Colorado Early Care and Education Workforce Compensation Patterns

Analysis of 2022–2023 Data

REPORT HIGHLIGHTS:

- Wages for the early care and education workforce vary by role, from **a median of about $56,000 per year for Large Center Directors down to about $31,000 per year for Assistant Teachers.**
- Across all regions and credential levels, **early childhood teacher wages fall short of Colorado's recommended benchmarks.**
- **School-based teachers had higher median wages than those in community-based settings, but there is evidence of disparities in pay policies across school districts.**

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Abstract

Persistent low wages and inconsistent compensation structures continue to challenge the sustainability of Colorado's early care and education (ECE) workforce. This report, produced by the Colorado Evaluation and Action Lab in partnership with NORC at the University of Chicago, presents findings from an analysis of wages among ECE professionals in center-based programs during the 2022–2023 school year. Using administrative data from the Colorado Department of Early Childhood and the Colorado Department of Labor and Employment, this study explores wages received by job role, demographic characteristics, and provider attributes. It further evaluates alignment with Colorado's salary scale targets. Key findings reveal wage disparities by setting (school-based versus community-based programs) and a persistent gap between actual wages and recommended benchmarks, even for highly credentialed educators. These findings support ongoing efforts to better understand and address compensation challenges in Colorado's ECE workforce. They will serve as a foundation for the Colorado Department of Early Childhood and the Colorado Evaluation and Action Lab's Early Childhood Workforce Evidence-Building Hub to design, test, and evaluate targeted interventions aimed at increasing compensation and promoting workforce stability.

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Acknowledgements

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Data Sources

This study uses data from two sources:

1. The Colorado Department of Early Childhood (CDEC) provided individual-level demographic, employment, and credential data on early childhood education professionals. These data were extracted from the Professional Development Information System. Publicly available data from CDEC's monthly child care licensing report were also used which included license status, licensed capacity, participation in the Colorado Child Care Assistance Program, and county-level location.
2. Colorado Department of Labor and Employment provided individual-level quarterly earnings through their Unemployment Insurance wage data.

These data were connected through LINC, which is a collaborative effort of the Colorado Lab and the Colorado Governor's Office of Information Technology that safely and securely connects and anonymizes data across state agencies and systems to fully inform solutions to specific societal challenges. The data used for this report came from a LINC project approved by participating data partners.

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Introduction

Persistent low wages and inconsistent compensation structures are widely recognized as challenges facing the early childhood education workforce. Early childhood educators often earn significantly less than their counterparts in K–12 education, despite similar levels of responsibility and impact on children's development.[1] These compensation disparities have been linked to high turnover rates, staffing shortages, and difficulty recruiting and retaining qualified professionals.[2] In recognition of these challenges, the Colorado Department of Early Childhood (CDEC) has prioritized workforce investment as a core strategic goal, aiming to enhance compensation, benefits, and professional growth opportunities to support a thriving, stable, and diverse early childhood workforce.[3] Data on the wages and benefits of early childhood educators is essential for understanding current compensation trends and identifying equitable and sustainable compensation strategies that reflect the value of early childhood educators' work.

The Colorado Evaluation and Action Lab (Colorado Lab) serves as an Evidence-Building Hub for the Colorado Department of Early Childhood (CDEC), helping the state align evidence-building investments, reduce duplication, grow the evidence base, and identify opportunities for ongoing learning and sustainability. In 2023, CDEC received a $3.85 million grant from the Early Educator Investment Collaborative (EEIC) to support planning and implementation efforts focused on long-term, sustained increases to compensation for early care and education (ECE) professionals. As part of this initiative, the Colorado Lab was contracted in October 2024 to serve as the Early Childhood Workforce Evidence-Building Hub for the grant, leading activities that will inform future policy and funding decisions.

To further support these efforts, the Colorado Lab has partnered with NORC to analyze early childhood workforce data with the goal of better understanding compensation patterns among Colorado's early care and education (ECE) workforce. This report presents findings from an analysis of ECE workers in center-based programs during the 2022–2023 school year. Using administrative records from Professional Development Information System (PDIS) and Unemployment Insurance (UI) wage data, this study examines wage variation across job roles, demographic characteristics, and provider attributes, and analyzes the extent to which these wages align with established regional salary scale targets. The findings from this analysis will contribute to CDEC's broader evidence-building agenda aimed at driving transformative change in ECE workforce compensation.

Salary Scales

The Colorado Early Childhood Compensation & Benefits Task Force developed regional salary scale targets for the early childhood workforce, designed to reflect local economic conditions. [4] These targets are organized into three zones—Zone A, Zone B, and Zone C—based on cost-of-living differences. Zone A covers high-cost urban and resort areas, Zone B covers mid-cost regions, and Zone C includes lower-cost rural communities. For each zone, the salary scale recommends pay floors for early childhood educators. These benchmarks are tailored by job role and credential level. The scales aim to promote equitable compensation, reward professional growth, and align wages with the Early Childhood Professional Credential (ECPC) system, Colorado's framework for recognizing the education, experience, and ongoing development of early childhood educators.

Description of the Study

This brief explores wages for ECE workers during school year 2022–2023. Key questions addressed in the brief include:

1. What are the patterns of compensation observed among the ECE workforce?
2. How well do wages align with target salary scales for ECE workers by job role, credential level, and geographic location?

Study Sample

To ensure accuracy in wage comparisons, the study cohort was limited to individuals employed full-time in center-based programs with a full quarter of earnings in the first quarter of 2023 (January–March). The final cohort consisted of **9,088** ECE professionals, of whom 76% were teachers or assistant teachers. Half of the cohort identified as Non-Hispanic White, and nearly one-third as Hispanic. The ECE workforce was predominantly female (91%). Two-thirds of participants were employed in community-based programs while one-third worked in school-based settings. Nearly 70% of ECE professionals in the cohort were employed by providers participating in the Colorado Child Care Assistance Program (CCCAP) program.

Key Findings

Study Question 1: What are the patterns of compensation observed among the ECE workforce?

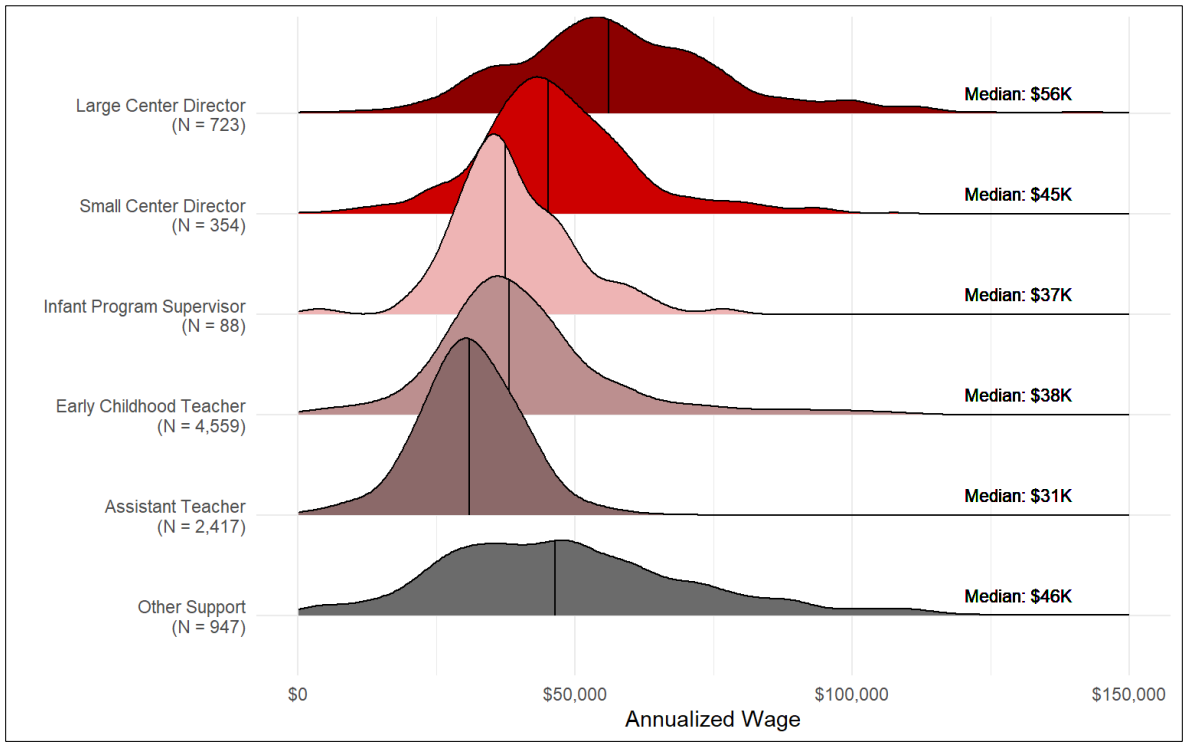
To examine compensation patterns within the ECE workforce, we analyzed wages by job role, demographic characteristics, and provider attributes. The findings highlighted below represent the most notable trends observed in the data. Although we examined additional factors such as worker age and provider Quality Rating and Improvement System (QRIS) rating, they did not show meaningful compensation differences. Gender was excluded from the summary due to the

small number of male educators in the cohort, which limited the ability to draw reliable conclusions.

As shown in Figure 1, the distribution of wages by role shows a clear and expected positive relationship between job seniority and compensation; annual median wages range from $30,903 for assistant teachers up to $56,336 for large center directors.[i] Importantly, the spread of wages within each role also varies:

- **Large Center Directors** have the highest median wage ($59,778) and the widest spread in wages (standard deviation: $26,960), reflecting significant variation across employers. This could be due to differences in program size, funding streams, or organizational structure.
- **Early Childhood Teachers** earn less than directors ($38,222) with a standard deviation of $16,711. This suggests that while factors like experience, education, and location may influence teacher pay, they do not typically lead to earnings on par with leadership roles.
- **Assistant teachers** have the lowest wages and the most compressed wage range (standard deviation: $9,832), which may indicate limited upward mobility within those roles.

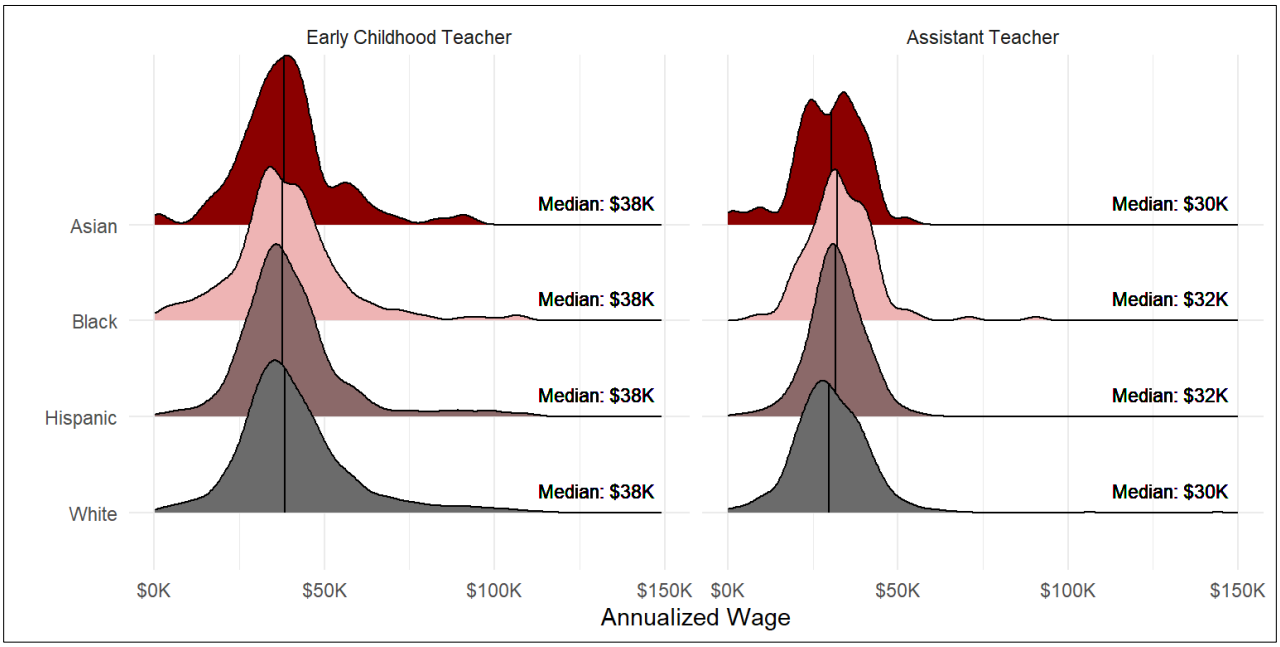
Figure 1. Distribution of Annualized Wages for ECE Professionals by Job Role



[i] Other support roles include administrators and substitute teachers.

Figure 2 demonstrates that there is minimal difference in wages across racial and ethnic groups within the ECE workforce. This pattern holds even when looking by job role and ECPC level, suggesting that—within roles and without controlling for hours worked—pay disparities by race and ethnicity are not pronounced in this cohort. Not accounting for hours worked may mask differences in access to full-time employment, which could disproportionately affect certain racial or ethnic groups. Furthermore, while the lack of significant wage gaps may reflect progress toward equitable compensation, this analysis focuses only on individuals already in specific roles. It does not capture potential disparities in who has access to higher-paying positions or opportunities for advancement—factors that may still reflect systemic barriers faced by educators from historically underrepresented racial and ethnic backgrounds.

Figure 2. Distribution of Annualized Wages for Teachers and Assistant Teachers by Race/Ethnicity



Program Settings

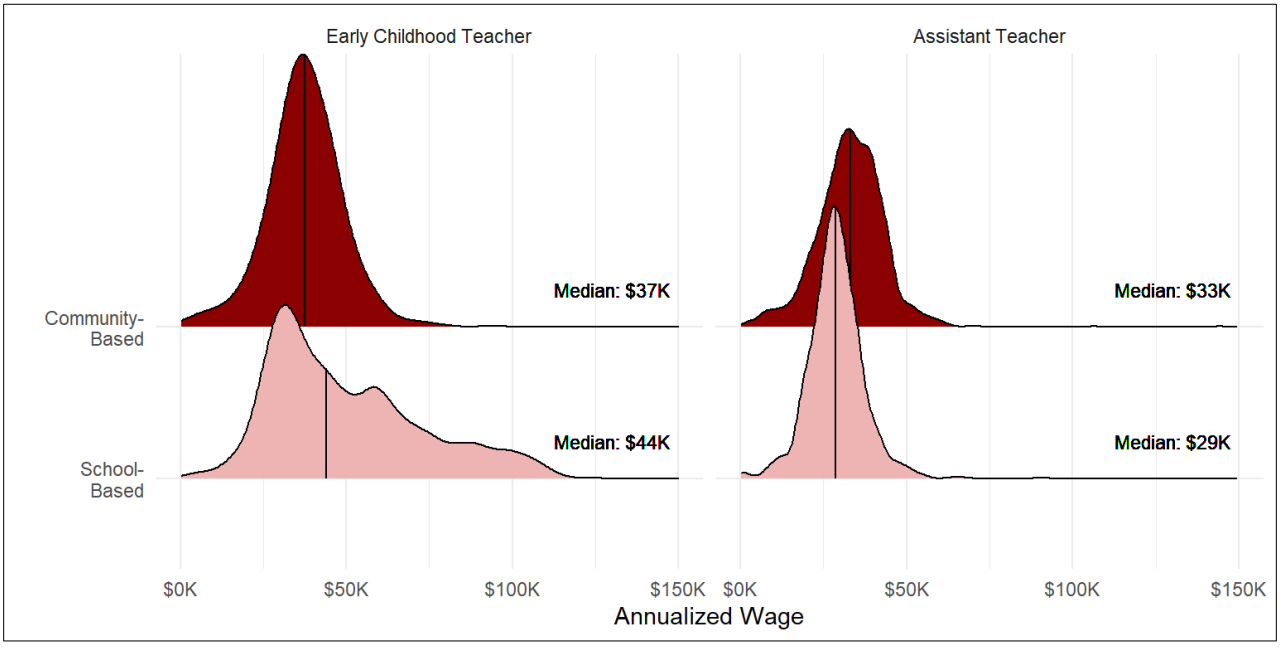
School-based child care and early learning providers: These are programs operated within or by public or private schools. They are typically integrated into the K–12 education system and may follow school district calendars and policies.

Community-based child care and early learning providers: These include a wide range of non-school settings such as child care centers, family child care homes, Head Start programs, and nonprofit or faith-based organizations. They often operate independently of the public school system and may offer more flexible hours and services tailored to community needs. Note: this analysis does not include family child care homes.

Figure 3 explores wages by setting. How wages for ECE workers compare between community-based and school-based settings varies by role; here we focused on teachers and assistant teachers. School-based teachers earned a higher median wage than those in community-based programs. Yet, when we looked beyond the median, a more nuanced picture emerged. As shown in the ridgeline chart, the modal wage—the most frequently occurring wage—appears as the highest peak in each distribution. In the case of school-based teachers, there appears to be two peaks—one lower than the community-based teachers and one far higher. Our CDEC partners suggested that this may be demonstrating differing policies across school districts in Colorado. Some use a pay parity approach that requires ECE teachers to be paid comparably to kindergarten teachers while other school districts do not hold a parity standard. This interpretation suggests that simply comparing settings may not fully capture the disparities in pay among teachers, and a deeper look at pay policies across school districts is needed to fully understand what is occurring in practice.

For assistant teachers, the wage pattern differed from that of teachers in terms of median wages: Those in community-based settings earned a higher median wage of $33,000 compared with $29,000 in school-based programs. As shown in the ridgeline chart, the modal wage is also lower in school-based settings, meaning that both the median and most common wages for assistant teachers tended to be higher in community-based programs. Our CDEC partners reported that teachers in community-based settings generally work longer hours and more months per year than their counterparts in schools. School-based teachers may also receive more robust benefits than community-based teachers. This suggests that, when accounting for hours worked and benefits, the difference in assistant teacher pay by setting may shrink.

Figure 3. Distribution of Annualized Wages for Teachers and Assistant Teachers by Program Setting



Study Question 2: How well do wages align with target salary scales for ECE workers by job role, credential level, and geographic location?

To assess how current wages align with Colorado's ECE salary scale, which sets recommended pay levels based on both educator qualifications and geographic cost-of-living zones, we compared teacher wages across the state's designated regions (higher-cost urban and resort communities, mid-range cost suburban and regional centers, lower-cost rural and frontier areas). Table 1 presents the median annualized wages of early childhood teachers alongside the target salary levels, disaggregated by ECPC level which represents a teacher's qualifications and is used, alongside geographic area, to determine recommended pay.

While the overall picture shows that most early childhood teachers earned below the recommended salary benchmarks—with only 11% of meeting the target salary for their ECPC level—several important patterns emerge:

Only 11% of early childhood teachers are meeting the salary scale benchmark for their ECPC credential level.

- **Higher credentials are associated with better wage alignment**: In high-cost and mid-range cost regions, the proportion of teachers meeting the salary target increased steadily with higher ECPC levels. For example, in high-cost regions, only 4.2% of Level 2 teachers met the target compared with 26.6% at Level 6.
- **Narrow salary bands may inflate target attainment at higher levels**: The target salaries increased only modestly across ECPC levels within each role. This limited growth may explain why a higher proportion of teachers at advanced credential levels meet the targets—the benchmarks themselves did not rise substantially with qualifications.
- **Rural educators are disproportionately underpaid**: The percentage of teachers meeting salary targets at ECPC Levels 5 and 6 varied significantly by region. In higher-cost urban and resort communities, 21.3% of Level 5 and 26.6% of Level 6 teachers met the target compared with just 6.1% and 8.3%, respectively, in lower-cost rural and frontier areas, highlighting a stark rural-urban wage gap.

Table 1. Early Childhood Teacher Wages Compared with Salary Scale Targets

	Higher-Cost Urban and Resort Communities			Mid-Range Suburban and Regional Centers			Lower-Cost Rural and Frontier Areas		
ECPC Level	Target Salary	Median Salary	% Met Target	Target Salary	Median Salary	% Met Target	Target Salary	Median Salary	% Met Target
Level 2	$60,320	$37,903	4.2%	$54,080	$33,750	4.4%	$46,280	$29,559	7.5%
Level 3	$61,360	$41,504	11.1%	$55,120	$35,402	5.9%	$47,320	$29,648	7.2%
Level 4	$62,400	$44,868	18.8%	$56,160	$38,452	12.2%	$48,360	$32,566	13.2%
Level 5	$63,440	$47,083	21.3%	$57,200	$41,934	14.0%	$49,400	$32,843	6.1%
Level 6	$64,480	$50,155	26.6%	$58,240	$43,947	16.8%	$50,440	$34,218	8.3%

Table 2 compares early childhood teachers by ECPC level across program settings. Teachers in school-based settings were much more likely to meet the salary scale targets than those working in community-based organizations. For example, at ECPC Level 4, 36% of school-based teachers met the target compared with just 6% in community-based settings.

While this difference highlights a relative advantage of school-based settings in aligning with compensation benchmarks, the overall picture remains concerning for all educators: At best, fewer than 40% of teachers met the recommended salary targets. This underscores a broader issue—the salary scale is intended to serve as a minimum standard, yet most early educators across all settings are paid below these benchmarks. Ideally, most—if not all—teachers, regardless of setting, should be earning at or above these target values.

Table 2. Early Childhood Teacher Wages Compared with Salary Scale Targets by Provider Setting

	Community-Based		School-Based	
ECPC Level	Median Salary	% Met Target	Median Salary	% Met Target
Level 2	$35,760	1.2%	$37,638	21.9%
Level 3	$37,654	1.8%	$44,201	31.6%
Level 4	$40,166	5.5%	$48,491	36.2%
Level 5	$42,219	5.6%	$51,903	38.4%
Level 6	$44,284	12.3%	$51,473	34.6%

Implications

These findings support efforts to better understand the problems of ECE workforce compensation in Colorado. The widespread misalignment with salary benchmarks is particularly striking, suggesting that wages do not meet target levels across roles, levels, settings, and geographies. CDEC and the Colorado Lab's Early Childhood Workforce Evidence-Building Hub are committed to using this evidence as a baseline for design, testing, and evaluation of interventions to increase ECE workforce compensation.

Methods

Linking PDIS and UI Wage Data

Linked Information Network of Colorado (LINC) data scientists established master data sharing agreements with CDEC and the Colorado Department of Labor and Employment, enabling them to connect and anonymize necessary data to meet project objectives. LINC data scientists used Social Security numbers to match individuals across administrative databases. Once individuals were matched and deduplicated across the data sets, unique LINC IDs were assigned to each individual and each provider and all identifiable information not needed for the analysis was removed.

Definitions

We identified active ECE professionals in the 2022–2023 school year using the employee's employment status (verified by the program director) in PDIS and the employee's hire and end dates. To ensure accuracy in wage comparisons, the final cohort was limited to individuals:

- Employed full-time per their PDIS record.
- Working in licensed center-based programs per QRIS.
- Matched in the UI wage data with their PDIS-listed employer.
- With wage records at the same employer in each of the following three quarters:
    - Quarter (Q) 4 2022 (October–December),
    - Q1 2023 (January–March), and
    - Q2 2023 (April–June).

This three-quarter requirement ensured that individuals had a full quarter of employment during Q1 2023 and were not starting or ending a job with that provider during the quarter. Because UI data do not include hours worked, this method improves the reliability of wage estimates by excluding those with incomplete earnings records. Full quarter quarterly wages were annualized (multiplied by four) for interpretability and to allow us to estimate annual wages even for individuals who started or ended a job that year. We compared these annualized wages against

wages summed across four quarters for individuals who were employed for most or all of the year, and findings were consistent across approaches.

Provider setting was defined by using the six-digit employer North American Industry Classification System (NAICS) in the UI wage data. Providers with NAICS code 611110 (Elementary and Secondary Schools) were classified as school-based. All other employers were classified as community-based.

The PDIS system allows individuals to record multiple job roles with the same employer. To handle multiple job roles recorded in PDIS, each person was assigned to the reported role that requires the highest level of credentialing. Job roles were grouped into the following categories:

- Large Center Director;
- Small Center Director (includes Assistant Directors);
- Infant Program Supervisor;
- Early Childhood Teacher (includes Infant, Toddler, and Special Education teachers); and
- Assistant Teacher (includes aides and paraprofessionals).

Limitations

Incomplete Understanding of Compensation

While UI wage records are valuable for analyzing earnings, they come with limitations. First, the data included total earnings at an employer each quarter, but not the total number of hours worked. Our CDEC partners report that ECE professionals, particularly teachers, in community-based settings generally work longer hours and more months per year than their counterparts in schools. This difference may lead to under- or overstating disparity in pay based on program setting. Secondly, the UI data only included wage-based income and did not tell us anything about what benefits (such as health insurance, paid time off, retirement plans, etc.) employers provide that would give a more complete financial picture of ECE professionals.

Imperfect Representation of Workforce

While we designed our cohort to best represent the ECE workforce given the available data, some important limitations remain. Importantly, this analysis was limited only to **center-based** ECE educators. The Colorado Lab is preparing additional, separate analyses focused on Family Child Care Homes, which are not well-covered in the UI wage data. Second, we were able to match only 40% of all active ECE workers in 2022–2023 (as defined by PDIS) to a full quarter wage record at the provider identified in their verified PDIS record. The most common reasons why ECE workers active in PDIS in this school year were not included in our analytic cohort include those who:

- Did not have a valid SSN in PDIS to match to wage data (20%).

- Had a PDIS employer of record that could not be matched to a Federal Employer Identification Number (FEIN) in wage data (15%). FEIN is the only employer identification in the UI wage data.
- Did not have three consecutive quarters of wages reported by their employer (14%).

There were some representational differences between the analysis cohort and the full ECE workforce as defined by PDIS which may have mixed effects on the results (see Table 3).

- **Assistant Teachers** were slightly underrepresented. Since Assistant Teachers have the lowest wages, this may result in overestimated median wages for any analysis not subset by job role.
- **QRIS Level 1** providers were also underrepresented. In Colorado, licensed providers default to a Level 1 if they have chosen not to be assessed for a higher rating level.
- **Small Centers**—those with a licensed capacity of less than 16—represented a small percentage of providers and tended to have lower wages; they were underrepresented in the cohort.

Table 3. Representativeness of the Analysis Cohort

	Active ECE Professionals in PDIS	Analysis Cohort
Number of ECE Professionals	**22,883**	**9,088**
Job Role		
Large Center Director	7%	8%
Small Center Director	3%	4%
Infant Program Supervisor	1%	1%
Early Childhood Teacher	45%	50%
Assistant Teacher	31%	26%
Other Support	14%	10%
Race/Ethnicity		
Asian	2%	3%
Black	4%	4%
Hispanic	27%	30%
White	50%	49%
Other	3%	3%
Missing/ Prefer not to answer	14%	12%
Age Group		
24 and under	12%	9%
25-34	30%	29%
35-44	22%	24%
45-54	16%	18%
55-64	13%	14%
65 and above	6%	5%

	Active ECE Professionals in PDIS	Analysis Cohort
Gender		
Female	89%	91%
Male	4%	4%
Missing/Prefer Not to Answer	6%	5%
Provider QRIS Rating		
Level 1	22%	16%
Level 2	24%	24%
Level 3	9%	9%
Level 4	40%	45%
Level 5	5%	7%
Provider CCCAP Participation		
No	35%	32%
Yes	65%	68%
Provider Licensed Capacity		
Small center < 16	2%	1%
16–74	31%	32%
75–149	37%	35%
150+	30%	32%
Provider Salary Scale Zone		
Zone A	67%	69%
Zone B	23%	20%
Zone C	11%	12%

Handling of Multiple Job Roles

Approximately 11% of individuals in the analysis cohort reported multiple roles at the same provider. This was especially common among directors—over half of both Large and Small Center Directors also reported being Early Childhood Teachers. In contrast, only 7% of Early Childhood Teachers and 2% of Assistant Teachers reported multiple roles. Where individuals indicated multiple job roles, we assigned the job with the highest level of responsibility, which may not capture the full range of what they do.

CCCAP Teacher Wage Increase Pilot

Our decision to analyze a cohort working in the first quarter of 2023 was driven by data availability. However, in January 2023, CDEC launched a livable wage pilot program for teachers working in programs with a QRIS rating of 3 or higher and serving at least 40% of children through CCCAP. More than 300 teachers and assistant teachers began receiving wage supplements ranging from $2.99 to $7.58 per hour for two years, depending on role and region. Because this pilot launched during the same timeframe as this analysis, some salary data may reflect these wage increases.

Conclusion

Persistent low wages continue to challenge the sustainability of Colorado's ECE workforce. This study presents findings from an analysis of wages among ECE professionals in center-based programs during the 2022–2023 school year. Our findings demonstrate that:

- Wages for the ECE workforce vary by role, from a median of about $56,000 per year for Large Center Directors down to about $31,000 per year for Assistant Teachers.
- Across all regions and credential levels, early childhood teacher wages fall short of Colorado's recommended benchmarks.

In addition, while school-based teachers earned a higher median wage than those in community-based settings, the wage distribution revealed two common pay levels—one lower and one higher than the most frequent wage in community settings—suggesting that median comparisons may obscure important disparities. A deeper look at pay policies across school districts is needed to fully understand what is occurring in practice. These findings support efforts to better understand the problems of ECE workforce compensation in Colorado. CDEC and the Colorado Lab's Early Childhood Workforce Evidence-Building Hub are committed to using this evidence as a baseline for design, testing, and evaluation of interventions to increase ECE workforce compensation.

Endnotes

[1] Center for the Study of Child Care Employment. (2020). *Early childhood workforce index 2020*. University of California, Berkeley. https://cscce.berkeley.edu/workforce-index-2020/

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