time, or weekend care. Additional measures included the facility age in years, based on the initial license issue date, as well as age-squared to account for potential nonlinear effects. Stepwise logistic regression was utilized to pare down the large set of predictors to only those that account for significant unique variance in the outcome. The dependent or response variable for these regressions was an indicator showing whether the facility completed the survey, in whole or in part. Facilities determined to be ineligible for the survey were excluded from the regression.

The final set of predictors for the response model for centers in the initial wave of the CQS included CCR variables measuring whether providers accept subsidies, serve toddlers, provide afterschool care, provide weekend care, and the age of the facility. Also include were county-level measures of median family income, child food insecurity rates, hourly median wage of child care workers, and head start slots as a percentage of children potentially covered. Results indicated a moderate overall response bias (model R-squared = .052).

The final set of predictors for the response model for homes in the initial wave of the CQS included CCR variables measuring whether providers offer transportation, serve school-age children, offer special skills training, offer field trips, offer drop-in care, and the age of the facility. Also include were county-level measures of the total population 15 years or older, hourly median wage of child care workers, and whether the county was an outlying county (or suburban, as opposed to urban core) within its MSA. Results indicated a moderate overall response bias (model R-squared = .055).

The final set of predictors for the response model for centers in the follow-up wave of the CQS included CCR variables measuring whether providers accept subsidies, provide afterschool care, provide weekend care, provide part-time care, care for school-aged children, and whether they report being accredited. Also include was the county-level measure of the estimated unemployment rate. Results indicated a moderate overall response bias (model R-squared = .041), but slightly lower than that observed in the initial wave for centers.

After the above regression analyses were conducted, weights were computed by inverting the estimated probability of response for individual providers. These weights were utilized in all analyses to allow adjustment for any measured bias at either the facility or rate level. These weights were combined with the other weights described earlier.

### Modeling Minimum Licensing Standards

The estimated baseline costs of providing care that meets minimum licensing standards was determined by utilizing a probabilistic model using administrative records data on child care licensing deficiencies. We had determined that it would be burdensome to decide with high certainty whether each facility in our survey met basic health and safety standards, mostly because the deficiency reporting system is quite complicated and the data publicly available do not supply all the information needed to perfectly model real-world license revocation decisions. The model we developed used actual reported child care licensing deficiencies to identify facilities that may not be meeting standards, and for which cost might be responsible. As detailed below, we used a formula to add up deficiencies for each facility, with those of greater weight counting more, creating a ‘deficiency score’ for each facility. Subsequently, those facilities with below average child care rates who had a relatively high number of licensing deficiencies were eliminated from further analysis. Facilities with excessive licensing deficiencies and low rates may not be charging enough to cover the minimum standards, and thus removing them from the cost model should have improved the accuracy of the estimates.

We created 'deficiency scores' for all centers, with 'High' risk deficiencies counting as 5 points, 'Medium High' as 4, ‘Medium’ as 3, ‘Medium Low’ as 2, and ‘Low’ as 1. These classifications are assigned by the Texas HHSC Child Care Regulation Department (CCR) based on their assessment of the risk that a violation of a given standard presents to children. After adding up all deficiencies per center, we found the resulting 'deficiency scores' among centers ranged from 0 to 861, with an average of 56 and median of 32. The 95th percentile of deficiency scores was 191, meaning that 5% of centers statewide had scores between 192 and 861 – a group we labeled ‘deficient.’ Another way of stating this is these centers determined to be 'deficient' had scores at least 3 times as high as the average center and at least 6 times as high as the median center.

When we applied this cutoff (>191) to our survey respondents, we found that 4.4% of center respondents were regarded as deficient, for a total of 29 centers. We then compared all center rates to the average for their area and age group. Since centers can contribute up to 8 rates each, it is common for centers to be above average on some rates and below average on others. Of the 29 'deficient' centers, 20 of them had half or more of their rates below the average for their area and age group. We determined these to be 'deficient facilities with below average rates,' and removed all rates reported by these 20 facilities from further analysis, for a loss of 114 rates or about 2.7% of all center rates from our cost study.

Of the 20 centers removed, all 20 were confirmed subsidy providers. Five out of 20 were regarded as higher quality, with 2 being nationally accredited and 4 being Texas Rising Star (one facility was both). Of the Texas Rising Star facilities in this group, one had Three stars and three had Four stars.

### Modeling Local Rate Estimation

In this report, much of the analysis of rates and quality pricing is done by geographic areas of the state as divided into metropolitan, micropolitan, and rural areas that seem to best capture natural variation in child care costs. However, there is also interest in knowing the pricing of quality care in other areas defined by different geographic units, including counties and aggregations of counties such as local workforce development boards. To address this possibility, we developed an extensive statistical model based on detailed local data from a wide variety of sources to estimate pricing for quality care at the county level.

To begin, we assembled a broad dataset with numerous mostly county-level measures from a broad array of public data sources that are detailed in the Public Data Sources section below. These sources include the Real Estate Center, Bureau of Labor Statistics (BLS), Headstart, American Community Survey (ACS), Texas Education Agency (TEA), Population Reference Bureau, and Feeding America. These data were linked to licensed center rate data via the county in which the providers were located.

Next, we developed our best possible 254-county model of full-time preschooler rates, the most common rates, by including only those county-level measures that had estimates available for all 254 counties in the state. Although better models were developed that included fewer counties for which richer data were available from some sources, we proceeded with the 254-county model since it provided a more parsimonious solution. Using stepwise OLS regression to isolate those predictors that explain the most unique variance in rates, we developed a model with only six predictors that explained almost half of the variation in full-time preschooler rates (R-squared = 0.461). This model yielded predicted values of a typical full-time preschooler rate for all 254 counties, even those counties for which we had no respondents. The resulting county-level typical preschooler rates are plotted on a map as Figure 1 in the main report.

These typical preschooler rates were then included as controls in a model examining all rates, regardless of age group, along with accreditation status and a measure of external support (described in the next section). This final model was found to account for over three quarters of the variation in rates (R-square = 0.775), and its results are shown in Calculator 3 in the main report.

In addition, these county-level estimates were aggregated to the local workforce board level through weighted averaging based on county population. The resulting model yielded estimates displayed in Calculator 4. As mentioned previously, 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 others. In other words, in some areas the estimates are based more on actual rate data, whereas in other areas the estimates lean more heavily on modeling. Both Calculators 3 and 4 provide warnings when displaying results that rely heavily on modeling and less on actual rate data.

### External Support Analyses

The external support analysis was done with the hope that we could improve the accuracy of our final pricing of quality models by statistically accounting for extraneous cost factors or supports that allow providers to charge less for care. 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 forms of support can be observed through affiliations or associations between a child care facility and other organizations such as churches, schools, or other community-based organizations.

The survey assessed 16 sources of such external supports, including 10 potential sources of donations and six free or reduced-cost services (for survey items see Appendix B, p. B-6, items 23 and 24). We developed a price model to simultaneously test all the potential external support factors discussed in this section, including financial supports, reduced cost services, and associations. In this model, we used stepwise regression to select the best set of predictors that each account for the most unique variation in daily child care rates. For centers in the initial wave of the CQS, this yielded a model that relied on the following six measures:

* Participation in the Federal Child Care Food Program
* Receipt of private or individual donations
* Volunteer work
* Association with church or religious organization
* Association with community-based organization, and
* Association with a public school

For the external supports regression concentrating on centers in the initial wave, these six measures together explained almost sixteen percent of the variation in daily rates (R-squared = 0.157), which is impressive. The purpose of the regression was to generate predicted values for each provider, which can be thought of as a composite measure representing a best guess at what a facility might charge for child care when one knows nothing else except which kinds of external supports it receives or types of associations it benefits from. In the analysis of quality factors in centers presented throughout this report, external supports are controlled statistically by the inclusion of this composite measure as a covariate in the pricing models. In effect, the result is that the estimated pricing effects are adjusted to reflect what they would be if all centers received the average amount of external support. Taken together, the analysis of external supports suggests that if we can account for the cost difference among facilities that receive services or donations, that benefit from associations, or that participate in the federal food program, we have a better chance of more precisely estimating pricing differentials for quality factors in which we are interested.

In analyzing responses to the homes survey in the initial wave of the CQS, we ran a similar stepwise regression but the model that resulted proved to be inadequate to the task, in part because fewer sources of donations or reduced-cost services were assessed in the homes survey. Thus, the analysis of quality factors in homes presented throughout this report do not benefit from statistically controlling for external supports received.

We conducted a similar analysis of external supports concentrating on centers in the follow-up wave. By this point in the pandemic, we expected that the dynamics around external supports might have shifted. Indeed, while the model selected the same six factors as in the initial wave, the explanatory power of the model was roughly cut in half (R-squared = .079). This is slightly less impressive, but still adequate to allow more precise estimation of pricing differentials among centers for quality factors in which we are interested.

### Characteristics of Respondents’ Counties

To get a better sense of the populations served by accredited and Texas Rising Star providers, we computed summaries of all center and home respondents on several county level measures to which we linked using provider address location. The first table has columns for the following centers: Accredited, Four-Star, and Two- or Three-Star Texas Rising Star.

By most measures, accredited centers appear to serve areas that are a bit more affluent than those areas served by Texas Rising Star centers, but not dramatically more affluent. Accredited centers also tend to be in larger metropolitan areas, whereas Texas Rising Star centers are slightly more likely to be micropolitan or rural.

Selected County-Linked Measures, Centers

|  |  |  |  |
| --- | --- | --- | --- |
| Outcome | Accredited | Texas Rising Star 4 Star | Texas Rising Star 2 or 3 Star |
| Percentage of children estimated to be food insecure | 21.8% | 22.7% | 22.7% |
| Children living in census tracts with poverty rates of 30 percent or more | 13.2% | 17.0% | 15.0% |
| Estimate-Families-Median income | $77,872 | $71,888 | $71,611 |
| Estimate-Total-Population 15 years and over | 1,490,208 | 1,220,502 | 1,405,265 |
| Housing sales, average closing price | $313,578 | $286,813 | $284,810 |
| Housing sales, median closing price | $253,540 | $233,345 | $231,321 |
| Metropolitan county | 100.0% | 94.1% | 91.0% |
| Micropolitan county | 0.0% | 3.8% | 4.0% |
| Rural county | 0.0% | 2.1% | 5.0% |

Source: RMC statistical analysis of cost of quality data.

The next table has columns for the following home-based providers: Four-Star, and Two- or Three-Star Texas Rising Star. In this case the pattern is reversed, with Two- or Three-Star Texas Rising Star homes serving slightly more affluent areas than Four-Star Texas Rising Star homes.

Selected County-Linked Measures, Homes

|  |  |  |
| --- | --- | --- |
| Outcome | Texas Rising Star 4 Star | Texas Rising Star 2 or 3 Star |
| Percentage of children estimated to be food insecure | 23.3% | 22.7% |
| Children living in census tracts with poverty rates of 30 percent or more | 22.2% | 14.4% |
| Estimate-Families-Median income | $68,067 | $72,122 |
| Estimate-Total-Population 15 years and over | 1,425,397 | 1,695,721 |
| Housing sales, average closing price | $279,372 | $283,718 |
| Housing sales, median closing price | $224,764 | $230,615 |
| Metropolitan county | 97.2% | 95.8% |
| Micropolitan county | 2.8% | 4.2% |
| Rural county | 0.0% | 0.0% |

Source: RMC statistical analysis of cost of quality data.

### Public Data Sources

| **Data Source** | Notes | Examples |
| --- | --- | --- |
| American Community Survey (ACS) multiyear estimates. <https://data.census.gov/> | ACS 5-year estimates have a larger sample size and are therefore usually more precise than the 1-year estimates. Data extracted for all counties in Texas. | Per capita income  Children under 6 by family type |
| Bureau of Labor Statistics - Occupational Employment Statistics (OES). <https://data.bls.gov/oes/> | The Occupational Employment Statistics (OES) survey is a semiannual survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments. Data extracted for the “childcare workers” occupation for all metropolitan and non-metropolitan areas in Texas. | Median hourly wage, childcare workers  Mean hourly wage, childcare workers |
| Feeding America [https://datacenter.kidscount.org/data/tables/7889-child-food-insecurity?loc=45&loct=5#detailed/5/6515-6768/false/870,573,869,36,868,867,133/any/15218,15219](https://datacenter.kidscount.org/data/tables/7889-child-food-insecurity?loc=45&loct=5%23detailed/5/6515-6768/false/870,573,869,36,868,867,133/any/15218,15219) | Feeding America analysis of Current Population Survey data on food-insecure households and American Community survey data on household income, unemployment, poverty, homeownership, race, and ethnicity. Data extracted for all counties in Texas. | Child food insecurity, percent |
| HeadStart [https://datacenter.kidscount.org/data/tables/3076-head-start-enrollment#detailed/5/6515-6768/false/1484,1457,1228,1070,1022,892,784/any/8041](https://datacenter.kidscount.org/data/tables/3076-head-start-enrollment%23detailed/5/6515-6768/false/1484,1457,1228,1070,1022,892,784/any/8041) | HeadStart "funded enrollment" refers to the number of children that are supported by federal Head Start funds in a program at any one time during the program year, also referred to as enrollment slots. Data are provided by location of Head Start program office, NOT by location of site | Enrollment HeadStart slots  Enrollment Early HeadStart slots |
| Population Reference Bureau [https://datacenter.kidscount.org/data/tables/6818-children-living-in-areas-of-concentrated-poverty?loc=45&loct=5#detailed/5/6515-6768/false/133/any/13913,13914](https://datacenter.kidscount.org/data/tables/6818-children-living-in-areas-of-concentrated-poverty?loc=45&loct=5%23detailed/5/6515-6768/false/133/any/13913,13914) | Concentrated poverty refers to those census tracts with overall poverty rates of 30 percent or more. Based on analysis of data from the U.S. Census Bureau, 2000 Decennial Census and the 2006–2010 American Community Survey 5-year data | Children living in concentrated poverty, percent |
| Real Estate Center - We contacted the Real Estate Center and our request was reviewed, approved by Texas REALTORS®, and data was sent to us via email | Texas REALTORS® Data Relevance Project, MLS Boards in Texas, Real Estate Center at Texas A&M University. Includes counties that don’t have less than 36 sales in a single year from 2011 to 2019. Covers 147 counties in Texas. | Annual sale count  Average sale price  Median sale price |
| Texas Education Agency (TEA)  <https://www.texaseducationinfo.org/Home/Topic/>  Prekindergarten%20Programs?br=PK-12 | Data on Texas public school district prekindergarten programs from TEA’s Public Education Information Management System (PEIMS) and from TEA's Early Childhood Data System (ECDS). Public prekindergarten student enrollment is defined as the number of prekindergarten enrollees ages three and four who were reported enrolled as of the Fall. | Total enrolled prekindergarten students ages three and four |

### Detailed Tables by Accreditation, Centers

Elements of Program Structure by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Center serves infants | 70.4% | 357 | 84.2% | 191 | 13.8% | \*\* | 15.6 | <.0001 |
| Center serves toddlers | 78.7% | 357 | 90.7% | 191 | 12.0% | \*\* | 19.1 | <.0001 |
| Center serves preschoolers | 99.1% | 357 | 99.7% | 191 | 0.6% |  | 0.8 | 0.372 |
| Center serves school age children | 81.5% | 357 | 77.2% | 191 | -4.3% |  | 1.4 | 0.242 |
| Waitlist exists, full-time infants | 34.4% | 225 | 58.6% | 174 | 24.2% | \*\* | 26.3 | <.0001 |
| Waitlist exists, full-time toddlers | 23.5% | 249 | 39.8% | 186 | 16.3% | \*\* | 15.3 | 0.000 |
| Waitlist exists, full-time preschoolers | 13.8% | 299 | 21.9% | 188 | 8.1% | \* | 6.3 | 0.013 |
| Waitlist exists, part-time school age | 10.3% | 280 | 13.5% | 139 | 3.2% |  | 0.9 | 0.339 |

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

External Supports: Donations and Reduced Cost Services by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Financial donations |  |  |  |  |  |  |  |  |
| Federal Child Care Food Program | 49.3% | 358 | 35.8% | 191 | -13.5% | \*\* | 9.3 | 0.002 |
| CCMS (other than subsidies) | 0.3% | 358 | 1.0% | 191 | 0.7% |  | 1.1 | 0.292 |
| United Way | 9.3% | 358 | 1.4% | 191 | -7.9% | \*\* | 13.0 | 0.000 |
| Religious institutions | 0.0% | 358 | 1.1% | 191 | 1.1% | \* | 4.0 | 0.047 |
| Local, state or federal government funding | 11.5% | 358 | 5.4% | 191 | -6.1% | \* | 5.7 | 0.018 |
| Private or individual donations | 11.4% | 358 | 7.3% | 191 | -4.1% |  | 2.4 | 0.121 |
| YMCA / YWCA | 0.2% | 358 | 0.0% | 191 | -0.2% |  | 0.4 | 0.524 |
| School district | 0.5% | 358 | 0.0% | 191 | -0.5% |  | 1.0 | 0.329 |
| Foundations | 7.5% | 358 | 2.5% | 191 | -5.0% | \* | 5.8 | 0.016 |
| Other | 0.4% | 358 | 1.9% | 191 | 1.5% |  | 3.4 | 0.065 |
| Reduced cost services |  |  |  |  |  |  |  |  |
| Building use | 9.6% | 357 | 3.4% | 191 | -6.2% | \*\* | 7.2 | 0.008 |
| Utilities | 7.3% | 357 | 2.1% | 191 | -5.2% | \* | 6.5 | 0.011 |
| Volunteer work | 1.3% | 357 | 3.3% | 191 | 2.0% |  | 2.7 | 0.104 |
| Furniture or equipment | 1.1% | 357 | 2.2% | 191 | 1.1% |  | 1.0 | 0.310 |
| Supplies | 0.3% | 357 | 2.0% | 191 | 1.7% | \* | 4.2 | 0.041 |
| Other | 1.9% | 357 | 1.2% | 191 | -0.7% |  | 0.3 | 0.560 |

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

Associations or Affiliations by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Associations** | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Church or religious organization | 9.2% | 358 | 10.7% | 191 | 1.5% |  | 0.3 | 0.565 |
| Community-based organization | 0.2% | 358 | 1.0% | 191 | 0.8% |  | 1.4 | 0.230 |
| YMCA/ YWCA | 12.7% | 358 | 0.0% | 191 | -12.7% | \*\* | 27.9 | <.0001 |
| Public school | 16.1% | 358 | 2.3% | 191 | -13.8% | \*\* | 25.0 | <.0001 |
| Private or parochial school | 1.4% | 358 | 0.4% | 191 | -1.0% |  | 1.1 | 0.294 |

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

Staffing Patterns by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Associations** | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Part-time staffing ratio: Percent of staff members that are part-time | 30.2% | 333 | 21.3% | 189 | -8.9% | \*\* | 11.1 | 0.001 |
| Turnover ratio: percent of teachers leaving in the last year | 33.7% | 291 | 21.8% | 173 | -11.9% | \*\* | 12.6 | 0.000 |
| Children per teacher ratio, infants | 4.5 | 220 | 4.3 | 172 | -0.2 |  | 1.1 | 0.289 |
| Children per teacher ratio, toddlers | 7.9 | 245 | 7.8 | 184 | -0.1 |  | 0.2 | 0.629 |
| Children per teacher ratio, preschoolers | 12.1 | 306 | 12.5 | 188 | 0.4 |  | 1.0 | 0.329 |
| Children per teacher ratio, school age | 15.2 | 271 | 17.5 | 139 | 2.3 | \*\* | 9.1 | 0.003 |
| Teachers per classroom ratio, infants | 1.8 | 221 | 2.0 | 172 | 0.2 | \*\* | 10.8 | 0.001 |
| Teachers per classroom ratio, toddlers | 1.6 | 245 | 1.8 | 184 | 0.2 | \*\* | 8.4 | 0.004 |
| Teachers per classroom ratio, preschoolers | 1.6 | 306 | 1.6 | 188 | 0.0 |  | 0.0 | 0.904 |
| Teachers per classroom ratio, school age | 1.8 | 271 | 1.6 | 139 | -0.2 |  | 2.5 | 0.117 |
| Cover for absent staff: director substitutes | 20.6% | 338 | 10.9% | 189 | -9.7% | \*\* | 9.0 | 0.003 |
| Cover for absent staff: existing staff member substitutes | 69.0% | 338 | 80.5% | 189 | 11.5% | \*\* | 8.7 | 0.003 |

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

Staffing Education and Experience by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Staff with highest degree - High school or GED | 73.8% | 303 | 64.2% | 172 | -9.6% | \*\* | 15.3 | 0.000 |
| Staff with highest degree - Associates | 9.4% | 302 | 12.3% | 172 | 2.9% |  | 3.4 | 0.068 |
| Staff with highest degree - Bachelors | 14.6% | 304 | 19.6% | 177 | 5.0% | \* | 6.3 | 0.013 |
| Staff with highest degree - Masters | 1.4% | 308 | 1.8% | 179 | 0.4% |  | 0.9 | 0.343 |
| Staff with highest degree - Doctorate | 0.1% | 309 | 0.0% | 179 | -0.1% |  | 1.3 | 0.261 |
| Direct care staff with a CDA | 17.0% | 290 | 27.4% | 181 | 10.4% | \*\* | 21.5 | <.0001 |
| Staff with 6 or more years of experience working in ECE | 46.6% | 336 | 48.3% | 190 | 1.7% |  | 0.4 | 0.529 |
| Staff with less than two years of experience working in ECE | 28.9% | 336 | 21.8% | 190 | -7.1% | \*\* | 6.7 | 0.010 |

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

Staff Training by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Conference or workshop fees | 51.8% | 331 | 53.8% | 183 | 2.0% |  | 0.2 | 0.663 |
| Online training fees | 60.2% | 324 | 48.0% | 183 | -12.2% | \*\* | 6.9 | 0.009 |
| Onsite training fees | 62.0% | 330 | 60.1% | 185 | -1.9% |  | 0.2 | 0.683 |
| Payments to substitutes to cover the classroom while staff are in training | 16.5% | 329 | 22.4% | 185 | 5.9% |  | 2.7 | 0.100 |
| Travel costs for off-site training | 24.7% | 328 | 25.3% | 182 | 0.6% |  | 0.0 | 0.879 |

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

Wages and Benefits by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Hourly wage for full-time teacher | $10.96 | 294 | $12.16 | 164 | $1.20 | \*\* | 25.8 | <.0001 |
| Hourly wage for full-time assistant teacher | $10.23 | 238 | $10.90 | 137 | $.67 | \*\* | 9.8 | 0.002 |
| Hourly wage for full-time lead teacher | $12.09 | 238 | $13.38 | 137 | $1.29 | \*\* | 12.6 | 0.000 |
| Difference in hourly wage between highest and lowest paid teachers | $2.38 | 277 | $2.96 | 145 | $.58 | \*\* | 7.9 | 0.005 |
| Benefits - Retirement programs such as annuity, 401(k) or 403(b) plan | 26.3% | 335 | 68.7% | 189 | 42.4% | \*\* | 109.0 | <.0001 |
| Benefits - Reduced tuition for staff children enrolled in your program | 88.5% | 335 | 94.5% | 188 | 6.0% | \* | 5.0 | 0.025 |
| Benefits - Tuition assistance for college/CDA courses | 34.9% | 332 | 81.8% | 189 | 46.9% | \*\* | 126.8 | <.0001 |
| Benefits - Health insurance | 35.1% | 335 | 82.1% | 188 | 47.0% | \*\* | 129.0 | <.0001 |
| Benefits - Paid time off for vacation, holidays, or other | 77.5% | 334 | 99.6% | 188 | 22.1% | \*\* | 49.3 | <.0001 |

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

Curriculum, Assessment, and Planning Time by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Use a curriculum or prepared set of learning and play activities | 83.2% | 309 | 95.9% | 188 | 12.7% | \*\* | 18.5 | <.0001 |
| Curriculum - Developed by provider | 43.2% | 253 | 64.6% | 182 | 21.4% | \*\* | 19.8 | <.0001 |
| Curriculum - Creative Curriculum® | 1.9% | 253 | 10.8% | 182 | 8.9% | \*\* | 16.2 | <.0001 |
| Curriculum - Frog street | 17.5% | 253 | 12.9% | 181 | -4.6% |  | 1.6 | 0.202 |
| Curriculum - Other | 34.9% | 253 | 19.3% | 182 | -15.6% | \*\* | 12.8 | 0.000 |
| Total paid hours each week are direct care staff are given for planning children's activities | 3.1 | 326 | 3.7 | 179 | 0.6 | \*\* | 7.3 | 0.007 |
| Use formal assessments to measure children's developmental progress | 52.1% | 338 | 84.4% | 189 | 32.3% | \*\* | 58.3 | <.0001 |
| Use informal assessments to measure children's developmental progress | 28.0% | 338 | 11.9% | 189 | -16.1% | \*\* | 17.9 | <.0001 |

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

### Detailed Tables by Texas Rising Star, Centers

Elements of Program Structure by Texas Rising Star Status, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Center serves infants | 72.1% | 282 | 83.1% | 101 | +11.0% | \*\* | 6.8 | | 0.009 | 87.8% | 208 | +15.7% | \*\* | 22.0 | <.0001 |
| Center serves toddlers | 78.1% | 282 | 91.0% | 101 | +12.9% | \*\* | 14.8 | | 0.000 | 94.7% | 208 | +16.6% | \*\* | 38.9 | <.0001 |
| Center serves preschoolers | 99.2% | 282 | 100.0% | 101 | +0.8% |  | 1.1 | | 0.286 | 99.9% | 208 | +0.7% |  | 1.6 | 0.212 |
| Center serves school age children | 85.4% | 282 | 87.6% | 101 | +2.2% |  | 0.3 | | 0.582 | 85.1% | 208 | -0.3% |  | 0.0 | 0.936 |
| Waitlist exists, full-time infants | 36.8% | 183 | 45.3% | 82 | +8.5% |  | 1.8 | | 0.180 | 54.7% | 185 | +17.9% | \*\* | 13.1 | 0.000 |
| Waitlist exists, full-time toddlers | 25.0% | 198 | 29.7% | 90 | +4.7% |  | 0.7 | | 0.397 | 40.2% | 198 | +15.2% | \*\* | 12.0 | 0.001 |
| Waitlist exists, full-time preschoolers | 13.3% | 243 | 22.3% | 95 | +9.0% | \* | 4.7 | | 0.032 | 23.4% | 199 | +10.1% | \*\* | 9.3 | 0.003 |
| Waitlist exists, part-time school age | 12.6% | 227 | 17.7% | 82 | +5.1% |  | 1.3 | | 0.264 | 15.7% | 167 | +3.1% |  | 0.8 | 0.389 |
| Center serves infants | 72.1% | 282 | 83.1% | 101 | +11.0% | \*\* | 6.8 | | 0.009 | 87.8% | 208 | +15.7% | \*\* | 22.0 | <.0001 |

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

External Supports: Donations and Reduced Cost Services by Texas Rising Star Status, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Financial Donations |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| Federal Child Care Food Program | 56.9% | 283 | 65.2% | 101 | +8.3% |  | 2.1 | | 0.148 | 58.2% | 208 | +1.3% |  | 0.1 | 0.772 |
| CCMS (other than subsidies) | 0.4% | 283 | 0.0% | 101 | -0.4% |  | 0.2 | | 0.695 | 2.0% | 208 | +1.6% |  | 3.3 | 0.070 |
| United Way | 8.0% | 283 | 3.1% | 101 | -4.9% |  | 3.2 | | 0.074 | 4.2% | 208 | -3.8% |  | 3.2 | 0.076 |
| Religious institutions | 0.0% | 283 | 0.0% | 101 | 0% |  | 0.0 | | 1.000 | 1.7% | 208 | +1.7% | \* | 5.9 | 0.016 |
| Local, state or federal government funding | 10.9% | 283 | 13.6% | 101 | +2.7% |  | 0.6 | | 0.446 | 7.9% | 208 | -3.0% |  | 1.2 | 0.284 |
| Private or individual donations | 11.1% | 283 | 11.0% | 101 | -0.1% |  | 0.0 | | 0.985 | 10.1% | 208 | -1.0% |  | 0.1 | 0.741 |
| YMCA / YWCA | 0.3% | 283 | 0.0% | 101 | -0.3% |  | 0.4 | | 0.512 | 0.0% | 208 | -0.3% |  | 0.7 | 0.406 |
| School district | 0.6% | 283 | 0.0% | 101 | -0.6% |  | 1.0 | | 0.315 | 0.0% | 208 | -0.6% |  | 1.6 | 0.203 |
| Foundations | 6.0% | 283 | 5.4% | 101 | -0.6% |  | 0.1 | | 0.811 | 4.5% | 208 | -1.5% |  | 0.6 | 0.461 |
| Other | 0.0% | 283 | 3.5% | 101 | +3.5% | \*\* | 11.6 | | 0.001 | 0.6% | 208 | +0.6% |  | 0.6 | 0.456 |
| Reduced cost services |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| Building use | 7.6% | 282 | 3.3% | 101 | -4.3% |  | 2.5 | | 0.115 | 4.8% | 208 | -2.8% |  | 1.8 | 0.185 |
| Utilities | 5.2% | 282 | 1.1% | 101 | -4.1% |  | 3.8 | | 0.051 | 2.1% | 208 | -3.1% |  | 3.3 | 0.069 |
| Volunteer work | 1.1% | 282 | 0.0% | 101 | -1.1% |  | 0.7 | | 0.420 | 2.4% | 208 | +1.3% |  | 1.6 | 0.212 |
| Furniture or equipment | 1.4% | 282 | 2.1% | 101 | +0.7% |  | 0.2 | | 0.640 | 2.6% | 208 | +1.2% |  | 0.9 | 0.354 |
| Supplies | 0.4% | 282 | 2.1% | 101 | +1.7% |  | 1.5 | | 0.227 | 2.6% | 208 | +2.2% | \* | 4.0 | 0.045 |
| Other | 2.3% | 282 | 0.0% | 101 | -2.3% |  | 2.9 | | 0.090 | 0.7% | 208 | -1.6% |  | 2.1 | 0.144 |

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

Associations or Affiliations by Texas Rising Star Status, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Church or religious organization | 8.0% | 283 | 4.5% | 101 | -3.5% |  | 1.3 | | 0.249 | 8.2% | 208 | +0.2% |  | 0.0 | 0.952 |
| Community-based organization | 0.0% | 283 | 1.3% | 101 | +1.3% |  | 1.2 | | 0.273 | 2.5% | 208 | +2.5% | \*\* | 6.8 | 0.009 |
| YMCA/ YWCA | 12.8% | 283 | 2.6% | 101 | -10.2% | \*\* | 10.8 | | 0.001 | 4.0% | 208 | -8.8% | \*\* | 12.9 | 0.000 |
| Public school | 15.8% | 283 | 7.6% | 101 | -8.2% | \* | 5.4 | | 0.020 | 5.3% | 208 | -10.5% | \*\* | 14.3 | 0.000 |
| Private or parochial school | 1.5% | 283 | 0.0% | 101 | -1.5% |  | 2.4 | | 0.119 | 0.0% | 208 | -1.5% | \* | 3.9 | 0.048 |

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

Staffing Patterns by Texas Rising Star Status, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Part-time staffing ratio: Percent of staff members that are part-time | 29.1% | 261 | 21.9% | 96 | -7.2% | \* | 4.5 | | 0.034 | 20.5% | 203 | -8.6% | \*\* | 10.4 | 0.001 |
| Turnover ratio: percent of teachers leaving in the last year | 35.9% | 230 | 33.1% | 88 | -2.8% |  | 0.3 | | 0.558 | 26.0% | 186 | -9.9% | \* | 6.6 | 0.011 |
| Children per teacher ratio, infants | 4.6 | 178 | 4.5 | 79 | -0.1 |  | 0.3 | | 0.566 | 4.3 | 180 | -0.3 | \* | 6.2 | 0.013 |
| Children per teacher ratio, toddlers | 8.2 | 194 | 8.1 | 87 | -0.1 |  | 0.2 | | 0.677 | 7.9 | 193 | -0.3 |  | 1.8 | 0.185 |
| Children per teacher ratio, preschoolers | 12.7 | 248 | 13.1 | 92 | 0.4 |  | 0.5 | | 0.494 | 12.9 | 196 | 0.2 |  | 0.2 | 0.655 |
| Children per teacher ratio, school age | 15.8 | 219 | 16.7 | 81 | 0.9 |  | 1.1 | | 0.307 | 16.7 | 161 | 0.9 |  | 1.6 | 0.208 |
| Teachers per classroom ratio, infants | 1.7 | 179 | 1.7 | 79 | 0.0 |  | 0.0 | | 0.932 | 1.9 | 180 | 0.2 | \*\* | 8.9 | 0.003 |
| Teachers per classroom ratio, toddlers | 1.4 | 194 | 1.4 | 87 | 0.0 |  | 0.0 | | 0.993 | 1.7 | 193 | 0.3 | \*\* | 11.7 | 0.001 |
| Teachers per classroom ratio, preschoolers | 1.5 | 248 | 1.5 | 92 | 0.0 |  | 0.2 | | 0.639 | 1.5 | 196 | 0.0 |  | 0.3 | 0.598 |
| Teachers per classroom ratio, school age | 1.6 | 219 | 1.7 | 81 | 0.1 |  | 0.1 | | 0.715 | 1.6 | 161 | 0.0 |  | 0.2 | 0.651 |
| Cover for absent staff: director substitutes | 21.8% | 265 | 16.8% | 97 | -5.0% |  | 1.3 | | 0.256 | 11.5% | 204 | -10.3% | \*\* | 9.0 | 0.003 |
| Cover for absent staff: existing staff member substitutes | 70.0% | 265 | 78.1% | 97 | +8.1% |  | 2.6 | | 0.107 | 81.1% | 204 | +11.1% | \*\* | 7.9 | 0.005 |

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

Staffing Education and Experience Patterns by Texas Rising Star Status, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Staff with highest degree - High school or GED | 77.9% | 247 | 76.8% | 96 | -1.1% |  | 0.1 | | 0.706 | 67.4% | 194 | -10.5% | \*\* | 20.7 | <.0001 |
| Staff with highest degree - Associates | 9.8% | 246 | 10.1% | 96 | +0.3% |  | 0.0 | | 0.873 | 12.8% | 194 | +3.0% |  | 3.5 | 0.061 |
| Staff with highest degree - Bachelors | 9.9% | 246 | 10.4% | 97 | +0.5% |  | 0.1 | | 0.806 | 15.8% | 198 | +5.9% | \*\* | 15.0 | 0.000 |
| Staff with highest degree - Masters | 1.3% | 250 | 0.8% | 97 | -0.5% |  | 0.4 | | 0.520 | 1.8% | 199 | +0.5% |  | 1.1 | 0.286 |
| Staff with highest degree - Doctorate | 0.2% | 251 | 0.3% | 97 | +0.1% |  | 0.2 | | 0.623 | 0.2% | 199 | 0% |  | 0.0 | 0.996 |
| Direct care staff with a CDA | 17.5% | 234 | 23.6% | 93 | +6.1% | \* | 4.1 | | 0.043 | 27.4% | 202 | +9.9% | \*\* | 17.9 | <.0001 |
| Staff with 6 or more years of experience working in ECE | 46.2% | 263 | 41.7% | 98 | -4.5% |  | 1.8 | | 0.186 | 49.7% | 205 | +3.5% |  | 1.6 | 0.201 |
| Staff with less than two years of experience working in ECE | 28.1% | 263 | 26.7% | 98 | -1.4% |  | 0.2 | | 0.656 | 18.9% | 205 | -9.2% | \*\* | 13.0 | 0.000 |

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

Staff Training by Texas Rising Star Status, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Conference or workshop fees | 49.3% | 260 | 48.6% | 95 | -0.7% |  | 0.0 | | 0.911 | 60.1% | 195 | +10.8% | \* | 5.2 | 0.023 |
| Online training fees | 61.0% | 255 | 52.4% | 94 | -8.6% |  | 2.1 | | 0.153 | 57.4% | 196 | -3.6% |  | 0.6 | 0.451 |
| Onsite training fees | 63.3% | 260 | 55.3% | 95 | -8.0% |  | 1.8 | | 0.177 | 62.6% | 200 | -0.7% |  | 0.0 | 0.895 |
| Payments to substitutes to cover the classroom while staff are in training | 13.8% | 258 | 17.1% | 94 | +3.3% |  | 0.5 | | 0.473 | 22.8% | 199 | +9.0% | \* | 6.3 | 0.013 |
| Travel costs for off-site training | 26.4% | 259 | 18.6% | 95 | -7.8% |  | 2.4 | | 0.125 | 27.7% | 194 | +1.3% |  | 0.1 | 0.745 |

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

Wages and Benefits by Texas Rising Star Status, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Hourly wage for full-time teacher | $10.48 | 232 | $10.38 | 83 | -$0.10 |  | 0.1 | | 0.732 | $11.26 | 179 | $0.78 | \*\* | 13.4 | 0.000 |
| Hourly wage for full-time assistant teacher | $9.94 | 187 | $9.95 | 61 | $0.01 |  | 0.0 | | 0.958 | $10.13 | 146 | $0.19 |  | 0.9 | 0.351 |
| Hourly wage for full-time lead teacher | $11.40 | 187 | $11.43 | 61 | $0.03 |  | 0.0 | | 0.926 | $12.09 | 146 | $0.69 | \* | 5.1 | 0.025 |
| Difference in hourly wage between highest and lowest paid teachers | $2.17 | 219 | $2.20 | 76 | $0.03 |  | 0.0 | | 0.937 | $2.77 | 156 | $0.60 | \*\* | 8.2 | 0.005 |
| Benefits - Retirement programs such as annuity, 401(k) or 403(b) plan | 24.0% | 262 | 24.8% | 96 | +0.8% |  | 0.0 | | 0.889 | 49.3% | 202 | +25.3% | \*\* | 36.3 | <.0001 |
| Benefits - Reduced tuition for staff children enrolled in your program | 86.3% | 262 | 86.7% | 96 | +0.4% |  | 0.0 | | 0.909 | 90.2% | 203 | +3.9% |  | 1.7 | 0.200 |
| Benefits - Tuition assistance for college/CDA courses | 34.1% | 260 | 55.6% | 97 | +21.5% | \*\* | 14.2 | | 0.000 | 68.6% | 204 | +34.5% | \*\* | 59.4 | <.0001 |
| Benefits - Health insurance | 32.0% | 262 | 33.6% | 97 | +1.6% |  | 0.1 | | 0.784 | 56.7% | 202 | +24.7% | \*\* | 30.5 | <.0001 |
| Benefits - Paid time off for vacation, holidays, or other | 76.0% | 261 | 86.5% | 97 | +10.5% | \* | 5.8 | | 0.017 | 91.3% | 202 | +15.3% | \*\* | 19.5 | <.0001 |
| Hourly wage for full-time teacher | $10.48 | 232 | $10.38 | 83 | -$0.10 |  | 0.1 | | 0.732 | $11.26 | 179 | $0.78 | \*\* | 13.4 | 0.000 |

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

Curriculum, Assessment, and Planning Time by Texas Rising Star Status, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Use a curriculum or prepared set of learning and play activities | 82.9% | 251 | 91.3% | 93 | +8.4% | \* | 5.2 | | 0.023 | 95.8% | 203 | +12.9% | \*\* | 20.2 | <.0001 |
| Curriculum - Developed by provider | 42.4% | 205 | 20.2% | 84 | -22.2% | \*\* | 12.9 | | 0.000 | 40.6% | 195 | -1.8% |  | 0.2 | 0.698 |
| Curriculum - Creative Curriculum® | 2.4% | 205 | 11.2% | 84 | +8.8% | \*\* | 7.3 | | 0.007 | 9.9% | 195 | +7.5% | \*\* | 8.9 | 0.003 |
| Curriculum - Frog street | 17.3% | 205 | 42.9% | 84 | +25.6% | \*\* | 20.3 | | <.0001 | 34.2% | 194 | +16.9% | \*\* | 14.7 | 0.000 |
| Curriculum - Other | 38.3% | 205 | 29.8% | 84 | -8.5% |  | 2.1 | | 0.148 | 22.4% | 195 | -15.9% | \*\* | 12.2 | 0.001 |
| Total paid hours each week are direct care staff are given for planning children's activities | 3.0 | 256 | 3.0 | 94 | 0.0 |  | 0.1 | | 0.773 | 3.4 | 194 | 0.4 |  | 2.3 | 0.131 |
| Use formal assessments to measure children's developmental progress | 48.9% | 265 | 84.0% | 97 | +35.1% | \*\* | 43.2 | | <.0001 | 79.3% | 204 | +30.4% | \*\* | 52.9 | <.0001 |
| Use informal assessments to measure children's developmental progress | 29.1% | 265 | 13.2% | 97 | -15.9% | \*\* | 10.5 | | 0.001 | 17.4% | 204 | -11.7% | \*\* | 9.2 | 0.003 |
| Use a curriculum or prepared set of learning and play activities | 82.9% | 251 | 91.3% | 93 | +8.4% | \* | 5.2 | | 0.023 | 95.8% | 203 | +12.9% | \*\* | 20.2 | <.0001 |

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

### Detailed Tables by Texas Rising Star, Homes

Elements of Program Structure by Texas Rising Star Status, Homes

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Licensed Child Care Home | 43.5% | 30 | 67.6% | 14 | +24.1% |  | 2.3 | | 0.131 | 79.6% | 28 | +36.1% | \*\* | 8.9 | 0.004 |
| Home serves infants | 51.4% | 30 | 53.9% | 14 | +2.5% |  | 0.0 | | 0.886 | 57.4% | 28 | +6.0% |  | 0.2 | 0.649 |
| Home serves toddlers | 88.4% | 30 | 80.1% | 14 | -8.3% |  | 0.7 | | 0.408 | 96.8% | 28 | +8.4% |  | 1.2 | 0.277 |
| Home serves preschoolers | 83.3% | 30 | 88.1% | 14 | +4.8% |  | 0.2 | | 0.681 | 91.1% | 28 | +7.8% |  | 0.8 | 0.384 |
| Home serves school age children | 61.1% | 30 | 75.7% | 14 | +14.6% |  | 0.8 | | 0.379 | 57.4% | 28 | -3.7% |  | 0.1 | 0.773 |
| Waitlist: Infants (0-17 months) | 14.5% | 30 | 29.9% | 14 | +15.4% |  | 1.1 | | 0.306 | 47.6% | 28 | +33.1% | \*\* | 8.4 | 0.005 |
| Waitlist: Toddlers (18-35 months) | 32.8% | 30 | 40.9% | 14 | +8.1% |  | 0.3 | | 0.622 | 35.3% | 28 | +2.5% |  | 0.0 | 0.846 |
| Waitlist: Preschool (36-71 months) | 13.9% | 30 | 23.7% | 14 | +9.8% |  | 0.7 | | 0.423 | 12.3% | 28 | -1.6% |  | 0.0 | 0.867 |
| Waitlist: School age (72+ months) | 3.4% | 30 | 23.7% | 14 | +20.3% | \* | 5.9 | | 0.018 | 3.7% | 28 | +0.3% |  | 0.0 | 0.970 |

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

Staff Education and Experience by Texas Rising Star Status, Homes

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Director |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| Highest degree - High school or GED | 33.0% | 30 | 37.7% | 14 | +4.7% |  | 0.1 | | 0.779 | 48.5% | 27 | +15.5% |  | 1.4 | 0.234 |
| Highest degree - Associates | 40.9% | 30 | 49.7% | 14 | +8.8% |  | 0.3 | | 0.600 | 31.8% | 27 | -9.1% |  | 0.5 | 0.483 |
| Highest degree - Bachelors or beyond | 26.1% | 30 | 12.6% | 14 | -13.5% |  | 0.9 | | 0.340 | 19.7% | 27 | -6.4% |  | 0.4 | 0.557 |
| Child Development Associate (CDA) credential | 45.5% | 30 | 41.1% | 14 | -4.4% |  | 0.1 | | 0.786 | 73.3% | 28 | +27.8% | \* | 4.9 | 0.031 |
| Years of experience working in child care or early childhood education | 17.7 | 30 | 19.0 | 14 | 1.3 |  | 0.2 | | 0.632 | 22.5 | 28 | 4.8 | \* | 5.3 | 0.025 |
| Helper |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| Highest degree - High school or GED | 78.5% | 11 | 74.5% | 4 | -4.0% |  | 0.0 | | 0.899 | 45.1% | 11 | -33.4% |  | 2.8 | 0.110 |
| Highest degree - Associates | 9.0% | 11 | 25.5% | 4 | +16.5% |  | 0.4 | | 0.555 | 38.7% | 11 | +29.7% |  | 2.8 | 0.110 |
| Highest degree - Bachelors or beyond | 12.6% | 11 | 0.0% | 4 | -12.6% |  | 0.3 | | 0.584 | 16.3% | 11 | +3.7% |  | 0.1 | 0.802 |
| Helper has a CDA Credential | 0.0% | 11 | 25.5% | 4 | +25.5% |  | 1.1 | | 0.306 | 38.0% | 12 | +38.0% | \* | 6.0 | 0.022 |
| Less than 2 years of experience in ECE | 15.7% | 11 | 0.0% | 4 | -15.7% |  | 0.3 | | 0.564 | 31.3% | 12 | +15.6% |  | 0.8 | 0.369 |

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

Training Expenses by Texas Rising Star Status, Homes

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Conference or workshop fees | 57.1% | 30 | 35.9% | 14 | -21.2% |  | 1.6 | | 0.215 | 51.8% | 27 | -5.3% |  | 0.2 | 0.690 |
| Online training fees | 72.8% | 30 | 85.6% | 14 | +12.8% |  | 0.8 | | 0.390 | 74.1% | 28 | +1.3% |  | 0.0 | 0.910 |
| Onsite training fees | 65.1% | 30 | 57.3% | 14 | -7.8% |  | 0.2 | | 0.644 | 51.5% | 28 | -13.6% |  | 1.1 | 0.297 |
| Travel costs for off-site training | 34.4% | 30 | 36.4% | 14 | +2.0% |  | 0.0 | | 0.902 | 41.4% | 27 | +7.0% |  | 0.3 | 0.586 |

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

Earnings and Benefits by Texas Rising Star Status, Homes

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| All household income in 2019 came from taking care of children | 60.2% | 22 | 64.4% | 12 | +4.2% |  | 0.1 | | 0.827 | 46.6% | 21 | -13.6% |  | 0.8 | 0.371 |
| Almost all or all household income in 2019 came from taking care of children | 80.8% | 22 | 92.2% | 12 | +11.4% |  | 0.5 | | 0.480 | 54.6% | 21 | -26.2% | \* | 4.1 | 0.048 |
| Offer or provide your helper with free or reduced-cost child care | 34.2% | 11 | 0.0% | 4 | -34.2% |  | 1.3 | | 0.275 | 35.7% | 12 | +1.5% |  | 0.0 | 0.939 |
| Days per year home closes for personal vacation, summer or any other reasons | 1.4 | 30 | 2.6 | 14 | 1.2 |  | 1.2 | | 0.275 | 3.1 | 28 | 1.7 | \* | 4.2 | 0.044 |
| Days per year home closes for national, state, or religious holidays | 11.9 | 30 | 10.4 | 14 | -1.5 |  | 0.8 | | 0.364 | 11.2 | 28 | -0.7 |  | 0.3 | 0.591 |
| Minimum hourly wage provider would accept if offered another job that required them to close their home | $21.46 | 21 | $22.22 | 9 | $0.76 |  | 0.1 | | 0.791 | $21.18 | 17 | -$0.28 |  | 0.0 | 0.899 |

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

Staffing Patterns by Texas Rising Star Status, Homes

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Number of children cared for when director has a helper | 11.8 | 11 | 11.2 | 4 | -0.6 |  | 0.2 | | 0.669 | 11.6 | 12 | -0.2 |  | 0.1 | 0.792 |
| Number of children cared for when director is alone | 10.2 | 8 | 8.6 | 3 | -1.6 |  | 0.4 | | 0.528 | 9.4 | 10 | -0.8 |  | 0.2 | 0.638 |
| Director takes care of own children as well as the children of others | 34.3% | 30 | 48.6% | 14 | +14.3% |  | 0.7 | | 0.393 | 42.3% | 28 | +8.0% |  | 0.4 | 0.537 |

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

Curriculum, Assessment, and Planning Time by Texas Rising Star Status, Homes

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Home uses a curriculum or prepared set of activities: | 78.7% | 29 | 92.6% | 14 | +13.9% |  | 1.7 | | 0.204 | 96.3% | 28 | +17.6% | \* | 4.4 | 0.039 |
| Developed by provider | 32.8% | 23 | 21.9% | 13 | -10.9% |  | 0.5 | | 0.488 | 18.4% | 27 | -14.4% |  | 1.4 | 0.240 |
| Creative Curriculum® | 4.5% | 23 | 9.1% | 13 | +4.6% |  | 0.2 | | 0.659 | 12.3% | 27 | +7.8% |  | 1.0 | 0.334 |
| Frog street | 0.0% | 23 | 27.8% | 13 | +27.8% | \* | 4.5 | | 0.039 | 30.1% | 27 | +30.1% | \*\* | 8.7 | 0.005 |
| Other | 46.0% | 23 | 53.2% | 13 | +7.2% |  | 0.2 | | 0.692 | 38.3% | 27 | -7.7% |  | 0.3 | 0.584 |
| Number of paid hours each week direct care staff are allowed for planning childrens activities | 7.1 | 29 | 6.3 | 13 | -0.8 |  | 0.2 | | 0.665 | 7.0 | 28 | -0.1 |  | 0.0 | 0.976 |
| Home uses formal assessments to measure children's developmental progress | 44.2% | 29 | 56.8% | 14 | +12.6% |  | 0.5 | | 0.463 | 59.6% | 28 | +15.4% |  | 1.4 | 0.245 |
| Home uses informal assessments to measure children's developmental progress | 41.2% | 30 | 22.6% | 14 | -18.6% |  | 1.3 | | 0.256 | 34.2% | 28 | -7.0% |  | 0.3 | 0.576 |

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

### Detailed Tables, Follow-up, Response to COVID-19

Special COVID-19 Related Supports by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Received a Paycheck Protection Program (PPP) loan from the Small Business Administration (SBA) | 51.9% | 185 | 43.9% | 139 | -8.0% |  | 2.0 | 0.159 |
| Do you expect to have to pay back your PPP loan? | 12.5% | 82 | 1.4% | 65 | -11.1% | \* | 6.5 | 0.012 |
| Received rent or mortgage payment deferrals | 1.7% | 185 | 2.7% | 139 | 1.0% |  | 0.3 | 0.563 |
| Received enhanced reimbursement rates from TWC | 7.9% | 185 | 20.4% | 139 | 12.5% | \*\* | 10.5 | 0.001 |
| Received funds for minor program modifications to meet safety guidelines | 1.7% | 185 | 1.7% | 139 | 0.0% |  | 0.0 | 0.973 |
| Received other grants | 3.9% | 185 | 4.4% | 139 | 0.5% |  | 0.1 | 0.804 |
| Received other loans | 1.5% | 185 | 0.9% | 139 | -0.6% |  | 0.2 | 0.649 |
| Have you received any donations related to COVID-19 such as PPE or cleaning supplies? | 56.7% | 179 | 61.9% | 135 | 5.2% |  | 0.8 | 0.362 |

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

Special COVID-19 Related Supports by Texas Rising Star, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Received a Paycheck Protection Program (PPP) loan from the Small Business Administration (SBA) | 48.2% | 153 | 52.4% | 61 | +4.2% |  | 0.3 | | 0.578 | 52.7% | 141 | +4.5% |  | 0.6 | 0.441 |
| Do you expect to have to pay back your PPP loan? | 12.2% | 70 | 3.5% | 28 | -8.7% |  | 2.3 | | 0.135 | 2.6% | 70 | -9.6% | \* | 5.1 | 0.026 |
| Received rent or mortgage payment deferrals | 1.5% | 153 | 2.5% | 61 | +1.0% |  | 0.1 | | 0.706 | 4.8% | 141 | +3.3% |  | 2.8 | 0.098 |
| Received funds for minor program modifications to meet safety guidelines | 1.4% | 153 | 0.1% | 61 | -1.3% |  | 0.5 | | 0.501 | 2.6% | 141 | +1.2% |  | 0.6 | 0.435 |
| Received other grants | 3.4% | 153 | 1.8% | 61 | -1.6% |  | 0.3 | | 0.609 | 7.0% | 141 | +3.6% |  | 2.2 | 0.138 |
| Received other loans | 1.9% | 153 | 0.0% | 61 | -1.9% |  | 0.8 | | 0.385 | 2.9% | 141 | +1.0% |  | 0.4 | 0.546 |
| Have you received any donations related to COVID-19 such as PPE or cleaning supplies? | 62.3% | 148 | 64.7% | 60 | +2.4% |  | 0.1 | | 0.749 | 65.7% | 139 | +3.4% |  | 0.4 | 0.557 |

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

Staffing, Closure, and Rate Increases by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Have you had to lay off staff due to COVID-19? | 21.0% | 178 | 26.9% | 138 | 5.9% |  | 1.4 | 0.231 |
| Have any of your staff quit or retired early due to COVID-19? | 51.6% | 178 | 56.6% | 138 | 5.0% |  | 0.7 | 0.389 |
| Have you closed your facility or stopped serving children for any period of time due to COVID-19? | 48.7% | 185 | 57.0% | 139 | 8.3% |  | 2.1 | 0.147 |
| Number of weeks facility closed or stopped serving children due to COVID-19 | 5.4 | 81 | 4.1 | 75 | -1.3 |  | 2.3 | 0.128 |
| Have you had to raise your regular rates to make up for these additional costs? | 16.3% | 182 | 16.3% | 137 | 0.0% |  | 0.0 | 0.995 |

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

Staffing, Closure, and Rate Increases by Texas Rising Star, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Have you had to lay off staff due to COVID-19? | 15.7% | 147 | 19.0% | 60 | +3.3% |  | 0.3 | | 0.596 | 25.5% | 137 | +9.8% | \* | 4.3 | 0.040 |
| Have any of your staff quit or retired early due to COVID-19? | 46.1% | 147 | 49.5% | 60 | +3.4% |  | 0.2 | | 0.659 | 59.9% | 137 | +13.8% | \* | 5.4 | 0.021 |
| Have you closed your facility or stopped serving children for any period of time due to COVID-19? | 47.4% | 153 | 53.2% | 60 | +5.8% |  | 0.6 | | 0.446 | 57.9% | 141 | +10.5% |  | 3.3 | 0.073 |
| Number of weeks facility closed or stopped serving children due to COVID-19 | 4.5 | 65 | 3.7 | 31 | -0.8 |  | 0.6 | | 0.460 | 4.4 | 76 | -0.1 |  | 0.0 | 0.902 |
| Have you had to raise your regular rates to make up for these additional costs? | 16.7% | 151 | 9.3% | 59 | -7.4% |  | 1.6 | | 0.204 | 21.7% | 140 | +5.0% |  | 1.2 | 0.266 |

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

Capacity to Serve Children by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Capacity to serve children decreased or stopped altogether due to COVID-19 | 74.5% | 186 | 69.8% | 139 | -4.7% |  | 0.8 | 0.361 |
| Number of infants cared for decreased or stopped altogether since COVID-19 | 56.2% | 186 | 60.4% | 139 | 4.2% |  | 0.6 | 0.441 |
| Number of toddlers cared for decreased or stopped altogether since COVID-19 | 62.3% | 186 | 62.8% | 139 | 0.5% |  | 0.0 | 0.923 |
| Number of preschoolers cared for decreased or stopped altogether since COVID-19 | 69.8% | 186 | 69.2% | 139 | -0.6% |  | 0.0 | 0.912 |
| Number of school-age children cared for decreased or stopped altogether since COVID-19 | 65.5% | 186 | 64.1% | 139 | -1.4% |  | 0.1 | 0.795 |

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

Capacity to Serve Children by Texas Rising Star, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Capacity to serve children decreased or stopped altogether due to COVID-19 | 75.3% | 154 | 76.4% | 61 | +1.1% |  | 0.0 | | 0.869 | 73.3% | 141 | -2.0% |  | 0.2 | 0.696 |
| Number of infants cared for decreased or stopped altogether since COVID-19 | 57.0% | 154 | 71.4% | 61 | +14.4% | \* | 3.9 | | 0.049 | 65.0% | 141 | +8.0% |  | 2.0 | 0.155 |
| Number of toddlers cared for decreased or stopped altogether since COVID-19 | 62.9% | 154 | 62.8% | 61 | -0.1% |  | 0.0 | | 0.989 | 65.3% | 141 | +2.4% |  | 0.2 | 0.670 |
| Number of preschoolers cared for decreased or stopped altogether since COVID-19 | 68.9% | 154 | 72.2% | 61 | +3.3% |  | 0.2 | | 0.635 | 72.7% | 141 | +3.8% |  | 0.5 | 0.472 |
| Number of school-age children cared for decreased or stopped altogether since COVID-19 | 66.5% | 154 | 68.8% | 61 | +2.3% |  | 0.1 | | 0.741 | 71.3% | 141 | +4.8% |  | 0.8 | 0.379 |

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

COVID-19 Additional Costs by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| COVID-19 additional cost - Cleaning supplies - How much overall per month? | $402 | 31 | $492 | 19 | $90 |  | 0.4 | 0.560 |
| COVID-19 additional cost - PPE - How much overall per month? | $202 | 24 | $459 | 18 | $257 | \* | 5.5 | 0.024 |

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

COVID-19 Additional Costs by Texas Rising Star, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| COVID-19 additional cost - Cleaning supplies - How much overall per month? | $433 | 27 | $217 | 11 | -$216 |  | 1.3 | | 0.257 | $526 | 19 | $93 |  | 0.3 | 0.561 |
| COVID-19 additional cost - PPE - How much overall per month? | $182 | 18 | $131 | 9 | -$51 |  | 0.3 | | 0.589 | $378 | 15 | $196 | \* | 5.8 | 0.021 |

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

### Detailed Tables, Follow-up, Operational Changes

Changes in Staffing, Centers

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2020 Adjusted Mean | 2021 Adjusted Mean | df | Change over Time | | F-value | prob |
| How many direct care staff work at your center? | 18.8 | 15.7 | 442 | -3.1 | \*\* | 84.6 | 0.000 |
| Staff with 6 or more years of experience working in ECE | 45.1% | 47.1% | 442 | 2.0% |  | 1.8 | 0.181 |
| Staff with less than two years of experience working in ECE | 26.4% | 25.4% | 442 | -1.0% |  | 0.3 | 0.560 |
| Children per teacher ratio, infants | 4.4 | 4.2 | 350 | -0.2 | \*\* | 13.1 | 0.000 |
| Children per teacher ratio, toddlers | 7.9 | 7.4 | 394 | -0.5 | \*\* | 19.8 | 0.000 |
| Children per teacher ratio, preschoolers | 12.9 | 11.7 | 421 | -1.2 | \*\* | 26.6 | 0.000 |
| Children per teacher ratio, school age | 17.8 | 15.4 | 355 | -2.4 | \*\* | 40.2 | 0.000 |
| Teachers per classroom ratio, infants | 2.0 | 1.9 | 367 | -0.1 | \*\* | 21.4 | 0.000 |
| Teachers per classroom ratio, toddlers | 1.8 | 1.7 | 410 | -0.1 | \*\* | 8.8 | 0.003 |
| Teachers per classroom ratio, preschoolers | 1.6 | 1.5 | 438 | -0.1 |  | 0.2 | 0.646 |
| Teachers per classroom ratio, school age | 1.7 | 1.6 | 366 | -0.1 |  | 3.1 | 0.078 |

Source: RMC statistical analysis of cost of quality data. Note: \*\*=2021 measure significantly different from 2020 measure at p<.01, \*= at p<.05

Changes in Program Structure, Centers

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2020 Adjusted Mean | 2021 Adjusted Mean | df | Change over Time | | F-value | prob |
| Center serves infants | 99.3% | 98.7% | 398 | -0.6% |  | 0.6 | 0.439 |
| Center serves toddlers | 99.8% | 98.9% | 433 | -0.9% |  | 2.3 | 0.128 |
| Center serves preschoolers | 98.5% | 96.2% | 489 | -2.3% | \* | 5.2 | 0.022 |
| Center serves school age children | 94.2% | 92.5% | 440 | -1.7% |  | 1.0 | 0.321 |
| Waitlist exists, full-time infants | 51.4% | 48.5% | 378 | -2.9% |  | 1.0 | 0.319 |
| Waitlist exists, full-time toddlers | 36.4% | 34.9% | 421 | -1.5% |  | 0.4 | 0.545 |
| Waitlist exists, full-time preschoolers | 17.6% | 26.0% | 448 | 8.4% | \*\* | 17.9 | 0.000 |
| Waitlist exists, part-time school age | 12.3% | 17.6% | 378 | 5.3% | \* | 6.1 | 0.014 |

Source: RMC statistical analysis of cost of quality data. Note: \*\*=2021 measure significantly different from 2020 measure at p<.01, \*= at p<.05

### Detailed Tables, Follow-up, Resilience

Remained Licensed or Registered by Accreditation, Centers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-accredited adjusted mean | Non-accredited sample size | Accredited adjusted mean | Accredited sample size | Difference Associated with Accreditation | | F-value | prob |
| Registered at 8 month follow-up | 62.7% | 357 | 79.6% | 191 | 16.9% | \*\* | 18.8 | <.0001 |
| Registered at 12 month follow-up | 77.2% | 357 | 88.5% | 191 | 11.3% | \*\* | 13.1 | 0.000 |
| Registered at 20 month follow-up | 82.9% | 357 | 88.9% | 191 | 6.0% |  | 3.6 | 0.059 |
| Registered at 24 month follow-up | 81.2% | 357 | 91.2% | 191 | 10.0% | \*\* | 9.6 | 0.002 |
| Registered at 28 month follow-up | 79.0% | 357 | 87.7% | 191 | 8.7% | \* | 6.4 | 0.012 |
| Continuously registered at all follow-up dates | 51.1% | 357 | 68.7% | 191 | 17.6% | \*\* | 16.9 | <.0001 |

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

Remained Licensed or Registered by Texas Rising Star, Centers

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outcome | Non-Certified | Non-certified N | Texas Rising Star 2 or 3 Star | Texas Rising Star 2 or 3 Star N | 2 or 3 Star Difference | | F-value | prob | | Texas Rising Star 4 Star | Texas Rising Star 4 Star N | 4 Star Difference | | F-value | prob |
| Registered at 8 month follow-up | 65.6% | 282 | 78.0% | 101 | +12.4% | \*\* | 7.3 | | 0.007 | 85.8% | 208 | +20.2% | \*\* | 30.7 | <.0001 |
| Registered at 12 month follow-up | 76.4% | 282 | 84.1% | 101 | +7.7% | \* | 4.0 | | 0.046 | 93.4% | 208 | +17.0% | \*\* | 31.2 | <.0001 |
| Registered at 20 month follow-up | 82.2% | 282 | 84.4% | 101 | +2.2% |  | 0.3 | | 0.588 | 89.8% | 208 | +7.6% | \* | 5.6 | 0.018 |
| Registered at 24 month follow-up | 80.8% | 282 | 84.5% | 101 | +3.7% |  | 0.8 | | 0.368 | 89.5% | 208 | +8.7% | \*\* | 7.1 | 0.008 |
| Registered at 28 month follow-up | 78.4% | 282 | 83.2% | 101 | +4.8% |  | 1.2 | | 0.266 | 88.2% | 208 | +9.8% | \*\* | 8.1 | 0.005 |
| Continuously registered at all follow-up dates | 52.4% | 282 | 57.7% | 101 | +5.3% |  | 1.0 | | 0.326 | 73.6% | 208 | +21.2% | \*\* | 24.4 | <.0001 |

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

1. Texas Covid-19 case data downloaded from: https://dshs.texas.gov/coronavirus/AdditionalData.aspx [↑](#footnote-ref-2)
2. Corrections to extreme outliers involved replacing them with the nearest non-outlier value. [↑](#footnote-ref-3)