Impacts of the Early COVID-19 Pandemic on Illinois's Childcare Workforce

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Introduction

The COVID-19 pandemic accentuated both the critical role of America's early care and education programs in supporting the American economy as well as the vulnerability and insecurity of the industry (Bauer et al., 2020). The pandemic's roller-coaster impacts on the labor market—from the soaring unemployment rates of the early shutdowns to the widespread worker shortages of 2021—were particularly unwelcome in an industry that has long grappled with labor supply challenges. While research demonstrates the importance of teacher education and training in the quality of the child's experience (Burchinal et al., 2002; Kontos et al., 1995; Peisner-Feinberg & Burchinal, 1995; Vandell et al., 2002), childcare workers are chronically underpaid and report high rates of burnout (Razavi & Staab, 2010; Whitebook et al., 1998; Whitebook & Howes, 1980).

Recent reports indicate that the early period of the pandemic led to contractions in the childcare workforce. A Federal Reserve Bank of Minneapolis analysis of the Current Population Survey showed a 47% decrease in childcare workers from January to April 2020 (Boesch et al., 2021). Colorado childcare providers lost about 23% of their staff as of July 2020 (Delap et al., 2021), while about 10% reported that they would not return to the workforce. Half of those remaining employed saw their hours reduced. An analysis of job postings for early care and education teachers found a 13% decline in these postings after the adoption of stay-at-home orders in spring 2020 (Ali et al., 2020). In Illinois, the focus of our analysis, one indicator of the decrease in childcare participation by families over the course of 2020 is enrollment in the state's childcare subsidy program: participation declined by one-third between December 2019 and December 2020 (Chapin Hall at the University of Chicago, n.d.).

This brief provides updated information and additional detail on how the childcare workforce changed throughout 2020. How did the pandemic impact worker retention, turnover, and wages in the childcare industry in 2020? Did employment contractions persist after childcare centers reopened in summer and fall of 2020? A more detailed understanding of these questions is crucial to informing efforts to support the industry through the pandemic and beyond.

Using longitudinal employment data for Illinois childcare workers in 2020, we found that about 4,000 fewer workers remained continuously employed (i.e., earned wages in every quarter) throughout 2020 than in 2019. Disruptions peaked in the second and third quarter (April–September 2020). About 10% of workers (about 3,000 people) experienced an employment gap that included one or both of these quarters. Those who remained employed for at least some part of both quarters experienced a sharp drop in wages in the second quarter, suggesting shorter periods of unemployment or reduced hours.

While some workers experienced only short-term disruptions to employment or wages, others did not return to their jobs. Compared to 2019, about twice as many workers in 2020 stopped receiving reported wages in Illinois altogether. The lowest-wage workers were the most likely to see employment interruptions or loss.

Our analysis extends only through 2020 because of lags in data collection. However, we recognize that the story of the pandemic's effects on the childcare workforce is still unfolding. As the pandemic ebbs and flows and the labor market tightens, those pressures will further affect the childcare industry; the long-term impacts on the workforce remain unknown. Brown and Herbst (2021) found evidence that childcare employment decreases during economic downturns and increases during periods of growth, but it responds more quickly to negative economic shocks. As such, this description of longitudinal trajectories serves as both a report of what occurred during the first year of the pandemic and as a baseline against which to measure recovery. With better metrics, policymakers can also address specific conditions that may be impeding the growth and recovery of the childcare workforce—and, in doing so, improve the quality of care that children receive.

Study Methods

More detail about our methods is available in the technical appendix.

Using quarterly unemployment insurance (UI) wage data collected by the Illinois Department of Employment Security (IDES), we selected a cohort of individuals who had stable employment in child care in Illinois in the fourth quarter of 2019. Employment is considered "stable" if an individual receives earnings from the same employer for three consecutive quarters (in this case, third quarter 2019, fourth quarter 2019, and first quarter 2020), indicating that they are employed for the duration of the middle quarter (here, fourth quarter 2019). About 30,000 workers, reflecting 80% of childcare workers in fourth quarter 2019, meet this stable employment threshold.

We describe the characteristics of this cohort, including employer size, wages, and whether workers hold multiple jobs in child care or in other industries. We also examine their 2020 employment trajectories to better understand the negative economic shock early in the COVID-19 pandemic (Bauer et al., 2020).

As a prepandemic benchmark, we compare this cohort of individuals ("pandemic cohort") to the same population employed in the fourth quarter of 2018 ("prepandemic cohort"). We follow this second cohort through calendar year 2019.

We identified five early pandemic-era trajectories of interest, based on preliminary analysis of the frequency of different employment sequences for the pandemic cohort. These trajectories are defined in Box 1. We divided our prepandemic cohort into the same groups based on employment status during calendar year 2019 to provide a benchmark for turnover and seasonality patterns in a nonpandemic year.

For this analysis, we concentrate on employment changes at the level of the industry: an individual was considered employed in child care if they received wages from any childcare employer in a given quarter, even if it was not the same employer as in the baseline quarter.

Everyone in the pandemic cohort was employed in child care in the first quarter of 2020, and everyone in the prepandemic cohort was employed in child care in the first quarter of 2019, since employment in child care in each respective quarter is part of how "stable employment" in child care is defined in this study.

Box 1. Trajectories of Interest

Continuous employment in child care:
Reported earnings from any child care employer in all four quarters of 2020.

Leaves child care for another industry:
Continuous employment in child care for at least one quarter and up to three quarters, with no subsequent earnings from child care and at least one quarter of subsequent earnings from another industry.

Leaves child care – job status unknown:
Continuous employment in child care for at least one quarter and up to three quarters, with no subsequent earnings from child care or any other industry.

Employment interruption in Q2 or Q3:
Reported earnings in child care in the first and fourth quarter of 2020, with no earnings in child care in either or both the second and third quarters.

Multiple employment interruptions:
Employment in child care in the first and third quarters of 2020, with no earnings in child care in the second and fourth quarters.

Limitations. This data source does not distinguish by type of employment (full-time or part-time) or by occupation or role. Our cohort includes administrators and support staff in addition to teachers. While family childcare homes that employ staff are represented in our data, self-employed sole proprietors are not. Our technical appendix includes more detailed discussion of these limitations. Finally, the quarterly wage data are available 9 months after collection, so this analysis currently extends only through calendar year 2020.

Findings

Characteristics of the Childcare Workforce before the Pandemic

Most childcare employers are small, but most workers are employed by large employers. Sixty percent of employers in the fourth quarter of 2019 had 12 or fewer staff, and only 4% of employers had more than 50 employees.[1] However, 36% of employees worked for an employer with more than 50 employees, and nearly 60% of employees worked for an employer with more than 25 employees.

Childcare workers are low-wage workers. The median quarterly earnings in the fourth quarter of 2019 for workers with stable employment was equivalent to annual earnings of $23,600. The 25th percentile was equivalent to annual earnings of $16,000, and the 75th percentile was equivalent to $30,800. The federal poverty line for a household of three in 2019 was $21,330; for a family of four, it was $25,750.

To ensure that these statistics are representative, we compared them to other sources of information. These wage values are very similar to those reported in a 2019 survey of Illinois childcare facilities (Norton & Whitehead, 2019). According to that survey, full-time teachers and administrators at centers were more likely to be on the higher end of the wage spectrum. The median hourly wage for a full-time early childhood teacher was $13 per hour or approximately $27,040 per year. The median hourly wage for a full-time administrative director was approximately equal to $37,003 per year. The median hourly wage for a full-time early childhood assistant teacher, however, was approximately equal to $22,277, and reported income for family childcare providers was generally lower, with the median at $12,000 per year.

[1] See appendix for a detailed discussion of which employers are included in our analysis.

Most childcare workers had only one job, but 14% had a second job in another industry. Only 2% had multiple jobs but worked solely in the childcare industry. Childcare workers who received wages in another industry were most commonly employed in elementary and secondary schools, temporary agency jobs, and full-service restaurants. The data do not distinguish between primary and secondary jobs.

There were no obvious changes in the childcare workforce between fourth quarter 2018 and fourth quarter 2019. Table 1 summarizes baseline characteristics across the two cohorts of individuals with stable employment in child care.

Table 1. Baseline Characteristics of Pandemic and Prepandemic Cohorts

	Prepandemic cohort	Pandemic cohort
Baseline quarter	*Q4 2018*	*Q4 2019*
Total individuals in cohort	29,800	30,500
Size of baseline employer*		
12 or fewer staff	5,600 (19%)	5,400 (18%)
13–25 staff	7,800 (26%)	8,100 (27%)
26–50 staff	6,900 (23%)	7,800 (26%)
51 or more staff	12,100 (41%)	12,100 (40%)
Median wage in baseline quarter	$5,900	$6,100
Multiple jobs		
2+ jobs (childcare industry only)	660 (2%)	680 (2%)
2+ jobs (at least one in another industry)	4,200 (14%)	4,300 (14%)

*Note: Individuals with multiple childcare jobs in the baseline quarter may be counted twice in counts by employer size, so percentages for those categories sum to more than 100. Totals are rounded to the nearest 10 if they are less than 1,000, or to the nearest 100 if they are greater than 1,000, in order to comply with disclosure requirements for this data source.

Pandemic Trajectories of Childcare Workers

Figure 1 summarizes the frequency of each trajectory across the two cohorts.

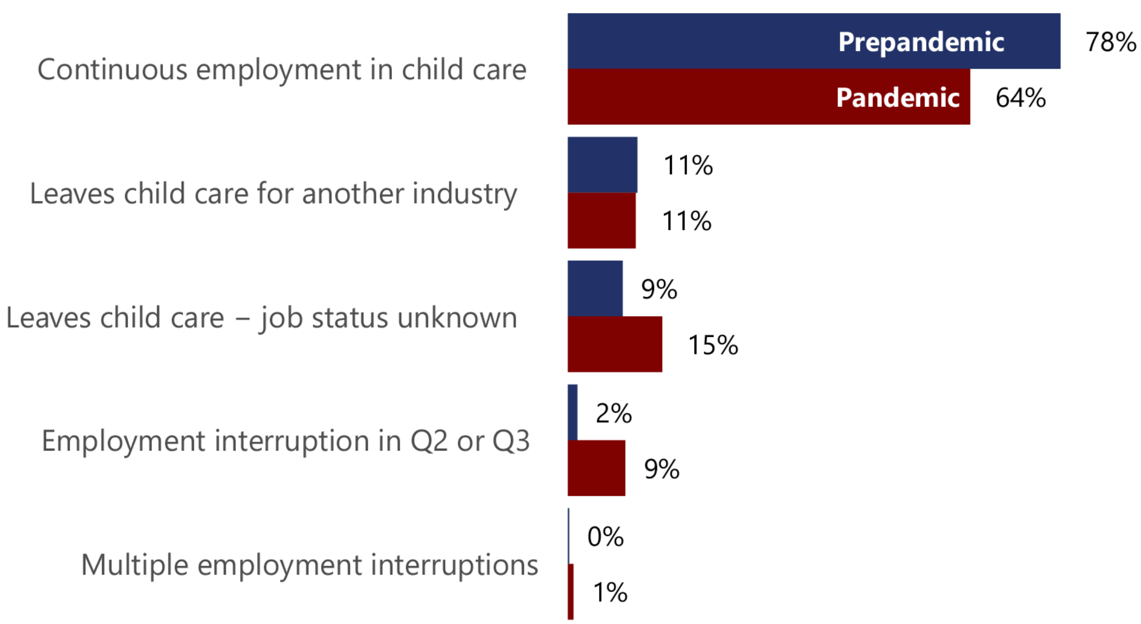
During the first year of the pandemic, the proportion of the workforce that was continuously employed decreased by about 20% over the prior year. While nearly 80% of workers with stable employment in child care in the fourth quarter of 2018 had earnings in the childcare industry in every quarter of 2019, only about 65% of workers with stable employment in child care in the fourth quarter of 2019 had earnings in the industry throughout 2020. This amounts to about 4,000 fewer workers with stable employment.

Disrupted employment early in the pandemic was especially common. Just under 10% of workers in the pandemic cohort had no childcare earnings in the second or third quarter of 2020, although they both began and ended the year with childcare employment. This pattern was virtually nonexistent in the prepandemic cohort; almost none of those workers experienced a second or third quarter disruption in 2019. Workers from the largest employers were most likely to experience this pattern: 13% of workers from employers with 51+ employees had an early pandemic disruption, compared to 7% of workers from smaller employers. By contrast, workers from smaller employers were more likely to leave the employment data altogether (17% of workers from smaller employers exit the employment data by the third quarter of 2020 compared to 12% of workers from the largest employers. They do not return by the fourth quarter of 2020.)

Childcare workers did not switch industries more frequently in 2020 than in 2019. In each cohort, about 11% of workers appear to leave child care for another industry.

Almost twice as many pandemic cohort workers were out of work altogether in the fourth quarter of 2020, compared to the prepandemic cohort in the fourth quarter of 2019. This amounts to an increase of about 2,000 workers with an unknown job status.

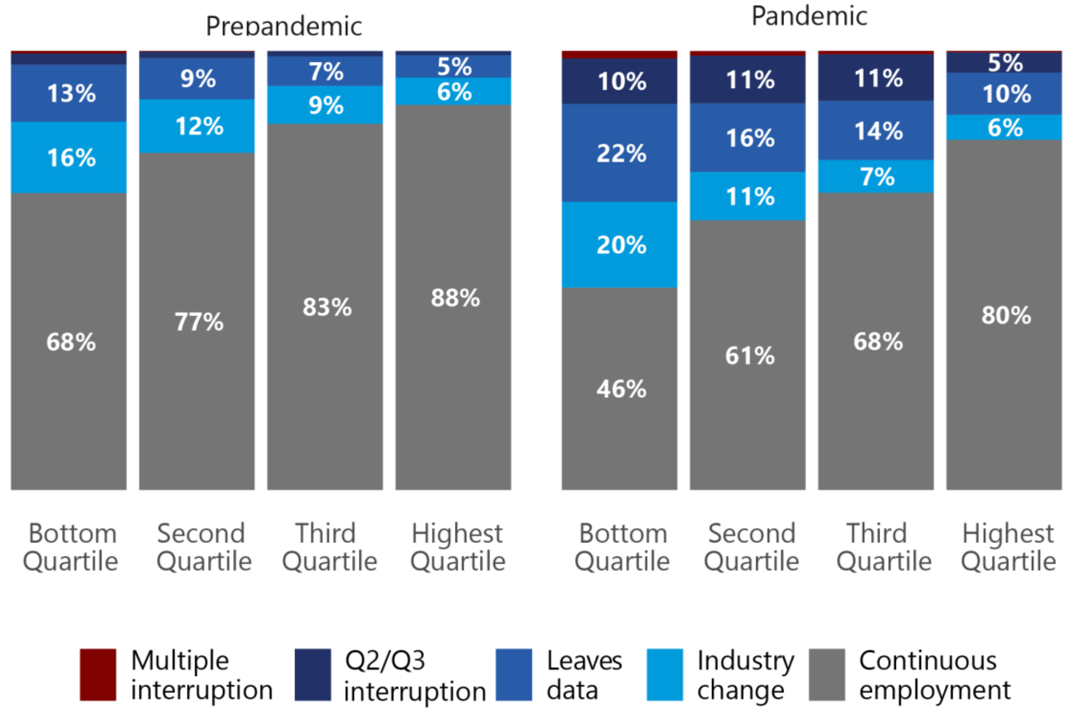
Figure 1. Percentage of Cohort with Each Outcome



Note: See Box 1 for detailed definitions of these five outcome trajectories.

The workers with the lowest wages were most likely to face employment changes or disruptions in 2020. As shown in Figure 2, 80% of workers with earnings in the highest quartile during the baseline quarter remained continuously employed throughout the year. By comparison, fewer than half of workers with earnings in the lowest quartile during the baseline quarter were continuously employed all year. This group was especially likely to include part-time workers.

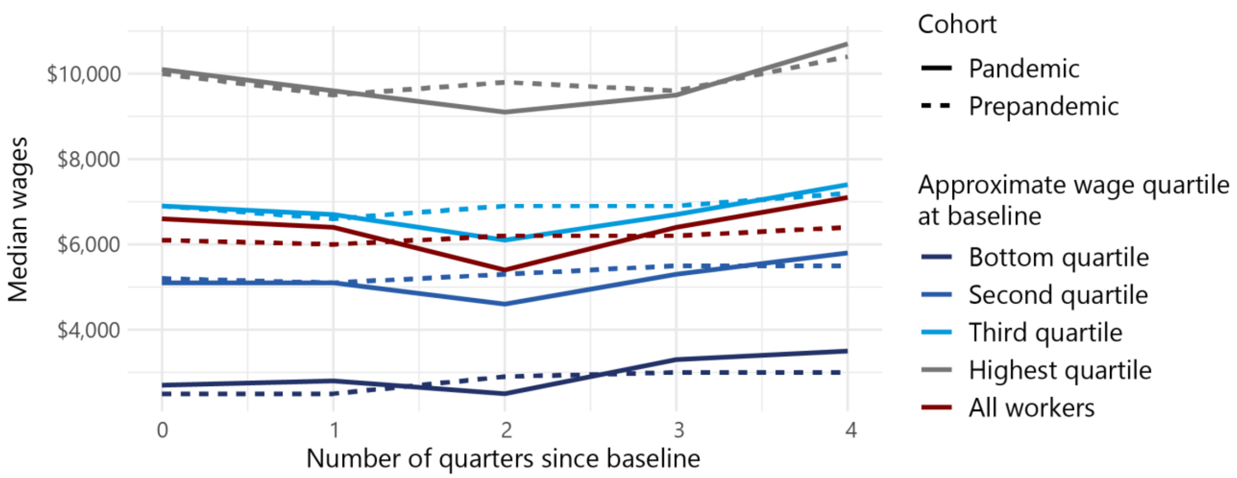
Figure 2. Percentage of Workers with Each Outcome by Starting Wage Quartile



See notes under Figure 3.

Continuously employed workers saw a decrease in earnings in the second quarter, but wages recovered by the end of the year. This pattern, which likely reflects reduced hours or employment disruptions of less than a quarter, is present at all wage levels, as shown in Figure 3.

Figure 3. Wage Outcomes for the Continuously Employed

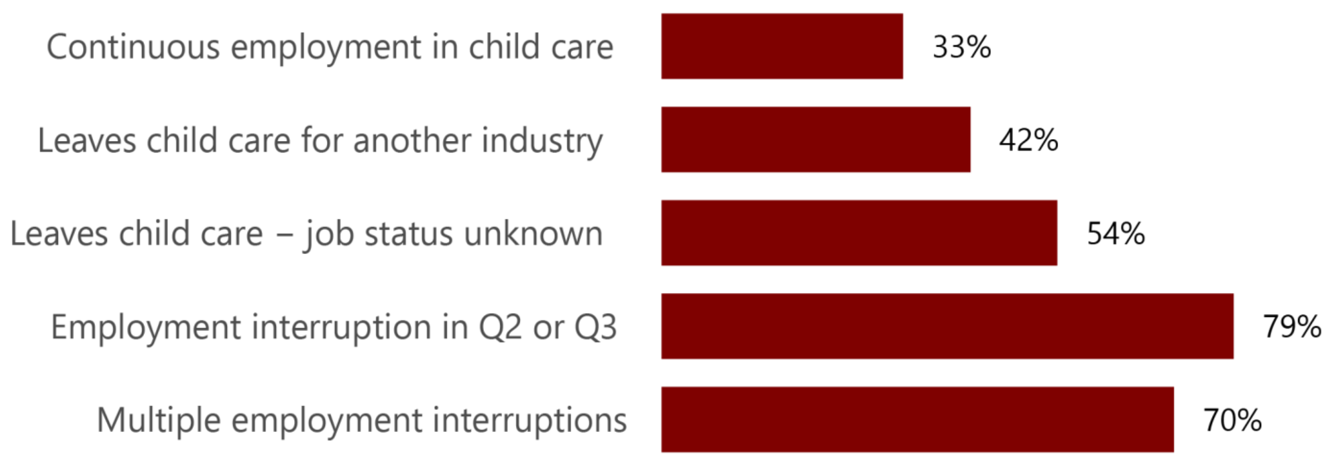


Notes for Figures 2 and 3: See Box 1 for detailed definitions of these five outcome trajectories. Wage groupings are approximately equivalent to quartiles at baseline (exact quartile cutoffs varied by cohort). The bottom quartile have quarterly earnings equivalent to less than $16,000 per year in the baseline quarter. Workers in the second quartile have quarterly earnings equivalent to annual earnings between $16,001 and $24,000. In the third quartile, workers have earnings equivalent to $24,001 to $32,000 annually, and in the highest quartile, workers have earnings equivalent to over $32,000 annually.

Receipt of unemployment insurance in 2020 was high in all groups, regardless of employment status. Less than 3% of the prepandemic cohort received unemployment insurance at any time during 2019; by comparison, a staggering 42% of the pandemic cohort received unemployment insurance during 2020. As shown in Figure 4, this includes nearly one-third of workers who were employed in all four quarters, over half of workers who left child care with no subsequent employment, and nearly 80% of workers who experienced an employment interruption in the second or third quarter of 2020.

Unemployment insurance benefit use by continuously employed workers peaked during the second quarter, which is likely due to reduced hours of work in that quarter or periods of unemployment shorter than the full quarter. This is consistent with the wage finding above.

Figure 4. Percentage of Workers Collecting Unemployment Insurance at Any Point in 2020 by Outcome Trajectory (Pandemic Cohort Only)



Conclusion and Implications

We used labor market analysis methods to measure the pandemic experiences of childcare workers, including employment interruptions, job changes and job loss, reduced wages, and use of unemployment insurance benefits. Many of our key findings will come as no surprise to the childcare world, including the particular damage of the months early in the pandemic, increased exits from the industry throughout the year, the correlation between low wages and increased disruption, and high rates of unemployment insurance receipt within the workforce.

A few findings may be more surprising, however. While almost twice as many individuals left child care in the pandemic cohort and did not report further wages during the year, only half of this population received UI benefits. The use of enhanced pandemic UI benefits, including the duration of those benefits, by this workforce warrants deeper investigation. Additionally, there was no real increase in the proportion of workers who changed industries during 2020.

We hypothesize that this is a trend that may look different as it becomes possible to extend the analysis into 2021, at which point other industries bounced back and wages began to rise. We may yet find that the pandemic was simply the final straw for an industry that was already under siege, struggling to keep low-paid workers in an increasingly expensive world.

While this report presents a preliminary examination of workers' longitudinal experiences, these measures may serve as a future benchmark to understand the continuing impacts of the pandemic. Similar explorations of the historical data (before 2018) and geographic variation across the state could likewise further characterize trends in the workforce that predate the pandemic. Historical data on individual workers also allow for the possibility of conducting analyses that consider workers' tenure in their jobs and in the industry—an important proxy for quality in early care and education.

Technical Appendix

Data Collection

We used Illinois unemployment insurance (UI) wage and benefit data collected by the Illinois Department of Employment Security (IDES). Employers are required to submit data on individual employees and their earnings in each quarter. This information goes into an earnings database for covered employees, which may then be used to verify UI benefits claims in the event of a layoff or termination of employment. UI benefit data is administrative data created when an individual applies for or receives UI benefits.

Data security and access

The data used for this brief were accessed via the **Administrative Data Research Facility (ADRF)**. The ADRF is a secure cloud-based computing platform that enables approved researchers to collaborate around shared data and code. The Illinois Department of Employment Security, Illinois Department of Human Services, and Coleridge Initiative staff have access to the ADRF and can work in the same space with Chapin Hall researchers. In particular, the researchers have worked together with IDES to define the constructs used in this research and to refine their understanding of the data itself.

Sample population

We identified the childcare workforce by limiting employer NAICS code[1] to 624410, "Day Care Services." NAICS codes are defined at the industry level (as opposed to the role level), and code 624410 is used for "establishments primarily engaged in providing day care of infants or children. These establishments generally care for preschool children but may care for older children when they are not in school and may also offer pre-kindergarten and/or kindergarten educational programs."

This definition does not exhaust all possible childcare-related employment opportunities, but does provide boundaries that allow us to make some determinations as to who is and who is not included in a "childcare workforce" definition based on this industry-level code (see Table A for details).

NAICS codes are assigned at the employer level. We characterize employers based on the industry for which they pay the most wages; this may complicate the results for some large employers with diverse services. Likewise there is no available information about an individual's title or role: while we can say that our definition includes all teachers, administrators, and support staff per Table , we cannot distinguish between these roles within our population. We reviewed the wage distribution of members of the primary cohort in the fourth quarter of 2019 in an attempt to identify (and potentially exclude) high wage earners who would be most likely senior administrators, but we did not find any obvious breaks in the distribution.

[1] The North American Industry Classification System (NAICS) is the standard used by federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

We can say that Illinois childcare centers responding to a 2019 survey reported that 77% of childcare center employees were classroom teaching staff. Another 12% were administrative directors and directors/teachers, and 2% were administrative support staff. The remainder, less than 10%, included staff in facilities management and food service (Norton & Whitehead, 2019).

Table A. Populations Included in and Excluded from the "Child Care Workforce" as Defined by NAICS Code 624410

Included	Excluded
Individuals working for day care centers, preschools, and family childcare homes*	Individuals working for employers classified as elementary or secondary schools
Public and privately funded childcare centers	Nannies, babysitters, or other household employees
Part-time and full-time workers**	Sole proprietors of family childcare homes with no employees
All employees, including teachers, administrators, and support staff	Individuals who are paid informally

*Employer type cannot be distinguished in more detail, although we use employer size to roughly distinguish larger centers from smaller establishments and family childcare homes.
**Employment level cannot be distinguished using quarterly wage data. Only the total wages earned in a quarter are available for each worker.

Cohort Identification

Our cohorts include individuals who had stable employment in a job in the childcare industry in the fourth quarter of 2018 or 2019. We define stable employment using the definition of full quarter employment developed by the U.S. Census Bureau for their Quarterly Wage Indicators (QWI): an individual is stably employed if they have reported wages from the same employer in the focal quarter (for example, the fourth quarter of 2019 or 2018), the previous quarter, and the following quarter (United States Census Bureau, 2019).

Table B presents the distribution of employment status for the full childcare workforce in the fourth quarter of 2018 and the fourth quarter of 2019. Both the overall size of the workforce and the number of workers with stable employment are comparable across the years. The highlighted row indicates the cohort for this analysis, which includes about 30,000 workers and almost 80% of the full workforce from each quarter.

About 10% of workers enter the field and another 10% exit during each quarter. While these groups are also important to understand, their connection to the field at the beginning of the pandemic was weaker, making their employment trajectories more difficult to characterize.

Table B. Distribution of Childcare Workforce by Employment Stability

	Worker count (*n*) Q4 2018	% of workers Q4 2018	Worker count (*n*) Q4 2019	% of workers Q4 2019
Stable employment cohort (same job in Q3, Q4, and Q1)	29,800	79.9	30,500	78.6
Job ends (same job in Q3 and Q4, but not Q1)	3,400	9.1	3,500	9.0
Job starts (same job in Q4 and Q1, but not in Q3)	3,100	8.3	3,700	9.5
Job only in Q4	1,000	2.7	1,100	2.8
Total workers	***37,300***	***100.0***	***38,800***	***100.0***

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