CHAPIN HALL

ASSESSING PATTERNS & GEOGRAPHIES

of Child Care Subsidy Take-Up for Illinois

Nick Mader, Hyein Kang, Leah Gjertson, & Robert Goerge

March 2025

EXECUTIVE SUMMARY

This report examines patterns of childcare subsidy take-up across Illinois counties and Child Care Resource & Referral (CCR&R) regions. Administrative data records of childcare subsidy participation are combined with population estimates of young children living in families that are eligible for these subsidies. The population estimates are produced using a new, open-source statistical method for the Estimation of Local Populations Eligible for Programs (ELPEP). Child Care Assistance Program (CCAP) take-up rates are reported as a percentage and defined for a given geographic region as the number enrolled in CCAP divided by the estimated number of children eligible for CCAP in that same region. Key findings include:

Overall Take-Up

2023 rates were 42% (ages 0-2), 48% (ages 3-5), and 22% (ages 6-12).

Regional Range

Take-up varied from 20-50% (ages 0-2), 20-60%+ (ages 3-5), and 10-30% (ages 6-12).

County Variability

County rates ranged from 0-50% (ages 0-5) and 0-25% (ages 6-12), higher in urban areas.

Demographics

Highest take-up in majority Black non-Hispanic areas (80%, 91%, 52%) and lowest in majority white non-Hispanic areas.

Language Factor

Higher take-up in low-English proficiency zip codes for children under 6.

Urban Areas

Higher rates in areas with more eligible families and providers.

Take-up rate **refers to the percentage of eligible children enrolled in the CCAP program.**

- The overall statewide CCAP take-up rates for children are 42% for ages 0–2, 48% for ages 3–5, and 22% for ages 6–12 in calendar year 2023. CCAP take-up rates are relatively high among younger children (ages 0–5) compared to older children (ages 6–12) for whom school provides daytime care and supervision.
- CCAP take-up rates vary by age group and CCR&R region, with children ages 0–2 having a range of 20 to 50% take-up, children ages 3–5 ranging from 20% to over 60%, and school-age children (6–12) showing lower rates, of 10 to 30% take-up across CCR&R agencies across Illinois (see Figure 2 and Figure 5).
- At the county level, CCAP take-up ranges from close to 0% to over 50% for ages 0–2 and 3–5, and from close to 0% to over 25% for ages 6–12 (see Figure 4 and Figure 6), highlighting significant variability in program utilization based on age and region. With a few exceptions, across all age ranges, the counties with the highest take-up rates are urban.
- CCAP take-up rates are highest in majority Black non-Hispanic zip codes, with 80% take-up for children under 2, 91% for children ages 3–5, and 52% for school-age children (see Figure 7). For children under age 2, majority-Hispanic zip codes have the second-highest take-up at 58%, followed by racially diverse zip codes with take-up of 49%. For children over age 3, take-up rates in majority-Hispanic and racially diverse zip codes are similar, about 60% for ages 3–5 and 25% for ages 6–12. Majority-white non-Hispanic areas show the lowest CCAP take-up across all ages.
- Zip codes with lower rates of English proficiency have slightly higher CCAP take-up rates for children under age 6 (see Figure 8).
- Increased geographic density of CCAP-eligible families (see Figure 9) and CCAP providers (see Figure 10) is correlated with higher take-up rates, consistent with higher take-up in urban counties. These patterns likely reflect multiple factors influencing both CCAP demand (easier information sharing and access) and supply (provider incentives and capacity).

Overall, this analysis demonstrates that CCAP is reaching and serving relatively high proportions of eligible children in urban areas and in Black, Hispanic, and racially diverse communities within Illinois. However, there is notable variation across the state; some regions demonstrate estimated take-up below 20% of eligible children. This may be due to a combination of factors, including program awareness, demand for child care, and supply of providers participating in CCAP. Findings and interpretations are subject to limitations related to the ability to precisely estimate eligibility for several subpopulations of program recipients. By relying on administrative data and statistical estimates that can be readily updated, the statistics in this report can help Illinois jurisdictions track trends in their efforts to increase and ensure the equitability of take-up in the child care subsidy program (CCAP).

Acknowledgements

This report uses data from the Illinois Department of Human Services, Division of Early Childhood. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Illinois Department of Human Services. The authors thank the leadership staff at the Illinois Department of Human Services, Division of Early Childhood for their insights and partnership.

We thank our colleagues David McQuown and Sabrina Sedovic for support preparing the administrative data and Emily Wiegand for sharing important insights on the data and analysis.

This project is supported by the Administration for Children and Families (ACF) of the United States (U.S.) Department of Health and Human Services (HHS) as part of a financial assistance award (Grant #: 90YE0225) with 100% funded by ACF/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement by, ACF/HHS, or the U.S. government. For more information, please visit the ACF website, Administrative and National Policy Requirements.

TABLE OF CONTENTS

1. INTRODUCTION

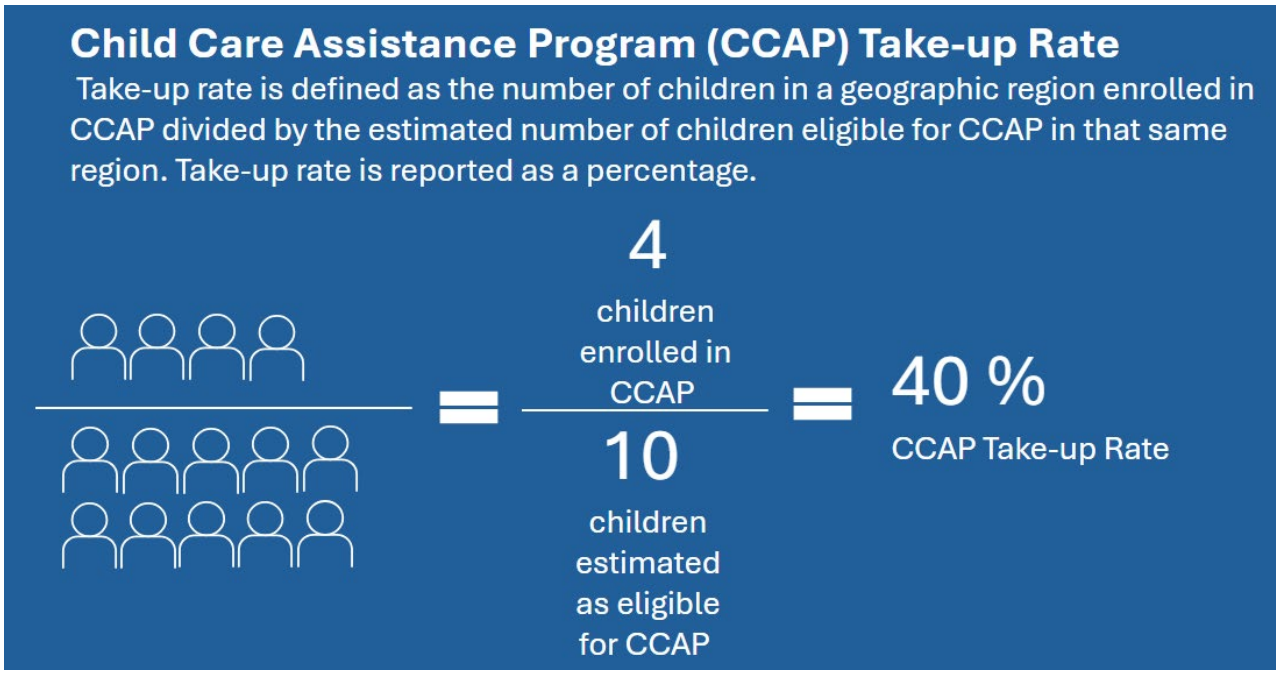
There is longstanding public interest in providing quality child care as a means for promoting child development and enabling parents to work or engage in training that invests in their skills and economic self-sufficiency.

The Illinois Child Care Assistance Program (CCAP) uses funds from both the federal Administration for Children and Family's Child Care and Development Fund (CCDF) and the state of Illinois to make child care for eligible families with children more affordable. State administrative data on CCAP participation makes it possible to examine trends in enrollment and persistence of families in CCAP. However, without suitably granular data on eligibility, it is not possible to evaluate how many eligible families have been served and where there are persistent inequities in rates of take-up among those eligible.

The United States Census Bureau fields a range of surveys to obtain data on the counts and characteristics of households and individuals, including data related to CCAP eligibility: the presence of young children, age of each child, family income, and employment status of household adults. However, while different Census data releases have sufficient specificity (that is, they have enough information on families to determine CCAP eligibility), geographical granularity, and recency for applied policy use, no single data release has information on all three requirements.

We describe a new statistical method—Estimation of Local Populations Eligible for Programs (ELPEP)—which estimates the number of young children eligible for CCAP down to the Census tract level and for single calendar years, including data as recent as 2–3 months lagged from present. ELPEP uses the relative strengths of each of a range of Census Bureau data releases to produce its estimates.

Figure 1. Child Care Assistance Program (CCAP) Take-up Rate



In the sections below, we describe the ELPEP method and demonstrate its potential for informing applied policy discussions. In particular, we examine how combinations of ELPEP and state administrative records on CCDF program enrollment can be used to examine (1) take-up rates across geographies of Illinois and (2) take-up rates considering the racial/ethnic makeup and English language proficiency of those geographies. Figure 1 presents our operational definition of CCAP take-up rate.

We conclude with discussion of both limitations and future development for these types of analyses.

2. DATA AND METHODS

Illinois CCAP provides childcare subsidies to low-income families in the state who participate in qualifying employment and educational activities. Eligibility for CCAP is restricted to families with children under age 13[1] whose family income falls below 225% of the Federal Poverty Level (FPL) at the time of application (or below 275% of the FPL at the time of eligibility redetermination). According to IDHS, in FY2023, Illinois CCAP served 199,724 children and 117,805 families, and distributed subsidy payments to 25,572 childcare providers.

2.1 Estimates of Young Children Eligible for CCAP

Table 1 shows a range of U.S. Census Bureau data releases based on their specificity (with respect to determining CCAP eligibility), recency, and geographic granularity.

Table 1. U.S. Census Data Sources Incorporated in ELPEP Estimates

Census Data Release	Data Elements	Recency	Geographic Granularity
Current Population Survey (CPS)	Microdata, allowing for calculation of complex eligibility status	1–2 months lagged[a]	Substate estimates are unreliable when subsetting to specific populations[b]
American Community Survey 1-Year (ACS1)	Microdata, allowing for calculation of complex eligibility status	9–21 months lagged, depending on most recent release[c]	Public Use Microdata Area (PUMA) level (approx. 100,000 individuals)
American Community Survey 5-Year (ACS5)	Selected aggregate counts that do not include CCAP eligibility	11–23 months lagged, and reflecting aggregate status over the prior 5 years[d]	Census Tract level (approx. 4,000 individuals)

[a] See this link for information about public use releases of the basic monthly CPS data series.
[b] In 2023 the CPS captured records on only 655 children aged 5 or younger in the state of Illinois.
[c] The ACS 1-year Public Use Microdata Series (PUMS), is issued in September in a given year, with data reflecting the full year of ACS data collection for the calendar years prior. See this link for these and related data dissemination details.
[d] The ACS 5-year data estimates are released in December of a given year, with data reflecting ACS data collection for 1-5 calendar years prior. See this link for these and related data dissemination details.

ELPEP combines the relative strengths of these U.S. Census data sources—detailed household circumstances from the CPS and ACS1 data, recency from the CPS, and geographic granularity from the ACS5—in a unified statistical framework, operating in two principal phases. See Appendix 5.4 Details of the Estimation of Local Populations Eligible for Programs (ELPEP) Method for additional technical information.

ELPEP's first phase produces baseline estimates of CCAP eligibility down to the Census tract level, as of the calendar year corresponding to the most recent ACS1 release. This step utilizes Small Area Estimation (SAE) methods[2] that are adapted to the situation where direct estimates of subsidy eligibility are available at the PUMA level (ACS1), which is geographically more aggregate than the Census tract level of the auxiliary data (ACS5).

[1] Children ages 13–19 who are physically or mentally incapable of self-care or under court supervision are also eligible for Illinois CCAP.
[2] See Rao, J. N., & Molina, I. (2015). *Small area estimation*. John Wiley & Sons.

ELPEP's second phase forecasts the tract level from the baseline year into the near present, using CPS data to capture how macroeconomic trends variously impact different types of communities.[3]

Although the microdata in the CPS and ACS1 surveys allows for calculation of eligibility based on income, work status,[4] and presence of young children, the data lack youth-level developmental and needs data that would allow for estimating eligibility related to an established disability. Because an identified disability would allow children to qualify for CCAP benefits through age 18 (if their family also meets income and work eligibility requirements), our analysis below focuses only on children aged 12 and younger. Additional subpopulations not represented in our estimates include families eligible due to involvement in the child welfare system and families with parents deployed in the military.[5]

2.2 Administrative Data on CCAP Participation

We use CCAP administrative data developed into a research-ready analytic database—the Child Care Assistance Longitudinal Database (CCALD)—to calculate counts of children who participated in CCAP during calendar year 2023. The database includes CCAP payments and individual information administered by the Illinois Department of Human Services (DHS)[6]. This database is updated monthly and contains payment records from July 2000 to the present. CCALD connects payments to children, providers, heads of household, and case eligibility periods and may be used to generate eligibility and service spells for these entities. It includes limited personal identifiers and geographical information.

CCAP participation is documented monthly. There are children who received CCAP for the whole year (for all 12 months in 2023), as well as children who received CCAP for part of the year. These cases are prorated in calculations of participation, based on the percentage of the year in which they were enrolled with CCAP. Likewise, cases were assigned to age groups and geographies at the time of their participation as of their age and residence in each month during which they participated.[7]

Using the CCAP payment data, we found there were 192,032 children who ever received CCAP subsidy in calendar year 2023. We exclude the following child records from the take up analysis: 3,000 records with missing address information, 80 records with address information outside Illinois, and 35 records with missing or invalid birthdate information. We also exclude about 6,000 children who were 13 years old or older and participated in CCAP due to a being under court supervision or having a medically documented special need, as ELPEP does not currently estimate population counts for these children.

2.3 Data on Communities

We examined two dimensions of community characteristics for assessing the equitability of CCAP take-up:

[3] See the open-source repository of the ELPEP method for more details. See Flood, S., King, M., Rodgers, R., Ruggles, S., Warren, J. R., Warren, D., Chen, A., Cooper, G., Richards, S., Schouweiler, M., & Westberry, M. (2024). *IPUMS, Current Population Survey: Version 12.0 [dataset]*. Minneapolis, MN: IPUMS. https://doi.org/10.18128/D030.V12.0.

[4] Although households can be eligible for CCAP if they participate in qualifying educational or training activities, these activities are not clearly reflected in the Census data sources used by ELPEP. This will result in an underestimate of the number of families eligible for CCAP, although the bias is relatively small. The Illinois Department of Human Services Annual Child Care Report for FY2023 finds that between 94 and 98% of families received CCAP subsidies via employment-based eligibility between 2021 and 2023.

[5] Families eligible for CCAP through involvement with the Department of Children and Family Services or military deployment, combined with homeless families and families with incomes below 100% FPL, accounted for less than 2.5% of the CCAP caseload in FY2023 (see Illinois Annual Child Care Report FY2023).

[6] The CCMS payment data used in this study cover certificate payments also called "vouchers" but does not include children participating in CCAP issued at the site level.

[7] Specifically, weighted counts of CCAP participation were generated by assigning a value of 1/12 (~0.083) for each month of CCAP participation. For example, a child enrolled in CCAP in January, March, and November 2023 would be counted as 3/12 (0.25) instead of 1.0. For age and geographic attribution, if a child were enrolled in CCAP in January–December 2023 and turned 3 in May 2023 (that is, the child participated in CCAP for 4 months as a 2-year-old and 8 months as a 3-year-old), their participation would be counted as 4/12 (0.33) as a 2-year-old and 8/12 (0.67) as a 3-year-old, respectively. Likewise, if a CCAP child moved from one residential location within Illinois to another in 2023, the months of CCAP participation are weighted across those two locations.

1. Race and ethnic composition at the Census tract level[8]
2. Limited English proficiency at the Census tract level

These are drawn from American Community Survey (ACS) 5-year data releases, from tables B16004 ("Age By Language Spoken At Home By Ability To Speak English For The Population 5 Years And Over") and B03002 ("Hispanic Or Latino Origin By Race") respectively.

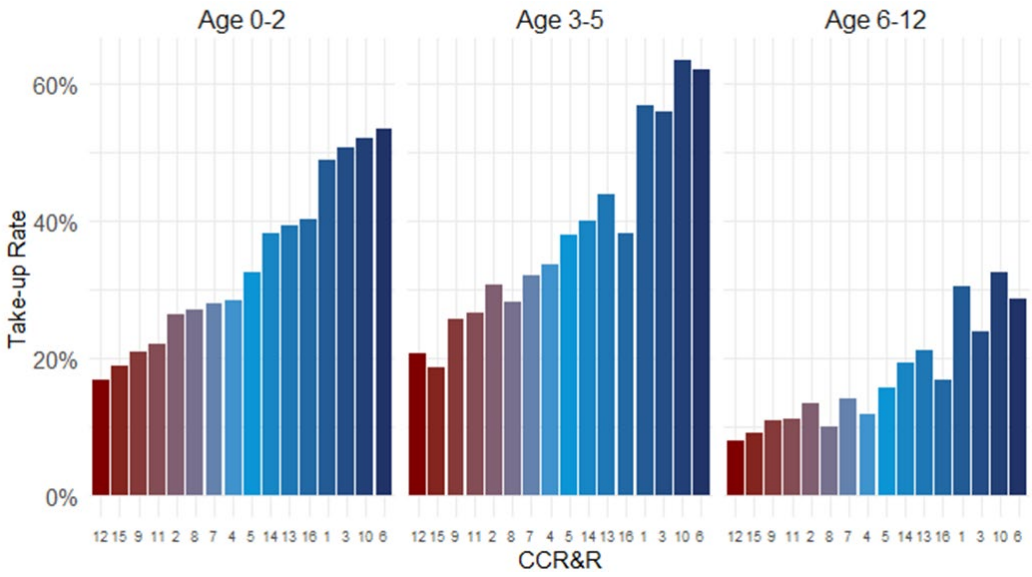
3. ANALYSIS

3.1 Patterns of CCAP Take-up

Take-up rates are presented as the calculated percent of the number of children enrolled in CCAP out of the estimated population of eligible children. Overall, state-wide take-up rates for CCAP are 42% for ages 0-2, 48% for ages 3-5, and 22% for ages 6-12.

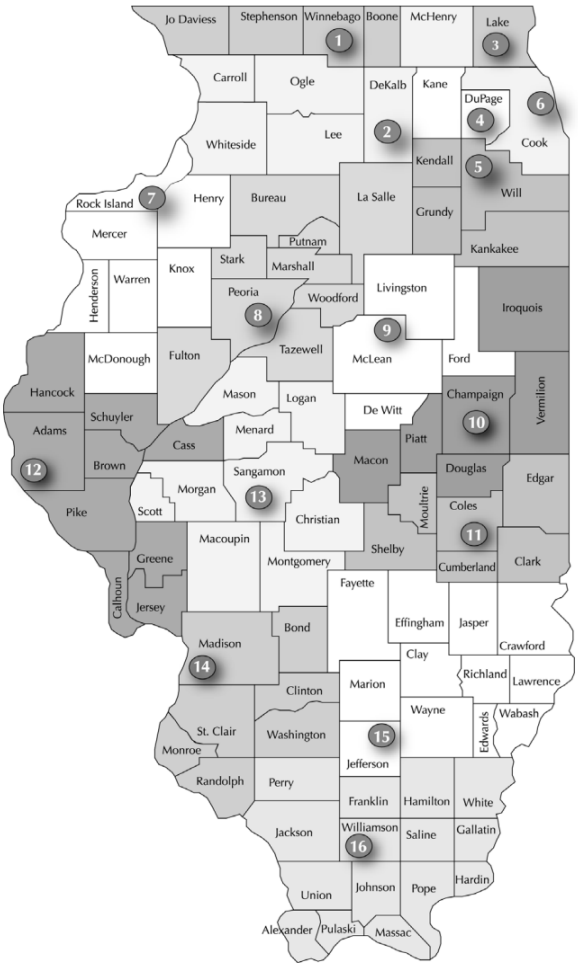
Figure 2 shows CCAP take-up rates at the level of Child Care Resource & Referral (CCR&R) agencies. A map of the CCR&R agency regions by name and location is presented in Figure 3. For children ages 0–2, CCAP take-up ranges from about 20% to about 50%, with four CCR&R agencies having take-up rates about 20% and four agencies having take-up about 50%. For children ages 3–5, take-up ranges from about 20% (in two CCR&R agencies) to over 60% (in two agencies). For school-age children 6–12 years, take-up is lower, ranging from about 10% in eight CCR&R agencies to about 30% in three agencies. Across age groups, the highest take-up rates are in networks 6 (serving Cook County), 10 (serving Champaign, Douglas, Iroquois, Macon, Piatt, and Vermilion counties), 3 (serving Lake County), and 1 (serving Boone, Jo Daviess, Stephenson, and Winnebago counties). The ranges of take-up rates for CCR&R networks are narrower than those for counties, given that CCR&Rs are often aggregates of multiple counties which pulls estimates closer to the state average. However, this reporting at the CCR&R level connects the range of take-up rates with sub-state agencies that support administration of CCAP and therefore are well-positioned to reflect on and encourage take-up rates.

Figure 2. CCAP Take-up Rate by Age Group and CCR&R



[8] Census tracts are official statistical subdivisions of the United States defined and tracked by the U.S. Census Bureau. Census tracts reflect approximate population sizes of 4,000 individuals. There are approximately 800 Census tracts in Chicago. See this Census glossary entry for more detail.

Figure 3. Map of Illinois CCR&R Regions



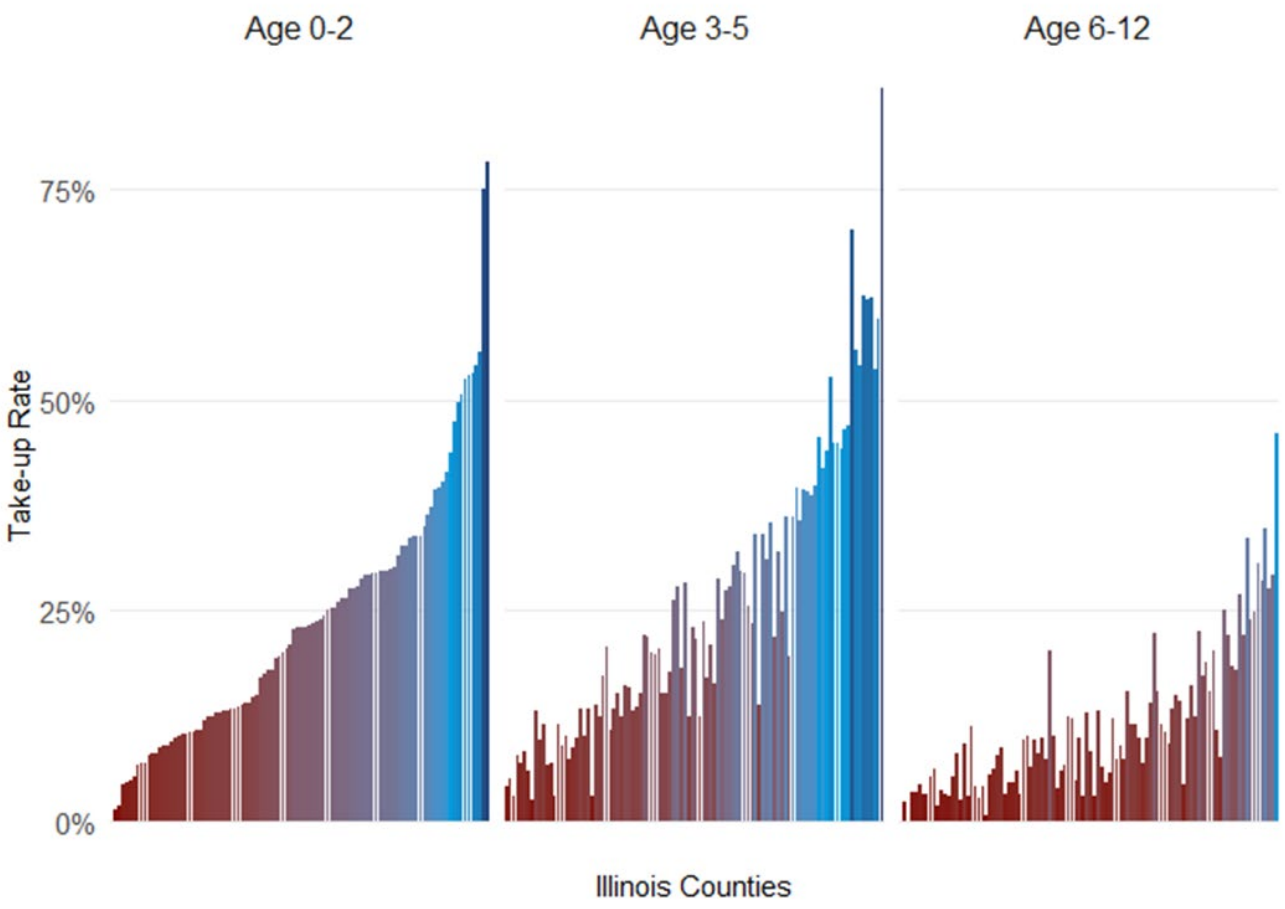
#	CCR&R
1	YWCA Child Care Solutions
2	4-C: Community Coordinated Child Care
3	YWCA Child Care Resource and Referral of Chicago
4	YWCA Child Care Resource and Referral of Chicago
5	Child Care Resource and Referral
6	Illinois Action for Children
7	Child Care Resource and Referral of Midwestern Illinois
8	SAL Child Care Connection
9	Child Care Resource & Referral Network
10	Child Care Resource Service
11	Child Care Resource & Referral Eastern Illinois University
12	West Central Child Care Connection
13	Community Child Care Connection
14	Brightpoint Child Care Resource & Referral
15	Project CHILD: Child Care Resource & Referral
16	Child Care Resource & Referral John A. Logan College

Figure 4 shows rates of CCAP take-up across Illinois counties. Because of the large number of counties, the individual bars are narrow and not labeled, but serve to show the ranges and distribution of take-up rates. (CCAP take-up rates for each county can be viewed in Table 2 in the Appendix.)

County-level take-up rates range from nearly 0% to over 50% for ages 0–2 and 3–5, and from nearly 0% to over 25% for ages 6–12. These lower rates for older youth are unsurprising given that they are school-aged and may have school-related activities or greater personal agency in care. However, a number of counties have rates of at least 25% for school-age children.

Patterns of take-up rates for different age groups are relatively consistent within counties. In each panel of Figure 4, the counties are presented in order of the take-up rate for children aged 0–2. This is seen directly in the "Age 0–2" panel. While the take-up rates for other ages in the other panels are not in the exactly same order–seen as rates that do not strictly increase from left to right–they still largely have the same overall shape, implying that counties with low (or high) rates of CCAP take-up for age 0–2, generally also have low (or high) rates of take-up for older age groups.

Figure 4. Distribution of CCAP Take-up Rates by County



Take-up rates for the CCAP are designed to be comparable across areas of different sizes because they show the percentage of eligible children who are participating. However, in smaller counties, high or low rates might reflect relatively more chance rather than clear patterns of success or challenges with participation. For example, in Cook County, 53.3% of children under age 2 participate in CCAP with 17,974 children out of 33,743 eligible enrolled. By comparison, the rates in the nearby collar counties are:

- DuPage: 26.4% (1,290 of 4,892 eligible)
- Kane: 31.4% (1,020 of 3,246 eligible)
- Lake: 50.7% (1,877 of 3,705 eligible)
- McHenry: 24.4% (434 of 1,782 eligible)
- Will: 32.6% (1,296 of 3,972 eligible)

These comparisons are meaningful, but in smaller counties, the number of eligible children is so low that the rates might be less reliable. For example:

- Saline County has a high take-up rate of 75.0%, but this is based on just 128 out of 171 eligible children.
- Scott County has a low rate (37.3%), which represents only 10 out of 26 eligible children.

3.2 The Geography of Take-up

Figure 5 displays average CCAP take-up rates by CCR&R network. These are the same results presented in Figure 2, but Figure 5 presents them in a map format to enable geographic comparisons. This map presents take-up patterns of CCR&Rs relative to others in the state, and relative to neighbors. There are no clear upstate versus downstate patterns.

Figure 5. Take-up Rates by Child Care Resource & Referral Network

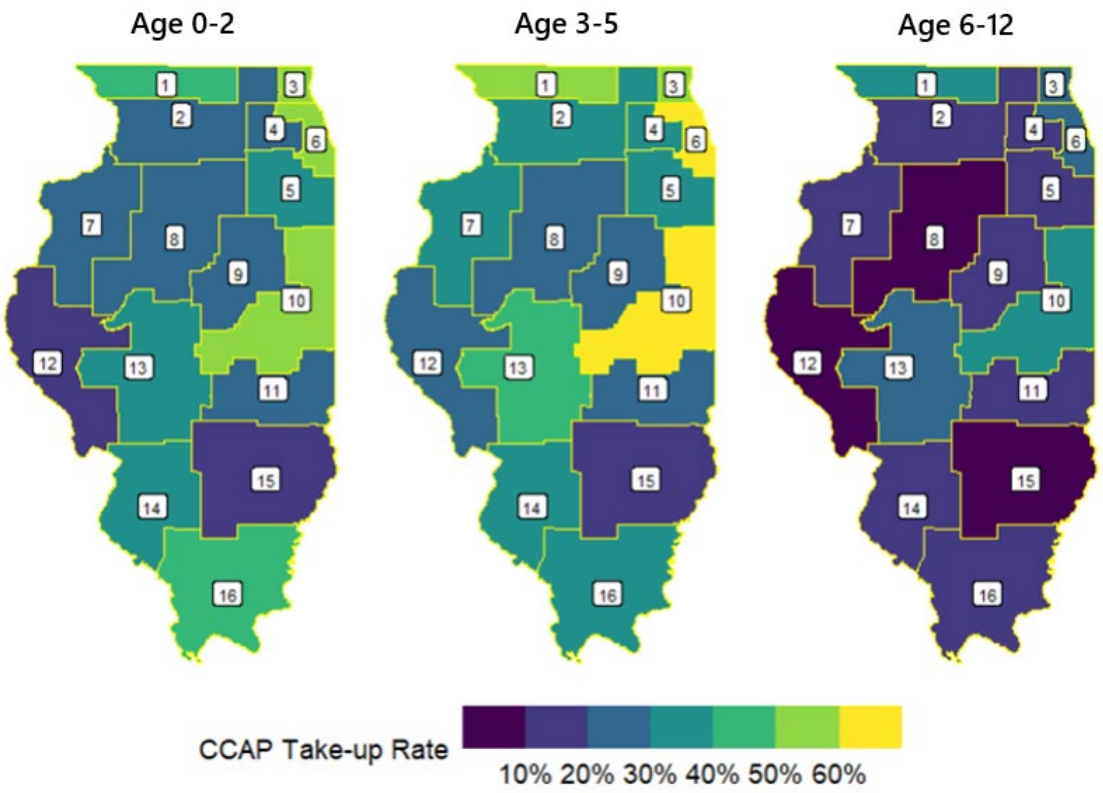
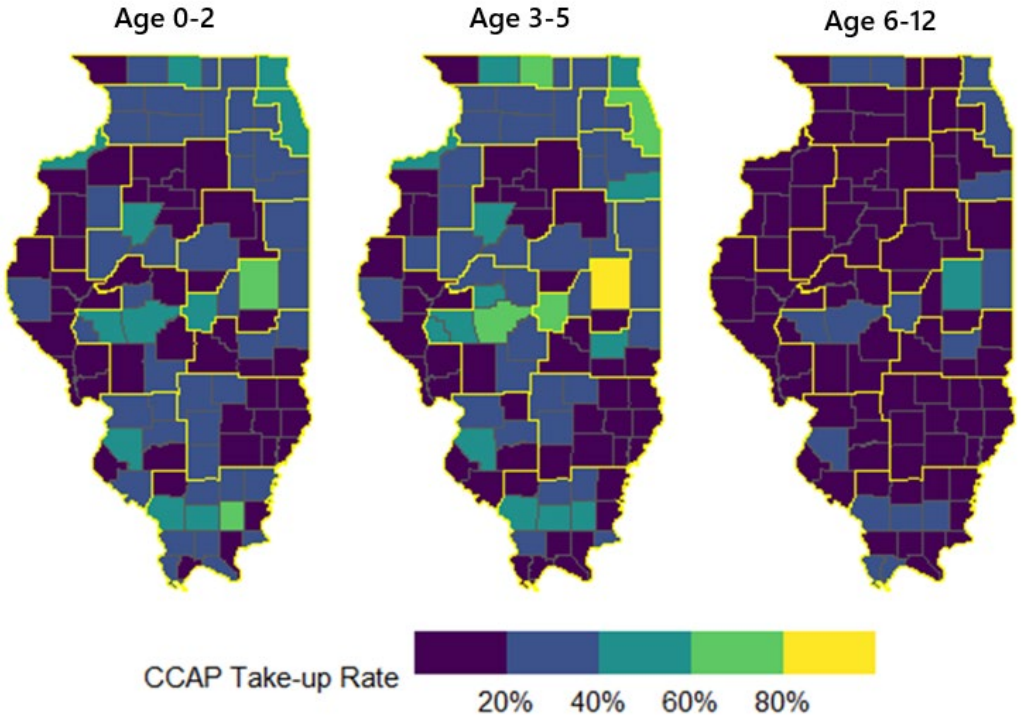


Figure 6 expands on Figure 5 by visualizing take-up rates within CCR&R boundaries marked by yellow lines. This helps identify areas within each CCR&R with higher and lower take-up and supports more refined reflection about what underlying phenomena may drive these differences. Figure 6 also reinforces a more general point: that CCR&Rs typically oversee diverse regions with respect to CCAP take-up patterns. County CCAP take-up rate percentages are presented in Appendix Table 2.

Figure 6. Take-up Rates by County



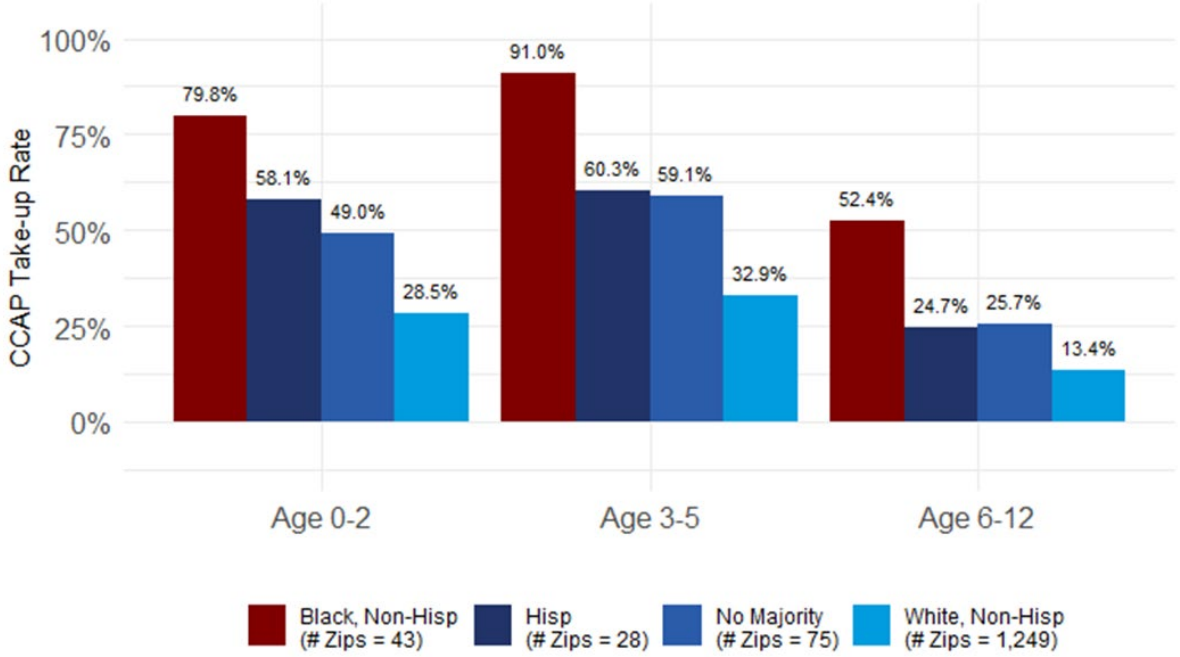
3.3 The Equitability of Take-up

This section examines how CCAP take-up rates vary across populations within Illinois. We focus on take-up rates by race/ethnicity and English language proficiency, to understand whether CCAP is taken up equitably among demographic groups that have historically faced barriers to accessing public supports. Because no reliable information is available about the demographic characteristics of individual eligible families, we examine the characteristics of smaller neighborhoods. The figures below examine take-up rates down to the zip-code level based on the zip code's overall characteristics taken from the ACS 5-year data.

Figure 7 examines CCAP take-up by the racial/ethnic majority within each zip code. As shown, the zip codes with a majority Black non-Hispanic population have the highest take-up rates for all age levels. Hispanic majority zip codes have the second highest take-up among children under age 2. Zip codes with a majority Hispanic population and those inhabited by a plurality of race/ethnicities ("No majority") have similar levels of CCAP take- up for children over age 3. Areas with white non-Hispanic population have the lowest rates of take-up for all ages.

This pattern stands counter to a common concern that racial and ethnic minorities face disproportionate barriers to accessing publicly supported programs and care. The racial/ethnic composition of families in urban versus rural areas of the state—relative to the availability of subsidized child care in rural areas—may be one factor contributing to this pattern. This is also consistent with the hypotheses that social networks may help form and provide useful information on eligibility and applying for subsidies (demand side) in urban areas with higher population density, and that local childcare providers may have economy-of-scale incentives to accept subsidy-eligible families and file the necessary administrative paperwork (supply side).

Figure 7. Take-Up by Zip Code and Majority Race/Ethnic Composition

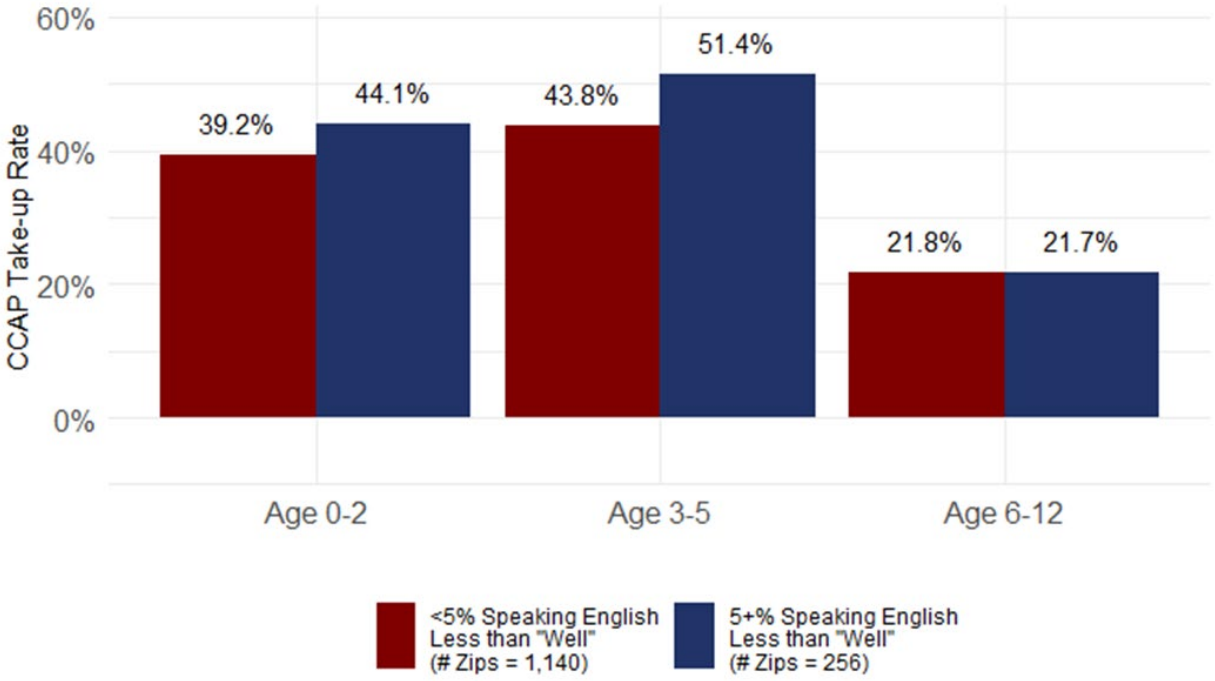


Note: The total number of children estimated to be eligible for CCAP is about 47,200 in majority Black, Non-Hispanic zip codes, 57,640 in majority Hispanic zip codes, 75,860 in racially diverse zip code and 233,240 in majority White, Non-Hispanic zip codes.

Figure 8 examines take-up comparisons versus English language proficiency by calculating take-up rates for zip codes for two groups: those with greater than 5% of the population identifying as speaking English "less than 'Very Well'" and those with less than 5% of the population identifying as speaking English "less than 'Very Well'" as reported in the ACS 5-year data. This shows that zip codes with lower rates of English proficiency have slightly higher CCAP take-up rates for children under age 6.

Multivariate statistical analysis could simultaneously account for each of the local neighborhood characteristics listed above, to determine which have the strongest correlations with CCAP take-up. However, given the often-compressed distributions of these measures, it is challenging to determine how to transform each predictor to best establish that test. Together with other future steps, this possibility is discussed below among steps for future activities within 4.2 Potential for Future Work.

Figure 8. Take-up by English Language Proficiency of Zip Code

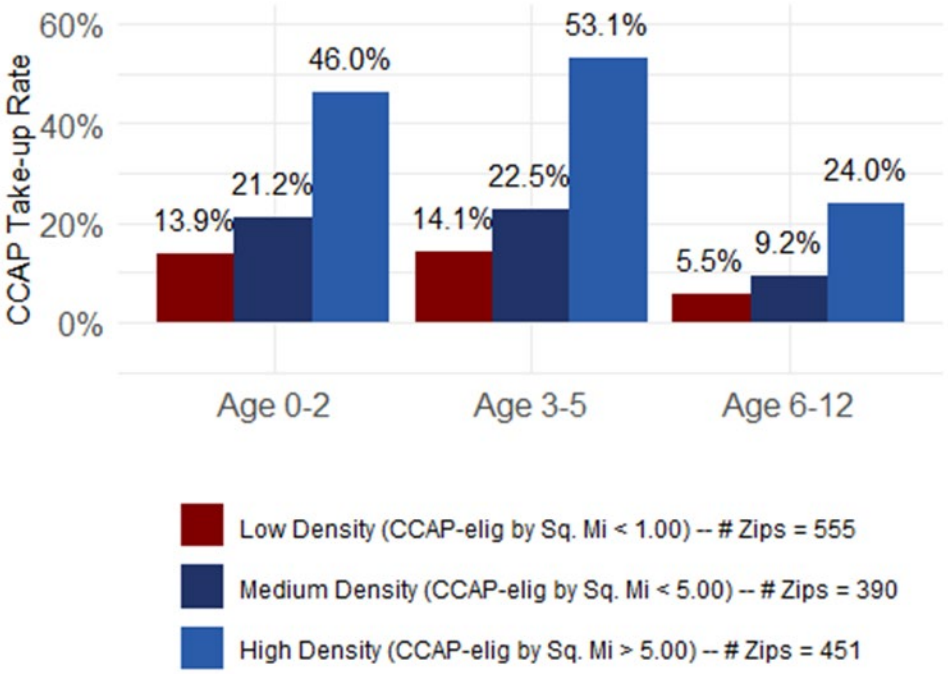


Note: The total number of children estimated to be eligible for CCAP is about 179,460 in zip codes where <5% of the population speaks English less than "well" and 234,268 in zip codes where 5+% of the population speaks English less than "well".

Taken together, Figure 7 and Figure 8 suggest the possible hypothesis that take-up may be associated with greater population density or living in urban areas, where race/ethnicity/language proficiency is more diverse.

Figure 9 examines the relationship of take-up with population density–specifically population density with others that are eligible for subsidies–dividing zip codes based on the number of CCAP-eligible children per square mile. The data shown in Figure 9 confirm a strong relationship between a high density of eligible families and high take-up rates. We found the highest take-up in zip codes with more than five children eligible for CCAP per square mile with rates of 46% (ages 0–2), 53% (ages 3–5), and 24% (ages 6–12). Take-up for zip codes with medium level density, of between one and five CCAP-eligible children per square mile, is less than half the take-up rate of high-density zip codes for all child age groups (21% for ages 0–2, 23% for ages 3–5, and 9% for ages 6–12). The take-up rates among the lowest density group, where there is less than one eligible child per square mile, are about 14% for ages 0–5 and below 6% for children ages 6–12.

Figure 9. Zip-Code-Level Take-Up vs. Population Density of CCAP-Eligible Children



Note: The CCAP density per square mile is calculated as the total number of eligible children aged 0-12, divided by the square mile area of the zip code. The total number of children estimated to be eligible for CCAP is about 15,960 in low-density zip codes, 45,900 in medium-density zip codes, and 352,075 in high-density zip codes.

The density of child care providers participating in CCAP is another factor that may relate to CCAP take-up rates. We use provider density as a proxy measure of the supply available to serve children through subsidies in each county. An analysis of CCAP take-up rate and the density of child care providers participaiting in CCAP[9] demonstrates a positive correlation between county-level take-up and the density of providers for both for center- and home-based providers for all child age groups (see Figure 10 in the Appendix).

Analyses of the density of eligible children and participating providers suggest multiple different—and some complementary—possible takeaways. The density of CCAP-eligible families could be a key factor itself, where information about eligibility is more easily shared, leading providers to be more successful if they seek to serve families through CCAP. At the same time, a high density of CCAP-eligible families could incentivize providers to develop the capacity to identify and process these families as the basis for their business model. Or, separately, the overall supply of providers could be driven by different forces in more or less dense (or more urban vs. rural) parts of the state, including transportation accessibility, presence of nearby family for providing care, or labor markets for childcare workers. For the patterns mentioned above (higher take-up for racial and ethnic minorities and for familes with lower English language proficiency), these correlations provide necessary context: namely, that something about characteristics associated with density is a likely key driver of take-up, and not necessarily a lack of other barriers. Our discussion section below describes future research that can help identify ways to get better evidence on how much both demand- and supply-side factors play a role as well as ways to get clearer implications for how to support high and equitable CCAP take-up.

[9] Participating in CCAP is defined as serving at least one child through CCAP in FY2024. Data obtained through ad hoc analysis of CCMS data by Illinois Early Childhood Asset Mapping team, November 2024.

4. DISCUSSION

4.1 Summary

Higher CCAP take-up rates in urban areas and racially diverse communities suggest that both provider availability and community awareness may play critical roles in program participation.

The overall statewide CCAP take-up rates for children are 42% for ages 0–2, 48% for ages 3–5, and 22% for ages 6–12 in calendar year 2023. CCAP take-up rates are relatively high among younger children (ages 0–5) compared to older children (ages 6–12) for whom school provides daytime care and supervision. The findings demonstrate significant geographic variation in CCAP take-up rate. Across CCR&Rs, the administrative regions for CCAP, area 12 (serving Adams, Brown, Calhoun, Cass, Greene, Hancock, Jersey, Pike, and Schuyler counties) had the lowest take-up rates. CCR&Rs from areas 6 (serving Cook County) and 10 (serving Champaign, Douglas, Iroquois, Macon, Piatt, and Vermilion counties) had among the highest take-up rates for both ages 0–2 and 3–5. Across all age groups, Champaign County had highest CCAP take-up rates, while Brown and Calhoun counties showed quite low take-up rates. With a few exceptions, across all age ranges, the counties with the highest take-up rates are urban. Notable exceptions are three contiguous counties—Jackson, Williamson, and Saline counties in the far south of the state. Other analyses have noted the low supply of child care in rural counties.

Relatedly, we found higher rates of CCAP take-up in areas with the highest density of CCAP-eligible children, and highest density of center- and home-based providers that serve children through CCAP. These correlations could be due to multiple factors that this analysis cannot distinguish among. These include both demand-side factors, like family awareness and support for program applications, and supply-side factors, such as the number of available providers and the number of providers that choose to serve children through CCAP. We also find CCAP take-up rates tend to be higher in zip codes with higher population of Black non-Hispanic, Hispanic, and racially diverse shares across all age groups, especially among younger children (ages 0–5) and areas with lower average rates of English language proficiency. These findings are consistent with higher take-up in urban areas.

Overall, this take-up rate analysis demonstrates that CCAP is reaching and serving relatively high proportions of eligible children in urban areas and in Black, Hispanic, and racially diverse communities within Illinois. However, there is notable variation in CCAP take-up across the state; some regions demonstrate estimated take-up below 20% of eligible children. This may be due to a combination of factors such as awareness of the program, demand for child care, and supply of child care providers participating in CCAP. Findings and interpretations are subject to limitations relating to the ability to precisely estimate eligibility for several subpopulations, detailed in Appendix section 5.1, Limitations.

4.2 Potential for Future Work

This report presents a foundational analysis that can be built on in several directions. First, this report describes the recent (2023) state of CCAP take-up in the state of Illinois. This was built using reproducible research methods, which decreases the turnaround time and cost for creating updates in future years. This can be used to create a new means to track trends with respect to patterns, geography, and equity of take-up as factors like the economy, policy, and family care trends evolve.

Second, additional analysis could be undertaken to better understand how take-up patterns depend on family characteristics and context; the proximity and availability of providers through CCAP or possibly through other publicly supported child care options, such as Head Start; and neighborhood characteristics such as transportation networks. This work uses the same estimates of eligibility, administrative data on take-up, and data on licensed or license-exempt providers across the state, together with statistical models that predict choice at the household level. These analyses could yield information about:

1. how much the availability of providers impacts the likelihood of take-up;
2. whether and how much any given household characteristic—including race or ethnic identity and English language proficiency—are associated with take-up, after considering the availability of providers; and
3. how much a given area of Illinois has take-up rates above or below what a statistical model would predict.

Finally, if the above suggested analyses could be undertaken, the information on which areas of Illinois had higher versus lower take-up rates could provide justification for conducting targeted survey data collection. This would help address unanswered questions and inform policy discussions and dissemination about "what's working" for areas with higher-than-expected take-up or to motivate further research into key factors to track.

5. APPENDIX

5.1 Limitations

The findings and interpretations are subject to several limitations. One limitation is that ELPEP estimates the population of eligible children based on family income below the threshold for initial eligibility, at 225% of the federal poverty level. But participation data may also include a small percentage of families with income up to 275% of the federal poverty level, the higher income threshold applicable to families applying for continued eligibility after 12 months. The patterns that we find would be altered if CCAP-eligible families in different parts of the state faced systematically different earnings trajectories following take-up.

Second, the eligibility estimates are based on parents who are working and do not include estimates for parents who would be eligible solely based on participation in educational activities. We also do not estimate CCAP eligibility for families eligible for the program through involvement with the child welfare system, homelessness, or having a parent deployed in the military. We anticipate the effect of this omission to be minimal.[10] However, having areas of the state that are disproportionately associated with families who qualify via those characteristics (for example, communities with greater access to postsecondary training options), could lead to take-up rates that may be slightly inflated above their true levels, and possibly inflated unevenly across geographies.

Third, our analyses exclude children in the CCAP program with missing address information (about 3,000 children), children served by out of state providers (n=80), and children with missing or invalid birthdate information (n=35). This leads to take-up rates being underestimated. We also do not perform an analysis take-up rates for children aged 13–19 (about 6,000 children) due to the difficulty of developing reliable population estimates of CCAP eligibility for older children participating due to court supervision or documented special needs.

A fourth limitation is that estimates of eligibility are based on multiple U.S. Census data sources. Therefore, they are subject to the limitations inherent in those data including, for example, known undercounts of certain populations and geographies.

Finally, analyses of take-up rates by geographic region and characteristics do not provide direct information about the reasons for the variation in take-up rates observed across the state. However, the findings do suggest important avenues for future inquiry. These include targeting questions about parental knowledge and demand for CCAP, provider supply, and the interaction between these and other factors.

5.2 Take-Up Rates and Density of CCAP Providers

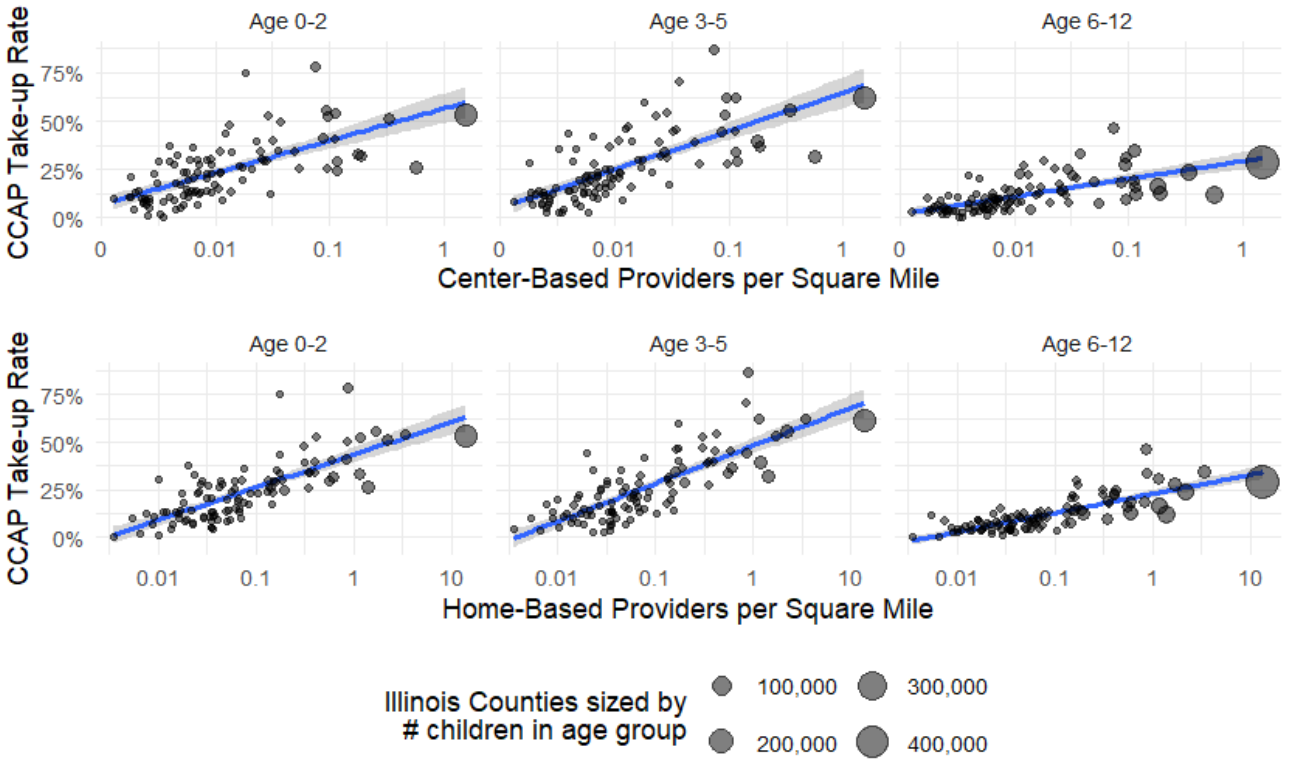
Figure 10 presents the relationship between CCAP take-up rate and the density of childcare providers participating in CCAP[11] for center-based providers and home-based providers for child age groups 0–2, 3–5, and 6–12 years. We use provider density as a proxy measure of the supply available to serve children through subsidies in each county. In Figure 10, each point represents a county in Illinois, and its size is proportional to the total estimated child population

[10] The Illinois Department of Human Services's Annual Child Care Report for FY2023 finds that between 94 and 98% of families received CCAP subsidies via employment-based eligibility between 2021 and 2023. Fewer than 3% of families in 2023 were eligible for CCAP based on a combination of child welfare involvement, military deployment, homelessness, and income below 100% FPL. There is likely overlap between these populations and those qualifying for reasons other than employment, minimizing the result of this omission.

[11] Participating in CCAP is defined as serving at least one child through CCAP in FY2024. Data were obtained through ad hoc analysis of CCMS data by the Illinois Early Childhood Asset Mapping team, November 2024.

in the given age range. The six plots show a positive correlation between county-level take-up and the density of providers for both for center- and home-based providers.

Figure 10. Take-Up vs Density of CCAP-Accepting Providers at the County Level

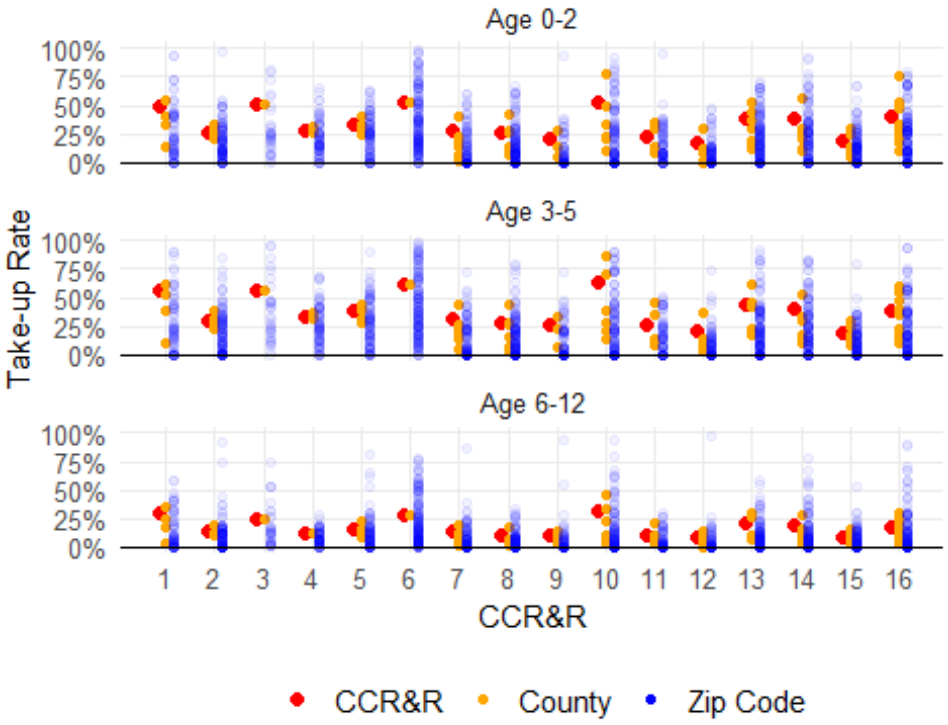


5.3 Contrasting Ranges of Take-up by Larger vs Smaller Geographies

This report examines take-up rates at varying levels of geography: Child Care Resource & Referral network, county, and zip code. Across these varying levels, the ranges of take-up rates vary depending on the size of the geography. Zip-code-level take-up rates vary the most widely because they capture the widest differences in varying demographics and neighborhood conditions. Take-up rates for counties vary less widely because the high and low take-up rates of zip codes that they each contain average into more moderate overall numbers. Likewise, CCR&R take-up rates vary less widely than those of counties because the high and low take-up rates for counties that they contain also average out into more moderate numbers.

Figure 11 shows, by CCR&R, the overall take-up rate, the take-up rates for counties, and the take-up rate for zip codes.

Figure 11. Ranges of Take-up Rates Across Geographies Within CCR&Rs



5.4 Details of the Estimation of Local Populations Eligible for Programs (ELPEP) Method

The ELPEP statistical method works in two stages:

1. use of custom **Small Area Estimation** methods to estimate a range of community characteristics related to childcare program eligibility at a small geographic level; and
2. use of statistical methods to bring the first stage estimates up to the "near-present" by capturing macroeconomic trends relevant to these smaller geographies.

5.4.1 Small Area Estimation

ELPEP's implementation Small Area Estimation (SAE) uses several modifications to canonical methods to estimate community characteristics down to the Census tract level.[12]

Let s_{Gt}^{c} be the share of young children in category $c \in \{1, \ldots, C\}$ (that is, the % of young children with income between 0 and 100% of the Federal Poverty Level [FPL], 100-200% FPL, etc.), in geography G, at time t. Note that although eligibility of children for public childcare subsidies is typically determined by household status (for example, the

[12] See the Asian Development Bank's Introduction to Small Area Estimation Techniques for a clear exposition of motivations and techniques for SAE methods, with applications using the R programming language.

presence of young children, labor force participation, and income of parents), our analysis is at the level of children and thus makes use of person–rather than household–sampling weights. This is motivated by the final goal of assessing whether affordable childcare slots are sufficient for the number of children (rather than for the number of local families).

"Direct" estimates are calculated by assuming PUMA-level population shares are, in expectation, representative of tract-level shares:

$$E\left[s^{c}_{gt-1}\right] = s^{c}_{Gt-1}$$

where g is our small geography (tract), and G is the big geography (that is, Public Use Microdata Area, or PUMA).

Within the SAE method, "Model" estimates use PUMA-level data to draw inference using regression model:

$$s^{c}_{Gt-1} = x'_{gt-1}\beta + \epsilon_{Gt-1}$$

where the tract-level estimate is obtained using $\hat{\beta}$ with tract-level values:

$$\hat{s}^{c,model}_{gt-1} = x'_{gt-1}\hat{\beta}$$

with standard error of estimation of $\sigma^{c,model}_{gt-1}$.

Note that the regression equation used above mixes an outcome measured at the larger geographic level G and predictors measured at the smaller geographic level g. This is an adaptation of canonical SAE methods which would otherwise use a measure of x_{Gt-1} for both parameter estimation and prediction. An outcome of s_{gt-1} that would represent equivalent geographic basis is not available, and the use of s_{Gt-1} as a substitute invites nonclassical measurement error. ELPEP proceeds with this method because it maintained estimation and prediction using the same (x_{gt-1}) measures and utilizes the full distributional support (that is, the total variation of the x measures across small geographies).

This step produces estimates that capture the "direction" of projection onto local community characteristics but have compressed variance. To reestablish the appropriate level of variance, ELPEP reinflates the first $\hat{s}_{gt-1}$ estimates using the closest available estimates of variance at the level of g as follows:

$$\hat{s}^{c,model,infl}_{gt-1} = \frac{\hat{s}^{c,model}_{gt-1} - \mu^{c,model}_{gt-1}}{\hat{\sigma}^{s}_{gt-1}}\sigma^{c,infl} + \mu^{c,model}_{gt-1}$$

where $\mu^{c,model}_{gt-1}$ is the mean of the $\hat{s}^{c,model}_{gt-1}$ estimates, $\hat{\sigma}^{s}_{gt-1}$ is the standard deviation of those estimates, and $\sigma^{c,infl}$ is the standard deviation of tract-level estimates for share category c.

For categories c that:

- correspond to household shares of income-to-poverty ratio, ACS 5-year estimates are used directly to calculate $\sigma^{c,infl}$ since income-to-poverty ratios are directly represented in ACS5 aggregate tables.
- correspond to a combination of (1) household-income-to-poverty-rate shares crossed with (2) shares of families that are work eligible (due to all adults in the household working), while that cross-tabbed status is not available in ACS5 tables, each separate measure is. ACS1 PUMS data are used to calculate the correlation between each measure for each PUMA, and these correlations are used within the delta method to calculate the standard deviation of the product of each component of c (that is, income and work eligibility status).

Within the SAE method, the blended estimates (Empirical Best Linear Unbiased Predictor; EBLUP) are a weighted average of the direct and model estimates:

$$s_{gt-1}^{c*} = \lambda_{gt-1} s_{Gt-1}^{c} + (1 - \lambda_{gt-1}) \hat{s}_{gt-1}^{c,model,infl}$$

where

$$\lambda_{gt-1} \equiv \frac{\sigma_{gt-1}^{2;c,model}}{\sigma_{gt-1}^{2;c,direct} + \sigma_{gt-1}^{2;c,model}}$$

Because $k \equiv \sum_{c=1,\dots,C} s_{gt-1}^{c*} = 1$ is not guaranteed in the estimates, ELPEP obtains final estimates $s_{gt-1}^{c**} = s_{gt-1}^{c*}/k$ and $\sigma_{gt-1}^{c**} = \sigma_{gt-1}^{c*}/k$.

5.4.2 Nowcasting Methods

The ultimate goal is to predict counts of children who are eligible for program p:

$$n_{gt}^{p} = \pi_{gt}^{p} n_{gt}$$

where g is the target "small" geography, t is near-present time, and π^p is the proportion of the count of all young children n that are eligible for p.

No direct measurements of π_{gt}^{p} are available, so ELPEP accounts for both community composition–using SAE results–and recent eligibility dynamics. Thus, ELPEP models binary p eligibility status as

$$y_{it}^{p} = z_{it-1}' \tau_p + \nu_{it}$$

with observations from individual child i and their observed characteristics z_{it-1} which reflect individual and household measures. The parameters $\widehat{\tau_p}$ can be estimated from analysis of individuals and households in the CPS. However, in the applied exercise of "now"casting for each tract, only tract-level averages exist as analogs to z.

ELPEP assumes the following structure of linear expectations with respect to individual eligibility measures y^p to be able to form estimates of π^p using community averages:

$$\hat{\pi}_{gt}^{p} = E\left[y_{it}^{p} | z_{it-1}\right] = \bar{z}_{gt-1}' \widehat{\tau_p}$$

The linear expectations form of y_{it}^{p} in the regression above implies that τ_p must be estimated using a linear probability model (LPM) rather than a logit or probit. While the use of LPMs are necessary given the community- (rather than individual-) level predictors, in practice, the predictions of program eligibility rates are far enough from 0% (and 100%) that LPMs are reasonable approximations to other nonlinear estimation methods.

In practice, $\bar{z}_{gt-1}$ is composed of both SAE estimates as well as ACS5 measures that can reasonably be assumed to be representative of "$t-1$" because they do not change rapidly or are more accurately observed via ACS5 rather than estimated via SAE. Community measures such as income-to-poverty status, which we presume are highly dynamic given both macro and local economic factors, are sourced via our SAE method. Other measures that we believe are more persistent, such as adult educational attainment, are sourced directly from ACS5 data.

5.5 County-Level Take-Up Rates

Table 2. County-Level Take-Up Rates by Child Age

#	CCR&R	County	Age 0–2	Age 3–5	Age 6–12
1	YWCA Child Care Solutions	Boone	33.7%	39.1%	17.4%
1	YWCA Child Care Solutions	Jo Daviess	12.9%	10.8%	3.3%
1	YWCA Child Care Solutions	Stephenson	39.5%	52.8%	25.0%
1	YWCA Child Care Solutions	Winnebago	54.1%	62.2%	34.9%
2	4-C: Community Coordinated Child Care	Carroll	27.5%	29.5%	9.8%
2	4-C: Community Coordinated Child Care	DeKalb	33.8%	38.8%	18.9%
2	4-C: Community Coordinated Child Care	Lee	23.2%	23.6%	13.1%
2	4-C: Community Coordinated Child Care	McHenry	24.4%	28.8%	12.3%
2	4-C: Community Coordinated Child Care	Ogle	20.1%	27.8%	12.2%
2	4-C: Community Coordinated Child Care	Whiteside	29.4%	31.1%	11.6%
3	YWCA Child Care Resource and Referral of Chicago	Lake	50.7%	55.8%	23.9%
4	YWCA Child Care Resource and Referral of Chicago	DuPage	26.4%	31.9%	11.4%
4	YWCA Child Care Resource and Referral of Chicago	Kane	31.4%	36.2%	12.1%
5	Child Care Resource and Referral	Grundy	29.8%	31.9%	13.2%
5	Child Care Resource and Referral	Kankakee	39.7%	44.8%	22.1%
5	Child Care Resource and Referral	Kendall	25.2%	27.4%	8.9%
5	Child Care Resource and Referral	Will	32.6%	39.5%	16.2%
6	Illinois Action for Children	Cook	53.3%	61.9%	28.5%
7	Child Care Resource and Referral of Midwestern Illinois	Henderson	1.3%	5.1%	2.2%
7	Child Care Resource and Referral of Midwestern Illinois	Henry	15.0%	20.1%	7.4%
7	Child Care Resource and Referral of Midwestern Illinois	Knox	22.9%	23.1%	12.9%
7	Child Care Resource and Referral of Midwestern Illinois	McDonough	19.6%	26.3%	12.5%
7	Child Care Resource and Referral of Midwestern Illinois	Mercer	6.8%	13.2%	5.2%
7	Child Care Resource and Referral of Midwestern Illinois	Rock Island	40.3%	44.8%	18.5%
7	Child Care Resource and Referral of Midwestern Illinois	Warren	13.5%	15.8%	9.7%
8	SAL Child Care Connection	Bureau	8.1%	6.9%	3.2%
8	SAL Child Care Connection	Fulton	27.7%	25.5%	6.8%
8	SAL Child Care Connection	LaSalle	13.2%	15.3%	4.7%

#	CCR&R	County	Age 0–2	Age 3–5	Age 6–12
8	SAL Child Care Connection	Marshall	6.6%	2.5%	3.1%
8	SAL Child Care Connection	Peoria	41.4%	44.2%	18.0%
8	SAL Child Care Connection	Putnam	10.8%	2.9%	0.8%
8	SAL Child Care Connection	Stark	8.6%	3.0%	3.0%
8	SAL Child Care Connection	Tazewell	25.4%	27.8%	7.5%
8	SAL Child Care Connection	Woodford	13.4%	16.1%	3.3%
9	Child Care Resource & Referral Network	De Witt	5.4%	6.0%	3.1%
9	Child Care Resource & Referral Network	Ford	14.1%	22.1%	8.1%
9	Child Care Resource & Referral Network	Livingston	4.6%	6.9%	3.4%
9	Child Care Resource & Referral Network	McLean	28.8%	34.2%	14.1%
10	Child Care Resource Service	Champaign	78.3%	86.9%	46.1%
10	Child Care Resource Service	Douglas	10.3%	13.4%	4.2%
10	Child Care Resource Service	Iroquois	20.9%	28.3%	9.8%
10	Child Care Resource Service	Macon	49.7%	70.3%	33.6%
10	Child Care Resource Service	Piatt	23.0%	21.5%	8.3%
10	Child Care Resource Service	Vermilion	33.6%	39.3%	22.6%
11	Child Care Resource & Referral Eastern Illinois University	Clark	10.9%	13.8%	5.4%
11	Child Care Resource & Referral Eastern Illinois University	Coles	35.0%	45.6%	20.2%
11	Child Care Resource & Referral Eastern Illinois University	Cumberland	9.0%	9.0%	8.1%
11	Child Care Resource & Referral Eastern Illinois University	Edgar	29.4%	35.4%	10.6%
11	Child Care Resource & Referral Eastern Illinois University	Moultrie	13.0%	13.2%	4.5%
11	Child Care Resource & Referral Eastern Illinois University	Shelby	10.1%	8.7%	3.0%
12	West Central Child Care Connection	Adams	29.9%	36.1%	14.2%
12	West Central Child Care Connection	Brown	1.9%	3.0%	0.0%
12	West Central Child Care Connection	Calhoun	0.0%	4.2%	0.0%
12	West Central Child Care Connection	Cass	8.1%	6.7%	3.8%
12	West Central Child Care Connection	Greene	10.6%	13.4%	4.2%
12	West Central Child Care Connection	Hancock	8.9%	11.6%	5.3%
12	West Central Child Care Connection	Jersey	11.9%	12.5%	6.3%
12	West Central Child Care Connection	Pike	7.7%	11.5%	1.9%

#	CCR&R	County	Age 0–2	Age 3–5	Age 6–12
12	West Central Child Care Connection	Schuyler	9.9%	7.4%	9.3%
13	Community Child Care Connection	Christian	14.8%	21.7%	9.9%
13	Community Child Care Connection	Logan	17.5%	20.6%	10.2%
13	Community Child Care Connection	Macoupin	19.3%	17.7%	6.6%
13	Community Child Care Connection	Mason	12.5%	20.8%	8.7%
13	Community Child Care Connection	Menard	36.4%	41.9%	10.9%
13	Community Child Care Connection	Montgomery	29.6%	21.9%	9.2%
13	Community Child Care Connection	Morgan	43.6%	46.4%	27.0%
13	Community Child Care Connection	Sangamon	52.9%	62.3%	30.6%
13	Community Child Care Connection	Scott	37.3%	43.9%	7.5%
14	Brightpoint Child Care Resource & Referral	Bond	24.0%	16.3%	5.7%
14	Brightpoint Child Care Resource & Referral	Clinton	26.4%	29.6%	11.5%
14	Brightpoint Child Care Resource & Referral	Madison	29.2%	34.0%	15.5%
14	Brightpoint Child Care Resource & Referral	Monroe	12.5%	17.2%	7.9%
14	Brightpoint Child Care Resource & Referral	Randolph	20.5%	18.1%	4.9%
14	Brightpoint Child Care Resource & Referral	St. Clair	55.6%	53.6%	27.6%
14	Brightpoint Child Care Resource & Referral	Washington	10.5%	10.2%	2.7%
15	Project CHILD: Child Care Resource & Referral	Clay	13.9%	13.6%	6.5%
15	Project CHILD: Child Care Resource & Referral	Crawford	13.6%	13.2%	10.2%
15	Project CHILD: Child Care Resource & Referral	Edwards	4.5%	7.8%	3.4%
15	Project CHILD: Child Care Resource & Referral	Effingham	25.2%	23.9%	7.4%
15	Project CHILD: Child Care Resource & Referral	Fayette	29.8%	24.9%	14.9%
15	Project CHILD: Child Care Resource & Referral	Jasper	13.2%	12.4%	6.0%
15	Project CHILD: Child Care Resource & Referral	Jefferson	23.5%	17.0%	6.4%
15	Project CHILD: Child Care Resource & Referral	Lawrence	4.8%	8.4%	4.4%
15	Project CHILD: Child Care Resource & Referral	Marion	26.0%	30.4%	15.5%
15	Project CHILD: Child Care Resource & Referral	Richland	13.9%	15.2%	9.7%
15	Project CHILD: Child Care Resource & Referral	Wabash	9.5%	10.2%	2.5%
15	Project CHILD: Child Care Resource & Referral	Wayne	6.9%	9.6%	6.1%
16	Child Care Resource & Referral John A. Logan College	Alexander	29.2%	13.9%	22.3%

#	CCR&R	County	Age 0–2	Age 3–5	Age 6–12
16	Child Care Resource & Referral John A. Logan College	Franklin	33.9%	39.9%	15.3%
16	Child Care Resource & Referral John A. Logan College	Gallatin	18.0%	15.1%	3.9%
16	Child Care Resource & Referral John A. Logan College	Hamilton	32.8%	35.7%	12.5%
16	Child Care Resource & Referral John A. Logan College	Hardin	23.7%	20.9%	4.5%
16	Child Care Resource & Referral John A. Logan College	Jackson	47.3%	47.0%	22.0%
16	Child Care Resource & Referral John A. Logan College	Johnson	23.0%	12.4%	3.1%
16	Child Care Resource & Referral John A. Logan College	Massac	22.9%	12.5%	3.1%
16	Child Care Resource & Referral John A. Logan College	Perry	18.0%	15.1%	6.1%
16	Child Care Resource & Referral John A. Logan College	Pope	10.2%	9.8%	11.3%
16	Child Care Resource & Referral John A. Logan College	Pulaski	16.9%	19.8%	20.2%
16	Child Care Resource & Referral John A. Logan College	Saline	75.0%	59.6%	29.2%
16	Child Care Resource & Referral John A. Logan College	Union	27.9%	23.6%	9.9%
16	Child Care Resource & Referral John A. Logan College	White	30.2%	19.5%	4.5%
16	Child Care Resource & Referral John A. Logan College	Williamson	52.4%	54.1%	24.9%