

Cost of Care in Kentucky: Part 2

2024 Kentucky Cost Model for Licensed Centers



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ABOUT THE ORGANIZATION & PROGRAMS

Child Care Aware of Kentucky is the statewide regional network for Child Care Resource and Referral (CCR&R) services supporting access to safe, affordable, quality child care for families and professional development for child care providers and trainers.

Child Care Aware of Kentucky is housed at the Human Development Institute at the University of Kentucky. The Human Development Institute is Kentucky's University Center for Excellence in Developmental Disabilities Education, Research and Service. Projects focus on improving lifelong opportunities and services for individuals with disabilities, their families, and the community.

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The Cost of Care in Kentucky

Part 2: 2024 Kentucky Cost Model for Licensed Centers

The Cost of Care in Kentucky is a two-part research study conducted in support of the Kentucky Cabinet for Health and Family Services, Division of Child Care (DCC), as required by the Child Care and Development Fund (CCDF) Final Rule. This study provides data to inform the provision of Child Care and Development Block Grant (CCDBG) subsidies that are sufficient to ensure that eligible children have the same access as non-eligible children to child care spots. Part 1 is the 2024 Kentucky Child Care Market Rate Survey, submitted on 4/29/24. This traditional market rate study was based on a statewide survey of providers. Part 2 is the 2024 Kentucky Cost Model for Licensed Centers. In this study, cost models for both small and large licensed child care centers are developed and presented.

Purpose of a Cost Model

Child care providers are critical to supporting families who need safe, high-quality environments in which children from birth to school age can be nurtured while their families are working. However, the business model behind providing this kind of care is challenging to providers and families alike (Aigner-Treworgy, Osborn, & Smith, 2022; Coffey, 2023; U.S. Department of the Treasury, 2021). The fees collected from families, including families that receive federal subsidies from the government to help pay for their child care, typically do not cover all the costs of running a safe and high-quality center. These include personnel costs such as wages and benefits and non-personnel costs like rent or mortgage, insurance, utilities, food costs, or classroom supplies.

The concept of supply and demand is fundamental to market economics. When looking at the provision of child care, market rate studies, like the one completed in part 1 of this research, focus on the demand side. Simply put, the focus is the cost to families of securing child care. Market rates represent a snapshot in time of how much providers charge families. This reflects whatever the current inputs are in the system including typically low wages and lack of widespread access to benefits for workers (Coffey, 2023). These rates are traditionally the primary data tool that states use to set subsidy reimbursements that are meant to expand access to families.

Alternatively, a cost model looks at the supply side by calculating the value of all the resources required to provide quality care to children. Cost models present a data-informed picture of the child care business. They represent the existing reality and explore the implications of delivering higher quality child care services to families.

To explore these costs, the Office of Child Care commissioned the Child Care Technical Assistance Network to develop the Provider Cost of Quality Calculator (PCQC, <https://pcqc.acf.hhs.gov/dashboard>) as an online tool for providers to estimate annual costs and revenue for a child care business at different levels of quality. This tool is also useful to researchers and policy makers as they seek to determine what supports are necessary to promote equitable access to child care in a particular area. This study uses inputs reported by a broad sample of Kentucky licensed child care center providers to produce cost models using the PCQC. These models reflect the cost of caring for young children in the Commonwealth of Kentucky.

This report describes the pilot phase working with the PCQC in a small sample of providers, the larger data collection effort to collect wage data on a variety of personnel roles in child care, and the production of cost models to examine baseline costs as well as the implication of quality enhancements to the revenue and

expense statements of a typical child care business. Cost models are presented for two typical licensed child care centers—one small and one large.

Pilot Phase of Cost Modeling

In the pilot phase of this research, after receiving approval from the University of Kentucky Institutional Review Board, we recruited seven child care directors who were willing to use the PCQC and to share their data with the research team. These directors received technical assistance from Child Care Aware coaches to assist them in using the PCQC as needed.

Although the tool is primarily for budget projection, we chose to explore its use as a template to collect data. The PCQC was a new tool to providers and Child Care Aware technical assistance coaches alike. Coaches attended webinars on the use of the tool, developed their own professional learning community to share tips, and received federal technical assistance. Coaches were available to assist providers as they used the PCQC. Although this small sample was not sufficient to provide generalizable data, these data did indicate that these Kentucky child care providers are currently struggling to keep the doors of their centers open. This was consistent with anecdotal evidence across the state.

When considering the PCQC as a large-scale data collection tool we determined filling out all required details for the PCQC, even with assistance from a coach, was too challenging for widespread use. Therefore, as an addition to our current Market Rate Survey, we developed optional questions to provide sufficient Kentucky-based data for modeling. We focused most of our questions on personnel wage data as this is the single greatest driver of costs to centers. We also collected center enrollment data to determine levels of participation in child care subsidy (CCAP) and the Food Program. From these data we calculated median values as inputs to the calculator. For other areas of the model, we relied on the Kentucky-specific calculator defaults for the values.

Methodology

Data Collection

During the Market Rate Survey distribution, 42.73% of the total sample of 1032 licensed child care provider respondents chose to answer the optional questions on wages. This sub-sample represented all areas of the state. The majority of these providers accepted CCAP subsidies for children and included both high quality (3-5 rating in the KY All STARS) and regulatory compliant (1-2 rating in KY All STARS) centers. See Table 1 for more details on the sample demographics.

Table 1. Sample Demographics

Demographic Categories	Total	Percentage
Total Number of Respondents	441	
Provider Type		
Licensed Type 1	431	98%
Licensed Type 2	10	2%
Geographic Region		
East	65	15%
Central	270	61%
West	106	24%
Urban vs. Rural		
Urban	278	63%
Rural	163	37%
CCAP Participant		
Yes	423	96%
No	18	4%
All STARS Quality Designation		
High Quality	191	43%
Regulatory Compliant	246	56%
Opted Out	4	1%
CCA Region		
Cumberland	33	8%
Eastern Mountain	45	10%
Jefferson	99	22%
Northern Bluegrass	54	12%
Salt River	82	19%
Southern Bluegrass	51	12%
The Lakes	40	9%
Two Rivers	37	8%

Use of the PCQC for Modeling

The PCQC tool has been developed for use in all 50 states and includes state-specific defaults. A clear description of the assumptions of the calculator is important to understanding the models that have been developed. Our two base models assume that the provider accepts child care subsidy, participates in the Food Program, and charges typical market rate tuition as calculated in part 1 of this study. To determine CCAP subsidy percentage, the enrollment numbers and the number of children receiving CCAP subsidy reported by providers were calculated to determine the percentage of children receiving CCAP subsidy per center. Then, the percentages of all centers were averaged, and the result was 39%. Survey participants provided Food Program Federal Poverty Level (FPL) percentages for individual centers and those totals were averaged and used as assumptions in the cost models. See Table 2 for a list of the assumptions behind the PCQC.

Table 2. PCQC Assumptions

PCQC Field	Assumption
Subsidy	
Subsidy Accepted	Yes
Percentage of Children Receiving Subsidy	39%
Does Program Charge Difference Between Subsidy and Tuition?	Yes
Food Program	
Food Program Participation	Yes
<130% FPL	43%
130%-185% FPL	23%
>185% FPL	34%
Weekly CCAP Reimbursement Rates	
Infant	\$170
Toddler	\$170
Preschool	\$155
School Age	\$145
Weekly Tuition Rates	
Infant	\$245
Toddler	\$235
Preschool	\$206
School Age	\$185

The PCQC automatically calculates center capacity based on number of classrooms, ratios, and maximum capacity. Small Center capacity was 76 children. Large Center capacity was 136 children. See Table 3 for more

comparisons of the model of a small center versus a large center including the numbers of classrooms, ratios, and maximum group size.

Table 3. Small Center vs. Large Center Classroom Comparison

Age Group	Number of Classrooms		Classroom Type	Child-to-Staff Ratio	Maximum Group Size
	Small Center	Large Center			
Infant	1	1	Full-Time	5:1	10
Toddler	1	2	Full-Time	6:1	12
Preschool	1	3	Full-Time	12:1	24
School Age	1	1	Before/After School + Full-Time Summer	15:1	30

Wages

Since wages are the highest cost for child care centers, variability of wages is one of the main issues that can make or break a business model. There are indications that by increasing wages for child care providers quality of care increases (Brown & Herbst, 2023). Higher wages may contribute to lower turnover and greater professional respect for early childhood educators (Doromal, Bassok, Bellow, & Markowitz, 2022; Gruenwald, Palmer, & Nunn, 2022).

Although the PCQC does have built-in wages based on Bureau of Labor Statistics data for Kentucky, there is an option to input our own data. We calculated median wages for all roles based on our sample data. In Table 4 provider-reported inputs for the calculator are presented next to the Low Wage, Mid Wage, and High Wage default amounts provided by the calculator.

Looking at the medians of Kentucky provider-reported values for Directors and Educational Coordinators, it is notable that these are lower than the Low Wage values taken from the calculator. We also asked for wages for administrative assistants. However, the median rate reported (\$31,500) was much higher than the defaults. It appeared that there may have been some confusion in defining the role of Administrative Assistant versus higher-level administrative roles within the center. In future data collection efforts, we will be certain to clearly define the role of an administrative assistant. For the purposes of our modeling, we used the lower default rate from the PCQC so that data would not be skewed by this difference.

It is also interesting to note that the median of Kentucky provider-reported values for Teacher was considerably lower than the Low Wage values taken from the calculator and is just slightly less than half of the High Wage default, which is Kindergarten Teacher parity. The median of Kentucky provider-reported values for Assistant Teacher was the only salary rate that was higher than the lower default rates in the PCQC, falling between the Low Wage and Mid Wage values.

Assistant Director, Cook, Janitor, Other, and Substitute salaries are Kentucky provider-reported rates which remained constant throughout scenarios. Since these positions were manually added into the PCQC (with the exception of Substitute), no additional salary options were available within the PCQC.

Table 4. Personnel Wage Comparison

Position	Salary Rates				# of Employees per Position
	<i>Provider-Reported</i>	<i>Low Wage</i>	<i>Mid Wage</i>	<i>High Wage</i>	
Director	\$41,808	\$50,840	\$60,293	\$60,293	1
Education Coordinator	\$35,000	\$50,840	\$60,293	\$60,293	1
Administrative Assistant	\$15,080*	\$15,080	\$17,884	\$17,884	1
Teacher	\$29,060	\$40,010	\$47,450	\$54,890	Calculated by PCQC based on # of Classrooms/Ratios
Assistant Teacher	\$27,040	\$25,530	\$30,277	\$35,024	Calculated by PCQC based on # of Classrooms/Ratios
Assistant Director	\$35,000	\$35,000	\$35,000	\$35,000	1
Cook	\$28,000	\$28,000	\$28,000	\$28,000	1
Janitor	\$29,120	\$29,120	\$29,120	\$29,120	1
Other	\$33,280	\$33,280	\$33,280	\$33,280	1
Substitute	\$13.00/hour	\$13.00/hour	\$13.00/hour	\$13.00/hour	Calculated by PCQC based on # of Classrooms/Ratios

Note: *Administrative Assistant Provider-Reported rate replaced by the lower default wage in the PCQC.

As previously described, increasing the wages of child care staff is one way to improve quality and to promote retention. Our cost models examined the impact of increasing wages on the overall profitability of the business model. See Table 5 for a detailed breakdown of the cost differentials of wages as they are increased. These wage differences shape the different cost models for child care settings.

Table 5. Cost Differential – Administrative Staff and Teachers

Position	Provider-Reported	Cost Differential from Provider-Reported to Low Wage	Low Wage	Cost Differential from Low Wage to Mid Wage	Mid Wage	Cost Differential from Mid Wage to High Wage	High Wage	Cost Differential from Provider-Reported to High Wage
Director	\$41,808	-\$9,032	\$50,840	-\$9,453	\$60,293	\$0	\$60,293	-\$18,485
Education Coordinator	\$35,000	-\$15,840	\$50,840	-\$9,453	\$60,293	\$0	\$60,293	-\$25,293
Administrative Assistant	\$15,080	\$0	\$15,080	-\$2,804	\$17,884	\$0	\$17,884	-\$2,804
Teacher	\$29,060	-\$10,950	\$40,010	-\$7,440	\$47,450	-\$7,440	\$54,890	-\$25,830
Assistant Teacher	\$27,040	+\$1,510	\$25,530	-\$4,747	\$30,277	-\$4,747	\$35,024	-\$7,984

There are several important factors to keep in mind regarding the wage options for personnel roles.

- The Director and Education Coordinator Low Wage option is based on Kentucky's average annual wage for Education Administrators, Preschool and Childcare Center/Program (11-9031) from the Bureau of Labor and Statistics.
- The Administrative Assistant Low Wage option is based on Kentucky's minimum wage.
- As PCQC only has two options for Director, Education Coordinator, and Administrative Assistant salaries, the higher wage option was used for both Mid Wage and High Wage scenarios.
- The Director, Education Coordinator, and Administrative Assistant option for Mid and High Wages applies a percent increase of 18.59% based on the same percent increase from Low to Mid Wage as is applied for classroom teachers.

PCQC has three options for Teacher and Assistant Teacher salaries.

Wage Option Info from PCQC:

- Teacher option Low Wage is based on Kentucky's average annual wage for Preschool Teachers, Except Special Education (25-2011) from Bureau of Labor and Statistics. Assistant Teacher Low Wage option is based on Kentucky's average annual wage for Childcare Workers (39-9011) from Bureau of Labor and Statistics.
- Teacher option Mid Wage is the midpoint between options Low and High Wage. Assistant Teacher option Mid Wage applies a percent increase of 18.59% which is the same percent increase from Low to Mid Wage as is applied for classroom teachers.

- Teacher option High Wage is Kentucky’s average annual wage for Kindergarten Teachers (25-2012) from Bureau of Labor and Statistics. Assistant Teacher option High Wage applies a percent increase of 37.19% which is the same percent increase from Low to High Wage as is applied for classroom teachers.

Results of Cost Model Scenarios

Cost model scenarios were calculated in the PCQC based on the previously described data inputs. Tables 6 and 7 provide daily cost differentials for scenarios representing a typical small and typical large center respectively. **Cost based on PCQC** represents the cost of providers to care for children by age. (The output from the PCQC scenarios provides this as an annual cost; we converted it to a daily rate by dividing by 300. The divisor of 300 is equivalent to 12 months multiplied by 25 days per month.)

Market Rate data was taken from Table 3 in the 2024 Market Rate Report (statewide data for Licensed Type 1). The **Average Max CCAP Reimbursement Rate** was taken from DCC-300 KY Child Care Maximum Payment Rate Chart. Full day reimbursement rates based on max reimbursement for all counties statewide were averaged for each age group. Tables 6 and 7 examine the differences between the daily costs a center incurs to care for a child compared with the average market rate price families pay for care and the average CCAP reimbursement centers receive – essentially detailing daily profit loss or gain per child per age group. These data clearly show three gaps: 1) between market rate and CCAP reimbursement, 2) between market rate and daily cost of care, and 3) between CCAP reimbursement and daily cost of care. In Table 6, for example, in the Low Wage group, it costs a provider \$59.09 per day to care for an infant. The provider charges tuition (market rate) of \$49.00 and loses \$10.09 per day for that child. Likewise, the provider receives a CCAP reimbursement of \$34.00, which results in a negative difference of \$25.09.

It is interesting to note based on these scenarios, School Age is the only age group where CCAP subsidy reimbursement exceeds the average cost per child per day. The gap between cost and CCAP subsidy reimbursement ranges from \$8.56-\$36.65 for small centers and \$1.62-\$28.42 for large centers per child per day.

These cost differentials demonstrate that costs are consistently higher for the providers than can be recouped by fees paid by families or by subsidy rates. This holds true in small and large centers for scenarios that represent current practice and wages. As we look at improvements to the programs by increasing wages these costs only grow larger. These higher amounts are useful as a means of forecasting the cost of improving wages as we look at ways to improve employee recruitment and retention.

Table 6. Cost Differential – Cost vs. Market Rate vs. Average Max CCAP Reimbursement Rate for Small Center

Age Group	Cost based on PCQC	Cost Differential between Market Rate and Cost	Market Rate	Cost Differential between Average Max CCAP Reimbursement Rate and Market Rate	Average Max CCAP Reimbursement Rate	Cost Differential between Average Max CCAP Reimbursement Rate and Cost
Provider-Reported Wage						
Infant	\$54.43	-\$5.43	\$49.00	-\$15.00	\$34.00	-\$20.43
Toddler	\$50.18	-\$3.18	\$47.00	-\$13.00	\$34.00	-\$16.18
Preschool	\$39.56	+\$1.64	\$41.20	-\$10.20	\$31.00	-\$8.56
School Age	\$23.39	+\$13.61	\$37.00	-\$8.00	\$29.00	+\$5.61
Low Wage						
Infant	\$59.09	-\$10.09	\$49.00	-\$15.00	\$34.00	-\$25.09
Toddler	\$54.30	-\$7.30	\$47.00	-\$13.00	\$34.00	-\$20.30
Preschool	\$42.33	-\$1.13	\$41.20	-\$10.20	\$31.00	-\$11.33
School Age	\$24.89	+\$12.11	\$37.00	-\$8.00	\$29.00	+\$4.11
Mid Wage						
Infant	\$65.49	-\$16.49	\$49.00	-\$15.00	\$34.00	-\$31.49
Toddler	\$59.84	-\$12.84	\$47.00	-\$13.00	\$34.00	-\$25.84
Preschool	\$45.72	-\$4.52	\$41.20	-\$10.20	\$31.00	-\$14.72
School Age	\$26.67	+\$10.33	\$37.00	-\$8.00	\$29.00	+\$2.33
High Wage						
Infant	\$70.65	-\$21.65	\$49.00	-\$15.00	\$34.00	-\$36.65
Toddler	\$64.14	-\$17.14	\$47.00	-\$13.00	\$34.00	-\$30.14
Preschool	\$47.87	-\$6.67	\$41.20	-\$10.20	\$31.00	-\$16.87
School Age	\$27.70	+\$9.30	\$37.00	-\$8.00	\$29.00	+\$1.30

Table 7. Cost Differential – Cost vs. Market Rate vs. Average Max CCAP Reimbursement Rate for Large Center

Age Group	Cost based on PCQC	Cost Differential between Market Rate and Cost	Market Rate	Cost Differential between Average Max CCAP Reimbursement Rate and Market Rate	Average Max CCAP Reimbursement Rate	Cost Differential between Average Max CCAP Reimbursement Rate and Cost
Provider-Reported Wage						
Infant	\$47.49	+\$1.51	\$49.00	-\$15.00	\$34.00	-\$13.49
Toddler	\$43.24	+\$3.76	\$47.00	-\$13.00	\$34.00	-\$9.24
Preschool	\$32.62	+\$8.58	\$41.20	-\$10.20	\$31.00	-\$1.62
School Age	\$19.23	+\$17.77	\$37.00	-\$8.00	\$29.00	+\$9.77
Low Wage						
Infant	\$51.46	-\$2.46	\$49.00	-\$15.00	\$34.00	-\$17.46
Toddler	\$46.67	+\$0.33	\$47.00	-\$13.00	\$34.00	-\$12.67
Preschool	\$34.70	+\$6.50	\$41.20	-\$10.20	\$31.00	-\$3.70
School Age	\$20.32	+\$16.68	\$37.00	-\$8.00	\$29.00	+\$8.68
Mid Wage						
Infant	\$57.26	-\$8.26	\$49.00	-\$15.00	\$34.00	-\$23.26
Toddler	\$51.62	-\$4.62	\$47.00	-\$13.00	\$34.00	-\$17.62
Preschool	\$37.49	+\$3.71	\$41.20	-\$10.20	\$31.00	-\$6.49
School Age	\$21.73	+\$15.27	\$37.00	-\$8.00	\$29.00	+\$7.27
High Wage						
Infant	\$62.42	-\$13.42	\$49.00	-\$15.00	\$34.00	-\$28.42
Toddler	\$55.91	-\$8.91	\$47.00	-\$13.00	\$34.00	-\$21.91
Preschool	\$39.64	+\$1.56	\$41.20	-\$10.20	\$31.00	-\$8.64
School Age	\$22.77	+\$14.23	\$37.00	-\$8.00	\$29.00	+\$6.23

The U.S. Department of Treasury (2021) reported that for-profit child care centers across the country have razor-thin profit margins of less than 1%. We used these cost model scenarios to look at revenue and expenses and to see if Kentucky reflected these national data trends. Our findings indicate that Kentucky child care centers face the same challenges to make a profit as other child care centers across the country.

Revenue sources include the total of subsidy and tuition received, CACFP food reimbursement, and PCQC default figures for enrollment efficiency (85%), and uncollected revenue (3%). Tables 8 and 9 share the revenues and expenses for small and large centers modeled to represent different wage levels. The first column using provider-reported wages provides the most accurate scenario for the current situation in Kentucky. Note that for the next higher scenario, the wages are only increased to Low Wage. Even a modest increase to Low Wage, without additional supports, will further negatively impact the net revenue for both small and large center businesses. Also of note, the only profitable model is for a Large Center model using current Provider-Reported wages. The 2% net revenue of this model is built on the depressed wages reported by providers.

Table 8. Revenues and Expenses for Small Centers based on Differing Wages

	Provider-Reported	Low Wage	Mid Wage	High Wage
Net Revenue	-\$91,505	-\$153,770	-\$233,378	-\$289,082
Net Revenue as a Percent of Total	-12%	-21%	-31%	-39%
Total Expenses	\$839,286	\$901,551	\$981,159	\$1,036,863
Total Revenue	\$747,781	\$747,781	\$747,781	\$747,781

Table 9. Revenues and Expenses for Large Centers based on Differing Wages

	Provider-Reported	Low Wage	Mid Wage	High Wage
Net Revenue	\$28,574	-\$62,810	-\$188,838	-\$290,961
Net Revenue as a Percent of Total	2%	-5%	-14%	-21%
Total Expenses	\$1,331,470	\$1,422,854	\$1,548,882	\$1,651,005
Total Revenue	\$1,360,044	\$1,360,044	\$1,360,044	\$1,360,044

Implications

A cost model aggregates data from a wide range of child care programs and provides a systems-level view of the financial model of child care. These data-driven scenarios model what was hinted at by anecdotal evidence and pilot findings: child care centers are barely making it. Small centers in this model cannot balance revenue and expenditures at all. The only model that manages to break even is the large center model using the

provider-reported median wages that are already below the Low Wage threshold of the PCQC calculations. It appears that these low salaries may be the only reason that model produces a revenue of 2%.

Increasing typical wages to a more desirable level would be one way to address chronic staffing shortages, and to promote higher retention of qualified early childhood educators. If child care center businesses across the state are going to be able to continue to provide services to families, there must be additional supports in place. This would require broad and sustainable long-term supports to expand access to high quality child care. Achieving these goals would combat the chronic underfunding of subsidies based only on market rates, break the cycle of low wages for child care workers, and ensure that the funds are available to both assure regulatory compliance and quality for all centers. Equitable access to high quality child care for all children cannot occur without a reduction in the systemic barriers.

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