



Illinois Action for Children
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HAS ACCESS TO QUALITY CHILD CARE FOR CHILDREN UNDER 6 INCREASED FOR LOW-INCOME FAMILIES?

THE ILLINOIS RECORD, 2011 – 2016



David Alexander and Marcia Stoll
Illinois Action for Children Research Department
A Policy Research Brief of the Sylvia Cotton Center,
Illinois Action for Children

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The Illinois Record, 2011 – 2016

Background

Over the period from 2011 to 2016 the State of Illinois made substantial new investment in its early care and education system. In 2012, Illinois received a federal Race to the Top - Early Learning Challenge grant to invest in increasing the supply of high-quality child care for low-income families. Under this grant, Illinois replaced its current quality rating system with a more comprehensive, research-based quality rating and improvement system known as ExceleRate Illinois. In addition, some communities in Illinois received federal Early Head Start-Child Care Partnership grants in 2014 to increase high-quality programs for children under age 3 by blending state and federal funds.

This Policy Research Brief examines changes in the availability of quality child care for low income working families – in particular for families who were eligible to receive the child care subsidy. It compares this availability in 2011, prior to these new investments, and again in 2016, three years after implementing ExceleRate Illinois. Policymakers and advocates contemplating similar efforts in other states might find this analysis useful. In states that have already adopted such policies, similar measurements might offer informative comparisons.

This is one of three briefs based on research conducted under the Illinois-New York Child Care Research Partnership (see Appendix 1) that examines changes in the supply of quality child care in Illinois available to subsidy-eligible families during the study period 2011 through 2016. The other two briefs examine infant care and care during non-traditional hours.¹

Our research questions are as follows:

1. How much full-time high-quality, subsidized child care has become available to meet the needs of subsidy-eligible families with a child under age 6?
2. What are the community-level variations in access and change in access to full-time high-quality child care for subsidy-eligible families with a child under age 6?
3. How did child care centers and child care homes compare in terms of change in supply between 2011 and 2016?
4. Is there evidence that Illinois and federal child care policy, and particularly Illinois' efforts to improve the quality of child care, has had an impact on subsidy-eligible parents' access to high-quality care?

The Illinois Study Sites and Statewide Child Care Landscape, 2011 - 2016

The study examines two Illinois sites, Cook County, which includes Chicago and its inner suburbs, and a region we call "Southwestern Illinois," a group of seven heterogeneous counties that includes the city of East St. Louis and the relatively urban St. Clair and Madison counties along with the more rural Bond, Clinton, Monroe, Randolph and Washington counties.²

Appendix 1 presents demographic and economic indicators that describe the environment of these regions in which Illinois child care policy operated in 2011- 2016. The next section summarizes key features of that environment as well as relevant state policy and financial factors.

¹ The other briefs are forthcoming in 2019 from Illinois Action for Children: "Has Access to Quality Infant Care Increased for Low-Income Families? The Illinois Record, 2011 – 2016" and "Has Access to Quality Child Care during Nonstandard Hours Increased for Low-Income Families? The Illinois Record, 2011 – 2016." The authors thank Julia Henly, Lauren Lapinski, Lorena Lara and Theresa Hawley for their invaluable help.

² The study sites reflect the service delivery areas of the Child Care Resource and Referral Agencies in each site, SDA 6 (Cook County) and SDA 14 (Southwestern Illinois).

The Illinois Child Care Policy and Economic Landscape

The period 2011 – 2016 was one of significant innovation in child care policy in Illinois and potentially of changes in the supply of licensed, quality care for young children. Particularly in the context of dramatic demand forces described below, it is worth examining changes in subsidized parents' access to high-quality child care in the context of these economic conditions and policy changes.

In the years before 2011, Illinois had promoted quality in child care through quality improvement grants to child care programs and through its Illinois Quality Counts Quality Rating System that was introduced in 2008 incentivizing participation through increases in subsidy reimbursement rates of 5 to 20 percent. Though not remunerated by the state, some programs sought a national accreditation to establish and promote their program quality. Others received Head Start and Illinois' Preschool for All funding and met the required quality standards for the care provided under these grants.

Under the Race to the Top - Early Learning Challenge grant awarded late in 2012, Illinois brought these quality initiatives under one umbrella. It designed, implemented, and promoted a more comprehensive research-based Quality Rating and Improvement System, ExceleRate Illinois, that covered not just child care but also Preschool for All and center-based Head Start programs; and aligned the state's quality improvement funds and professional development funds under the new framework and dedicated them to improving providers' quality ratings. All licensed programs were enrolled in ExceleRate Illinois at the base, "licensed" level, and extensive outreach, training, and technical assistance were provided to encourage providers to obtain one of three Circles of Quality: Bronze, Silver or Gold. Programs paid by the subsidy program received a rate add-on of 10 to 15 percent for obtaining a Silver or Gold Circle. Centers that were already accredited were provisionally approved for a Silver or Gold Circle. ExceleRate Illinois was rolled out in July 2013 with licensed child care centers, and this was followed two years later with a rollout for licensed child care homes. Given the different rollout timelines, we expect to observe a growth in quality-rated centers that exceeds the growth in quality-rated homes during the period of our investigation, 2011 – 2016.

In 2014, additional program funding was obtained by some communities from the federal Early Head

Start-Child Care Partnership grants. These grants expanded programs' ability to combine child care and early learning funding to provide high-quality care for children, and likely stimulated some providers to expand their birth to three supply. The City of Chicago received the bulk of the new funds and from 2011 to 2016 its Early Head Start program increased its enrollment of children by 1,407 children, of which 830 received a child care subsidy.³ Programs receiving the grants were encouraged to obtain a Circle of Quality through ExceleRate Illinois, although some might not have done so by 2016.

The period 2011 – 2016 saw other significant economic and policy changes that might have affected subsidized child care in the Illinois study sites.

In the economic recovery from the 2008 recession, Cook County and the seven Southwestern Illinois counties generally performed more poorly than the U.S. economy as a whole on standard measures of population, employment, and median household income. This continued during the period 2011 – 2016. (Appendix 1 presents details.) In Southwestern Illinois, population and employment actually declined from 2011 to 2016, while median income ranged from a decline in one county to a sharp gain of 11.2 percent in another. In Cook County, population, employment, and median income grew rather slowly and we would thus expect that the demand for subsidized child care grew slowly in Cook County as well, although faster than in Southwestern Illinois.

The study period was also a time of instability for the child care subsidy program, the Illinois Child Care Assistance Program (CCAP), the primary funding source for Illinois' child care system. Implementation of a new case management system and a series of budget crises caused delays in payments to providers. While consumer prices increased 6.7 percent from 2011 through 2016, moreover, subsidy program payment rates to child care centers were very little, with no increase between 2012 and 2016. In contrast, payment rates to homes increased regularly until 2015, but then remained flat through 2016.⁴

Finally, in July 2015, dramatic eligibility restrictions for new subsidy applicants led to a massive drop in the number of families with the subsidy and for many providers a substantial loss of subsidy income.⁵

³ Chicago Early Head Start enrollment data from 2011 and 2016, including enrollment of children with a child care subsidy; downloaded from the Head Start Enterprise System.

⁴ The inflation rate was calculated from Bureau of Labor Statistics data for CPI-U. For current and historical subsidy payment rates see the Illinois Department of Human Services site: <https://www.dhs.state.il.us/page.aspx?item=9877>.

⁵ The governor's emergency rule reduced eligible family income for new CCAP applicants from 185 percent of the federal poverty level to 50 percent; in November 2015 the rule was partly rescinded but eligible income was restricted to 162 percent of the poverty level. Applicants for child care subsidies to attend education or training programs were no longer eligible unless they received TANF. See Illinois Action for Children, "Loss of Child Care Due to 2015 Cuts Limits Parents Pursuit of Education and Training" (2017). http://www.actforchildren.org/wp-content/uploads/2017/02/Policy_Brief_Feb_2017_Restore-Child-Care.pdf

In retrospect, we understand that this financial instability eroded the optimism of some child care providers who otherwise might have improved their quality in line with policy goals.

Some of these forces of supply and demand work against each other — some stimulating and some

restricting child care supply or demand. Given this complex economic and policy environment, it is of substantial interest to understand what net impacts occurred over this time to the supply of licensed child care and high-quality licensed child care for families with a child care subsidy.

Change in Access to High-Quality Child Care, 2011-2016

Access is not a simple concept, and this brief explores only two important dimensions of access: the supply of subsidized and high-quality, subsidized child care slots at the regional and local level compared to potential demand for these slots by subsidy-eligible families (Analysis One) and the geographical proximity

of subsidized families to these high-quality child care programs (Analysis Two).⁶ These dimensions of access measured over time allow us to determine whether the supply of quality child care in relation to demand improved and whether it improved in the communities where subsidy-eligible children live.

Analysis One: To What Extent Are High-Quality Child Care Slots Available for Subsidy-eligible Children?

This analysis is a descriptive geographical study of whether the number of high-quality subsidy slots for children under age 6 was enough to meet potential demand for subsidized child care, and whether this improved or worsened from 2011 to 2016. The analysis takes place at two geographical levels: the entire study site region and by census tract within each region.

Estimating Potential Demand by Subsidy-Eligible Children

The goal of estimating potential demand is not to approximate subsidized parents' actual demand for child care, but to provide an approximate measure against which to assess the success of policy in increasing the availability of high-quality child care where subsidy-eligible children live and to explore geographical variations in parents' access to care.

The primary criteria for a family to be eligible for a subsidy in Illinois are that the family income is at or below 185 percent of the federal poverty threshold and that parents in the household are working and not available to care for their child. Using these two criteria, we estimate eligible children with data from the American Community Survey (ACS) five-year estimates for 2011 (covering 2007 through 2011) and 2016 (covering 2012 through 2016).⁷

Using ACS public-use tables, we determine the number of children under age 6 with family income below 185 percent of the poverty threshold. We then multiply this number by the percentage of children under age 6 with all parents in the household in the labor force (i.e., both parents in two-parent households and one parent in single-parent households). Our estimate of subsidy-eligible children thus accounts for the subsidy requirements of low family income, parental work, and child age.⁸

Other factors such as being a college student or in TANF training could make a parent eligible in Illinois during periods in 2011 - 2016, however, 94 percent of subsidy cases at the beginning of 2011 received employment income.⁹ Our rough estimates thus approximate the potential demand for subsidized child care in each of the study sites. We recognize, however, that not all these families need or want child care; family circumstances may not necessitate looking for care outside the home and immediate family, such as parents who are able to coordinate their work schedules to provide full child care by themselves.

⁶ Affordability, schedule of care, and cultural access are other important aspects of access to care that this brief does not discuss. Our infant care brief does address affordability and our brief on nonstandard work address scheduling challenges.

⁷ The ACS is a nationwide, ongoing survey of the U.S. Bureau of the Census designed to provide data on demographic, housing, social, and economic issues.

⁸ For a comparison of standard estimates of subsidy-eligible children from ACS detailed tables with estimates based on Census microdata, see Illinois Action for Children Research Department, "New Estimates of Child Care Subsidy Eligibility and Take-Up Rates Using Census Microdata," forthcoming 2019.

This analysis of the supply of and demand for subsidy slots does not consider important complicating factors such as the competition for subsidy slots from children in higher-income families or parents' preference for informal license-exempt care over licensed care.

The Supply of Full-time Subsidized Child Care and Quality-designated Child Care

The supply of child care includes licensed child care centers, preschools and family child care homes that offer full-time care for children under age six and that are willing to accept the child care subsidy. In this brief we will use the terms "subsidy provider" and "subsidy slots" as shorthand to indicate their potential to serve a child with a subsidy. The terms should not be interpreted to mean that the program or slot is designated only for subsidy families. In fact, it is possible that "subsidy" providers or slots rarely serve a child with a subsidy due to a provider's preference for serving private paying families or the lack of demand by subsidy-eligible families in the community. A subsidy provider of subsidy slots, in our terms, simply means that in administrative data the provider reports being willing to accept children with the child care subsidy or actually cares for a subsidized child. Our data sources and detailed definitions appear in Appendix 2.

Additionally, administrative data indicate whether a provider has achieved one of two quality designations used in this study to define quality programs: 1) a national accreditation (outlined in the Data Definitions in the Appendix) or 2) a state quality rating – either a Bronze, Silver, or Gold quality rating in 2016 from ExceleRate Illinois, the state's quality rating and improvement system established in 2015, or a star rating in 2011 from the state's previous Illinois Quality Counts Quality Rating System. We call programs with either or both of these credentials quality-designated programs, and a child care slot is quality-designated if it is a slot in a quality-designated child care program.

Our measure of quality, then, is that a provider has met some widely recognized standards of quality in obtaining a quality-rating or accreditation at a given point in time. It does not capture programs that provide high-quality care but do not seek one of these quality designations. These could include private programs as well as programs that receive Head Start, Early Head Start, and Preschool for All funding and meet the quality standards for the children they serve under this funding.

Putting it Together: Measuring Child Care Coverage

To begin the geographical analyses, we compare supply to potential demand by calculating the number of subsidy slots per subsidy-eligible child in the geographic area of focus. We call this ratio of slots to children, "coverage." As a precise analytical concept, the coverage ratio has a number of substantial limitations. One is that our count of the number of subsidy slots assumes that these slots are available for children with subsidies. This may not be the case. Unsubsidized children may use a slot that would otherwise be available for a child with a subsidy. Additionally, at the local level, this measure of coverage assumes families do not seek or use care outside of a geographic unit of measure – in this case census tracts; but sometimes they do. Other measurement limitations stem from the unknown and changing set of preferences parents have regarding child care and the complex ways that their work or school schedules and other specific child care needs interact with their preferences. For example, measuring coverage in the evening, for parents who work late, depends on knowing both a parent's work schedule, their commuting time and how long each provider is willing to remain open, information that is not always available or clear.⁹

Key Findings

Access at the Regional Level

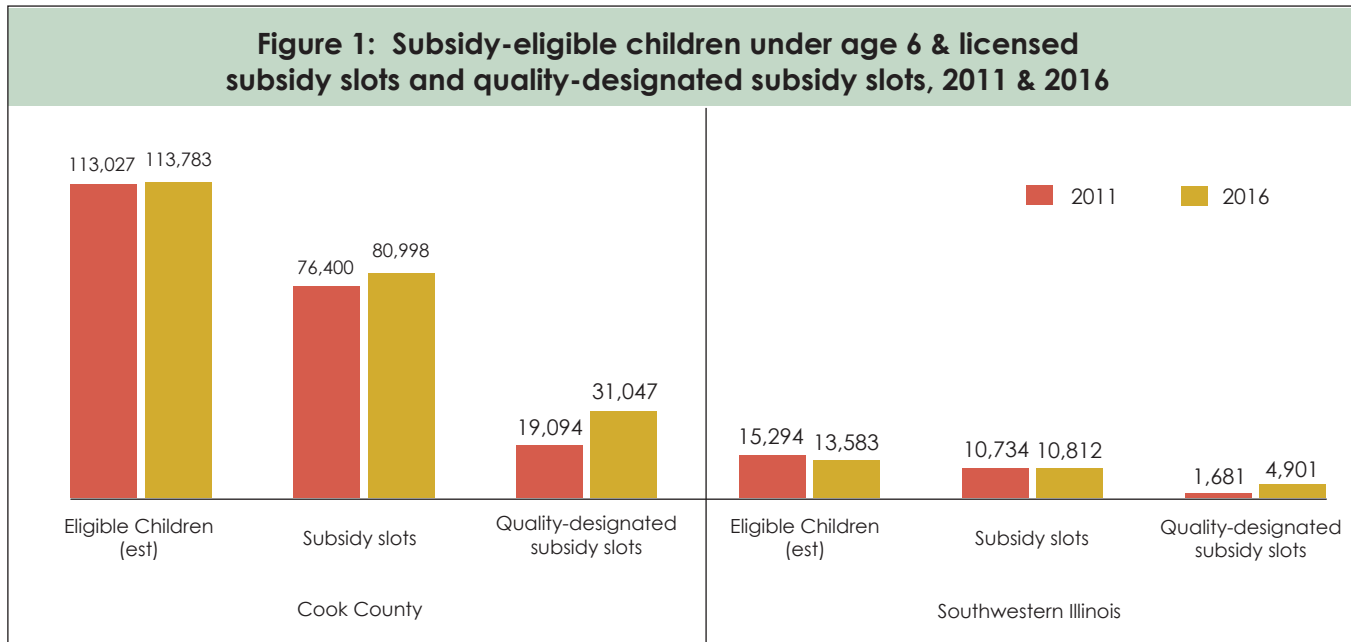
Just over one-quarter of the child population in both study sites met our definition of potential subsidy beneficiaries in 2011 (Figure 1, first and fourth sets of bars).

Over the study period this number remained relatively flat in Cook County, increasing by a small 0.7 percent. In Southwestern Illinois, where the population of young children fell by 5.9 percent, the number of subsidy-eligible children decreased even more, by 11.2 percent.

⁹ We attempt to measure the supply, but not coverage, of early morning and evening care in a companion Policy Research Brief, "Has Access to Quality Child Care during Nonstandard Hours Increased for Low-Income Families? The Illinois Record, 2011 – 2016."

At the same time, the total number of licensed subsidy slots for children under age 6 increased in both Cook County and Southwestern Illinois (Figure 1, second and fifth sets of bars). Cook County subsidy slots increased by about 6 percent, and, by 2016, 95 percent of licensed slots for children under age 6 accepted subsidy children (not shown). Southwestern Illinois subsidy slots increased only slightly, by 0.7 percent, and the share of slots that were available to subsidy children fell from 87 to 86 percent (not shown).

The result was improved child care coverage for subsidy-eligible children in both sites, driven by increased slots in Cook County and falling demand in Southwestern Illinois. By 2016, Cook County had a subsidy slot for 71 percent of its subsidy-eligible children, up from 68 percent in 2011. Of course, not all parents wanted a slot, and these slots might be filled by some of the almost 300,000 children who were not subsidy-eligible. Nevertheless, the data show that almost 4,600 subsidy-eligible children gained a slot in Cook County. In Southwestern Illinois, coverage improved from 70 percent of the subsidy-eligible children to 80 percent. This improvement, however, was due more to the substantial child population decline than to the small slot increase.



The availability of quality-designated slots for subsidy children also improved between 2011 and 2016. In both regions, the number of quality-designated slots in programs that accept the subsidy (third and sixth sets of bars in Figure 1) not only increased, but increased by the thousands – more than the increase in subsidy slots in each region. This suggests that the Illinois and federal policy of promoting quality improvement among child care programs was successful in converting thousands of existing slots for subsidy children to quality-designated slots.¹⁰ By 2016 quality-designated slots accounted for 36 percent and 45 percent of all subsidy slots in Cook County and Southwestern Illinois respectively (up from 25 and 16 percent). Nevertheless, the majority of subsidy slots in each region still lacked a quality designation, and coverage rates reached just 27 percent in Cook County and 36 percent in Southwestern Illinois.

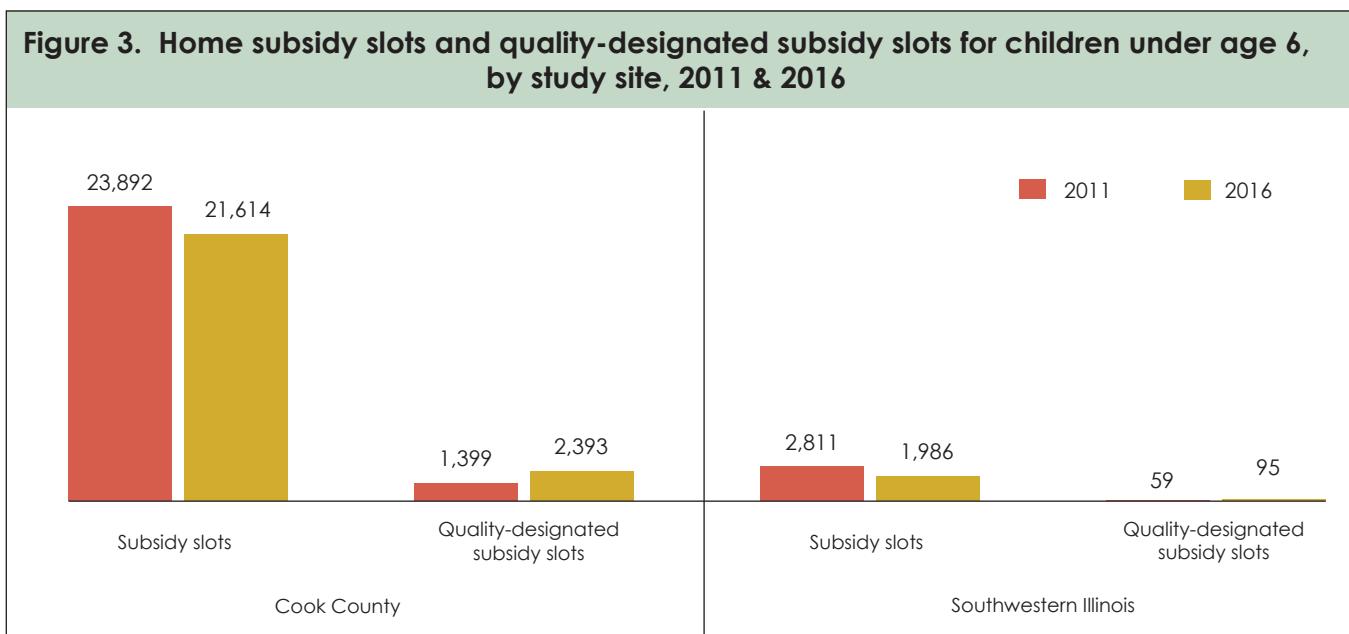
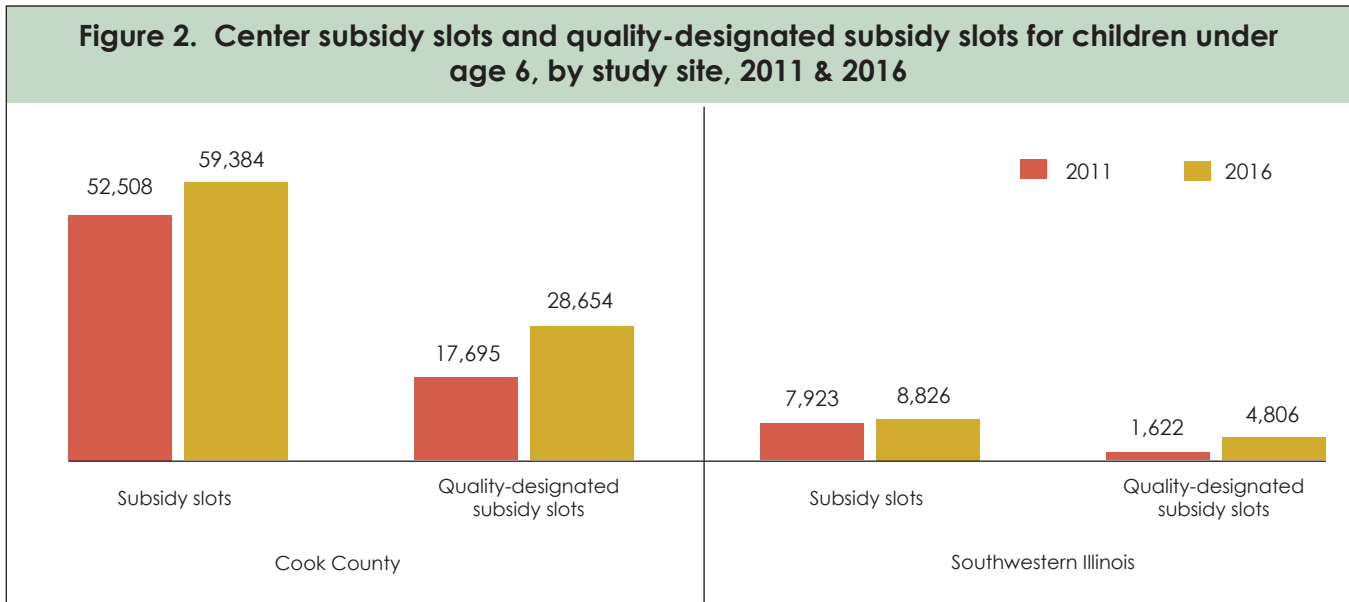
Comparison of Center-Based and Home-Based Slots at the Regional Level

Several components of the supply side trend are notable. Figures 2 and 3 disaggregate changes in subsidy slots and quality-designated subsidy slots by child care centers and child care homes. The growth of quality-designated slots was driven largely by child care centers. Among the nearly 12,000 additional quality-designated subsidy slots in Cook County, just under 11,000 were in child care centers. Similarly, among Southwestern Illinois' additional 3,220 quality-designated subsidy slots, all but 36 were in child care centers.

¹⁰ At the end of the study period in 2016, an unknown number of Early Head Start – Child Care Partnership programs might not yet have sought a quality designation, but could have been considered high-quality inasmuch as Early Head Start program standards are so regarded. Counting these, if possible, would raise the counts of quality-designated slots in some communities of Cook County and Southwestern Illinois.

Licensed home care did experience some growth in quality-designated subsidy slots (Figure 3) despite substantial losses in subsidy home providers and slots that followed a long-term national trend of declining licensed home care. Cook County lost 9 percent of its subsidy home capacity yet increased its quality-designated slots by 63 percent. Southwestern Illinois saw an even steeper loss of home capacity, with home subsidy slots falling by 26 percent, but the growth of quality-designated home slots was a meager 36 slots.¹¹

By 2016, 11 percent of Cook County's licensed home subsidy slots were quality-designated and only 5 percent in Southwestern Illinois. Overall only 7 percent of all quality slots in Cook County were in child care homes (while 93 percent were in centers), and only 2 percent of Southwestern Illinois quality slots were in homes.



¹¹ It is not shown but notable that the number of centers and homes in Southwestern Illinois and homes in Cook County fell during the study period. Surviving programs had a larger average capacity in 2016. (Average center or home capacity in a year is defined as total center or home slots divided by the number of center or home programs.) This increasing capacity might indicate that on average the continuing programs enjoyed greater efficiencies or economies of scale and thus financial strength. So it is possible that price competition among child care programs was acute enough in Southwestern Illinois and among Cook County homes to induce closures among financially weaker programs. It is also possible that a certain level of instability in CCAP policies and payments to providers, in particular CCAP enrollment challenges in July 2015, created sufficient uncertainty for providers that some smaller programs declined to continue accepting subsidy-eligible children or closed operations entirely. These are hypotheses worth exploring in further research.

Summary of Access at the Regional Level

In summary, 2011-2016 was a period of vigorous growth in quality-designated child care slots available to subsidy children. With relatively flat or falling demand, coverage of subsidy-eligible children improved during this time. Southwestern Illinois improved faster than Cook County. Although the coverage ratios (27 and 36 percent) leave much room to grow, this progress of quality slots over a five-year period reflects a strong supply-side trend that we assess to be largely policy-driven. The fact that most of the improvement took place in centers and not child care homes is consistent with how ExceleRate Illinois was implemented – focusing first on improving quality-designations in child care centers.

We interpret the improvements in the number of quality-designated subsidy slots in Cook County and Southwestern Illinois as increasing regional access.

Access at the Local Level

We examine local access to quality-designated subsidy care to determine whether the quality improvements reached communities where subsidy-eligible children live. We begin by comparing. To do so, we divide quality-designated slot trends in communities with high versus low potential demand for subsidized child care. To do so, we divide the census tracts of each study site into two groups: those with above-average concentrations of subsidy-eligible children and those with below-average concentrations.

Our measure of subsidy-eligible concentration is the ratio of estimated subsidy-eligible children under age 6 to all children under age 6 in a census tract. According to simple correlations, communities with higher concentrations of subsidy-eligible children also tend to have lower median incomes. In 2016, Cook County census tracts had an average of 27.4 percent of children under 6 eligible for the child care subsidy; 585 tracts had concentrations higher than this and 729 had concentrations lower (no tract was exactly average). Subsidy-eligible children in Southwestern Illinois tracts averaged 29.1 percent, with 62 tracts above this average and 90 tracts below. Figures 4 and 5 indicate census tracts in each region based on their concentrations of subsidy-eligible children in 2016.¹²

Figure 4 shows that from 2011 to 2016 in both study sites the number of quality-designated subsidy slots in centers grew sharply regardless of the concentrations of subsidy-eligible children. In Cook County, quality-designated subsidy slots in centers grew by more than 6,300 in high-concentration census tracts compared to almost 4,500 in low-concentration census tracts. This difference in growth closed more than half of the 2011 quality slot gap between lower and higher concentration communities, and was consistent with an effective policy of improving access to quality for families eligible to use the subsidy.

Figure 4 shows that the story is the opposite in Southwestern Illinois. While both types of communities gained quality-designated subsidy slots, and the number almost tripled in high-concentration tracts, two-thirds of the new quality-designated supply went to census tracts with lower concentrations of subsidy-eligible children.

Figure 5 shows the comparable quality-designated slot gains in child care homes in communities with higher and lower concentrations of subsidy-eligible children. In Cook County, over 60 percent of the additional quality-designated home slots occurred in census tracts with higher concentrations of subsidy-eligible children and, in Southwestern Illinois, all of them did, though the number was very small. In this respect, our findings are consistent with the idea that policy led to small impacts of increasing quality in subsidy-accepting homes in communities with most of the subsidy-eligible children.

¹² Note that almost all tracts with lower concentrations of subsidy-eligible children still had subsidy-eligible children who might need child care.

Figure 4. Quality-designated subsidy slots in centers:

By communities with above & below average concentrations of subsidy-eligible children under age 6, Cook County & Southwestern Illinois, 2011 & 2016

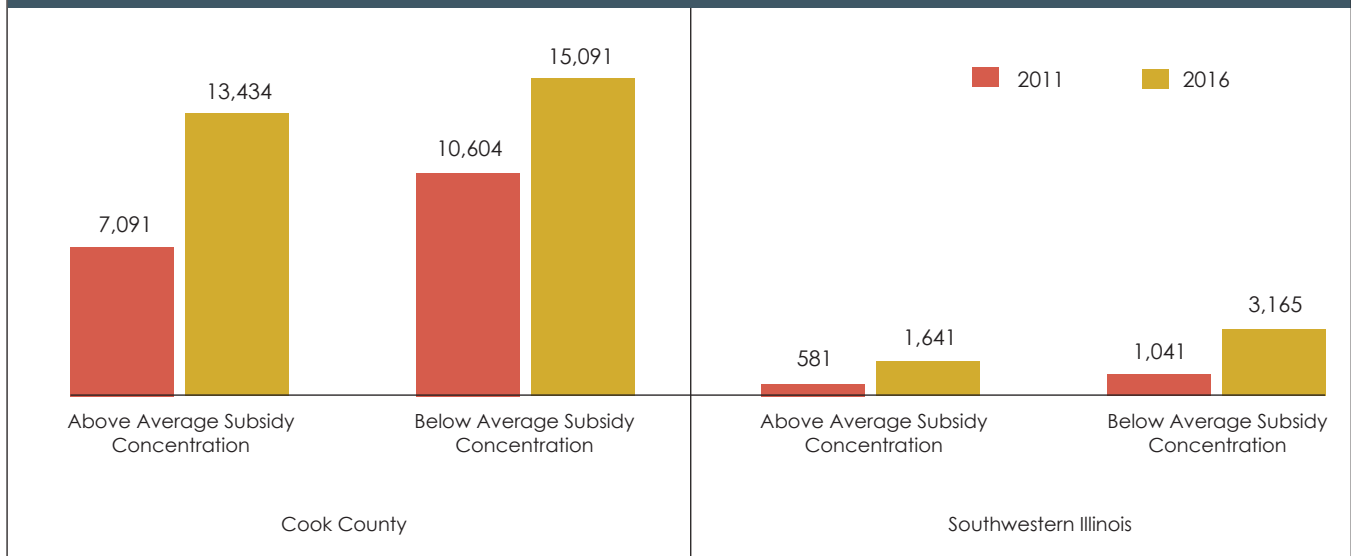
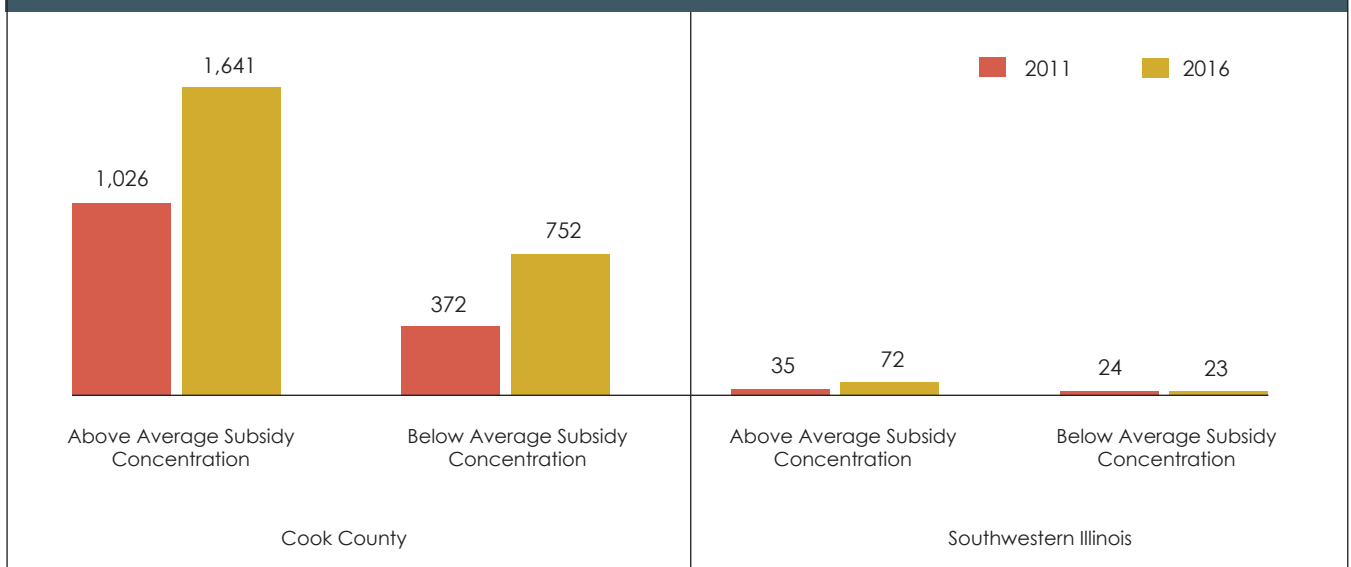


Figure 5. Quality-designated subsidy slots in homes:

By communities with above & below average concentrations of subsidy-eligible children under age 6, Cook County & Southwestern Illinois, 2011 & 2016

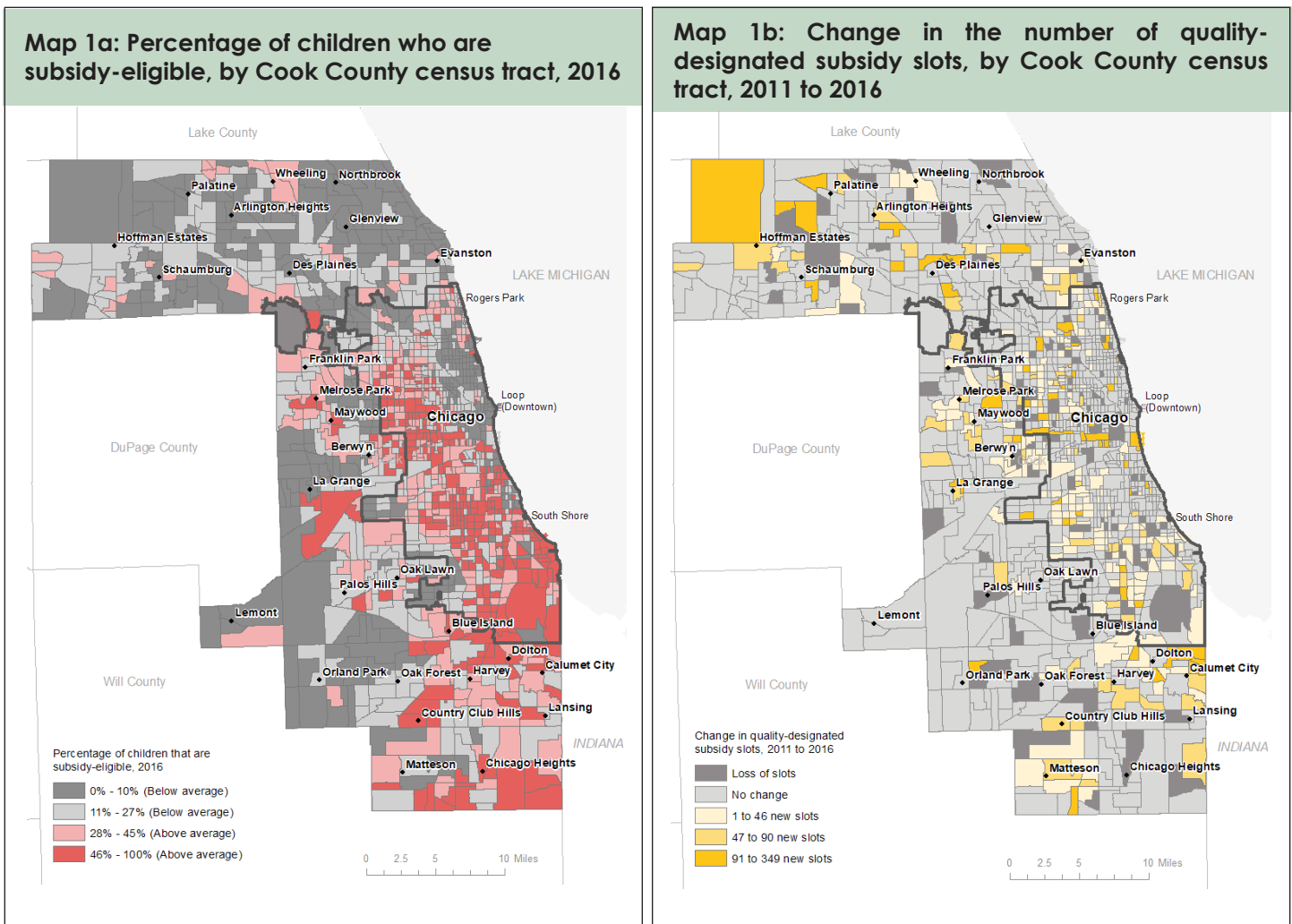


Mapping Access at the Local Level

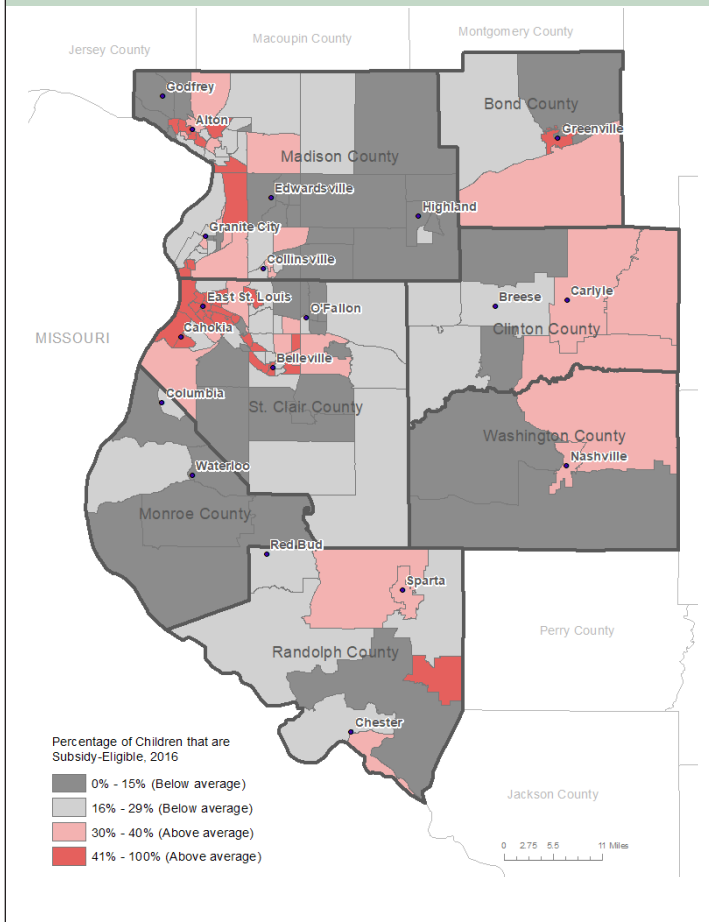
Maps 1a and 2a show where the tracts with high and low concentrations of subsidy eligible children fall within the study site regions. Pink and red census tracts indicate above-average concentrations of subsidy-eligible children. Maps 1b and 2b indicate where the growth in quality-designated subsidy slots in centers and homes combined occurred. The darker the gold shading, the greater the number of new quality-designated slots. Tracts shaded light and dark gray experienced no growth or a decline in the number of quality-designated subsidy slots over the study period.

In Cook County, the additional quality-designated subsidy slots were distributed among just 24 percent of its census tracts (in gold). In Chicago, these slots were more prevalent on the south, west and northwest sides of the city and less prevalent in areas near downtown and stretching both north and south in neighborhoods along the lake. Quality-designated subsidy slots also increased in pockets of tracts in the southern, western and northern suburbs.

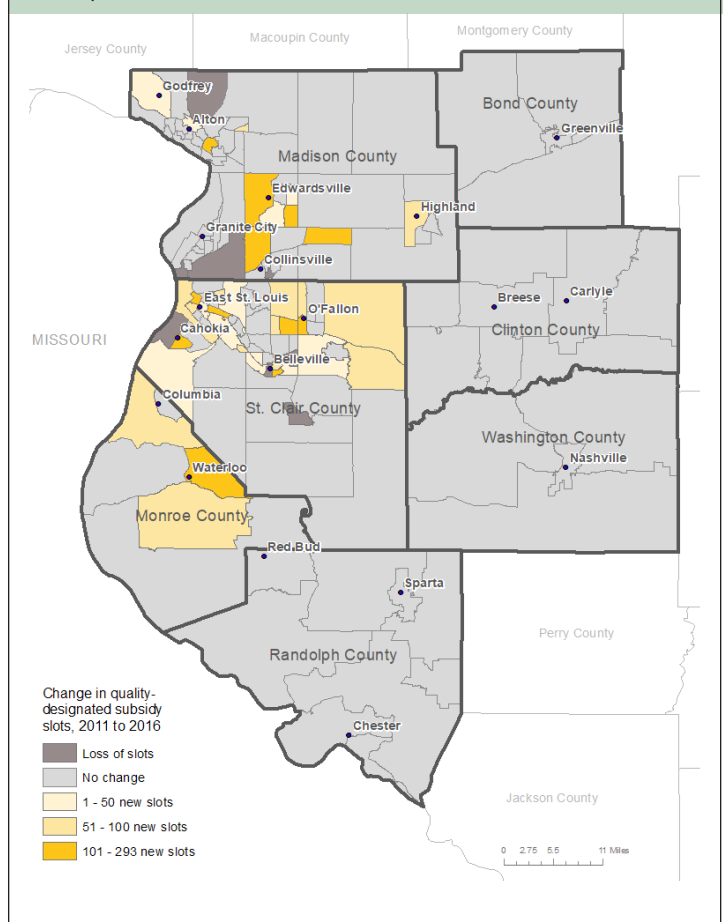
Similar to Cook County, quality-designated subsidy slots in Southwestern Illinois increased in just 26 percent of the region's census tracts. All of these tracts fall in the more urban counties of Madison, St. Clair and Monroe. The four more rural counties saw no increase in quality-designated subsidy slots despite having tracts with above-average potential demand.



Map 2a: Percentage of children who are subsidy-eligible, by Southwestern Illinois census tract, 2016



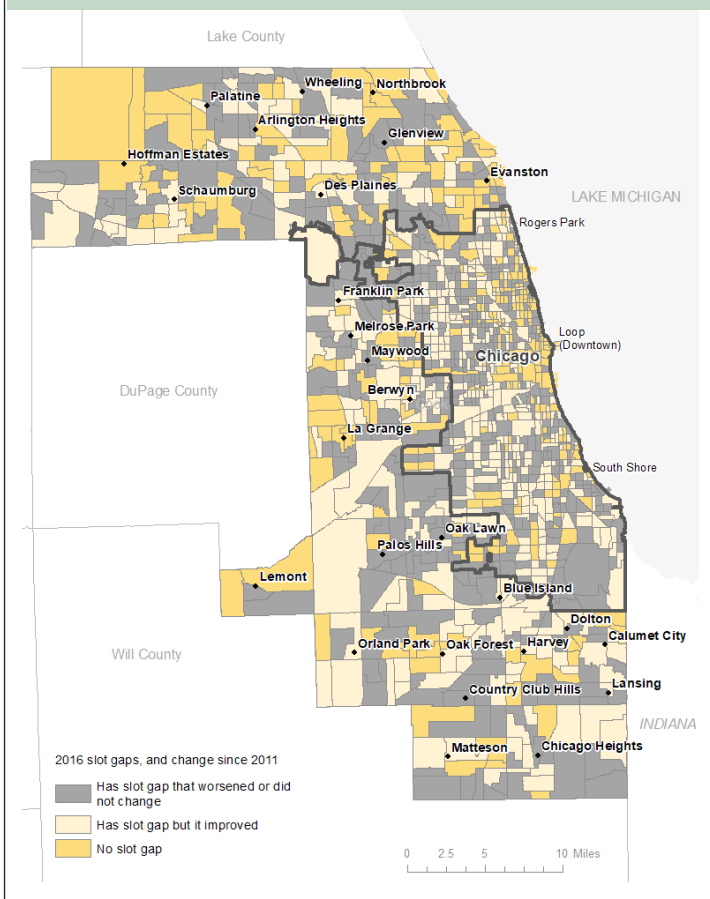
Map 2b: Change in the number of quality-designated subsidy slots, by Southwestern Illinois census tract, 2011 to 2016



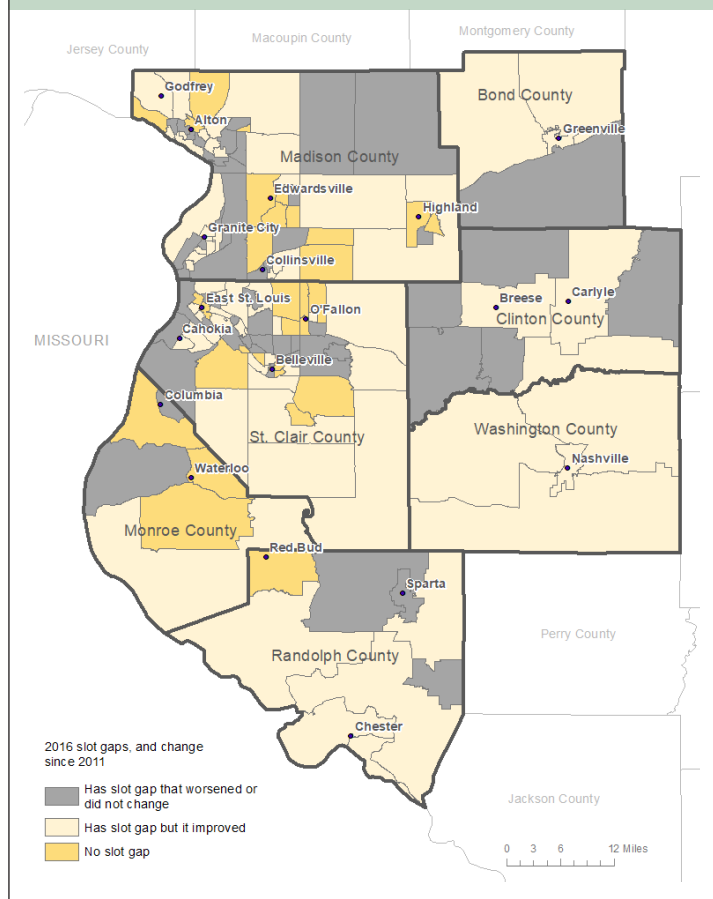
Maps 3a and 3b combine the previous maps to show the extent to which communities have good coverage of subsidy-eligible children with quality slots or whether large gaps in coverage remain. They indicate whether or not a tract has a quality slot gap as of 2016, that is, has more subsidy-eligible children than there are quality-designated subsidy slots. The maps also indicate whether this gap has narrowed or grown since 2011. Tracts that had a slot gap as of 2016 and in which the gap either worsened or did not change are shaded gray. Tracts in which coverage improved but there was still a slot gap as of 2016 are shaded light yellow. Finally, tracts with no slot gap because there were as many or more quality slots as subsidy-eligible children in 2016 are shaded dark gold.

As reported earlier, Cook County has only enough quality-designated slots to serve 27 percent of subsidy-eligible children. Therefore, it is not surprising that the majority of tracts in the county have a slot gap, and in fact only 23 percent of tracts have as many or more quality slots as subsidy-eligible children. These dark gold tracts are interspersed throughout the county but concentrated near areas with fewer subsidy-eligible children, including downtown Chicago, the north side of Chicago, and the northern and western suburbs. Areas shaded light yellow have seen improved coverage because of growth in quality slots or a drop in the number of subsidy-eligible children. Just more than half (51 percent) of Cook County tracts saw improved coverage, and these tracts are distributed throughout the county.

Map 3a: Quality-designated subsidy slot coverage in 2016, and whether coverage improved or worsened between 2011 to 2016, Cook County



Map 3b: Quality-designated subsidy slot coverage in 2016, and whether coverage improved or worsened between 2011 to 2016, Southwestern Illinois



In Southwestern Illinois, coverage at the regional level is somewhat better than in Cook County. Quality slots exist for 36 percent of subsidy-eligible children, yet only 20 percent of tracts had no gap in quality slots relative to subsidy-eligible children. However, improvements in slot coverage from 2011 to 2016 occurred in 60 percent of the tracts. These tracts fall within all seven counties—rural and urban. We saw earlier that the counties of Bond, Clinton, Washington and Randolph gained no additional quality-designated slots between 2011 and 2016, and their improved coverage can be attributed to falling demand.

Community level data by census tract have limitations relevant to our question of access to quality-designated subsidized child care. Census tract boundaries are drawn to encompass a population of between 1,200 and 8,000 people and can offer good information at a community level, as the examples above show. Tracts are not all alike, however. In heavily populated communities, tracts are quite small in area while in rural, more sparsely-populated regions they are large in area – at times even larger than zip code boundaries. Boundaries likely do not match families' actual patterns of seeking and using care. Families in small tracts probably consider child care options outside of their tract, while families in larger tracts may view some care within their tract as too far to be accessible. For individual tracts that are small and have a gap, we can inspect the neighboring census tracts for slots, and for larger tracts we can look at the placement of child care programs both within and surrounding the tract.

The next analysis addresses this with a more precise measure of the proximity between quality-designated programs and subsidy children.

Analysis Two: Subsidized Families' Proximity to Quality Child Care Programs

This is a descriptive, geospatial study of access that supplements Analysis One. It measures how the distances families live from their nearest quality-designated and non-quality-designated child care programs have changed. The aim is to determine whether quality care has become closer to families who need it, and in which areas progress has or has not been made. This analysis includes only Cook County because subsidy family data were unavailable for Southwestern Illinois.

Method and Measures

This analysis determines the distance from actual subsidy families' homes to their nearest child care providers. We used the addresses of de-identified subsidized families from Illinois Child Care Assistance Program administrative data for the months of June 2011 (37,601 families) and June 2016 (30,053 families) in Cook County.

We developed two indicators of changing access to child care programs. First, we measured the distance from each parent's home to their nearest quality-designated and nearest non-quality designated program that accepts the child care subsidy.¹³ We calculated these distances for each subsidized family and averaged them by census tract and for Cook County as a whole for 2011 and 2016. This allowed us to compare changes in subsidized families' average distances from their nearest quality-designated and nearest non-quality designated programs. We define a ten percent decrease in the average distance to quality-designated child care as increased access for subsidized families.

Measuring Distance

Distance from subsidy families to child care programs was calculated in the simplest way possible: the length of the straight line between the family and the provider address coordinates. This calculation does not take into account parents' commutes — their actual travel routes, modes of transportation or travel times — all important considerations when determining whether a program is accessible to families. The straight-line distance can, however, indicate whether on average subsidized programs have become more geographically accessible to subsidy families over the study period.

While we map data by census tract, the distance measurement does not stop at the census tract border, but includes child care in neighboring

communities. Child care providers in Illinois counties bordering the study sites were included in distance calculations to account for the real child care options of families living near the study site borders. However, we did not account for the supply of care in Indiana available to subsidy families in Cook County.

We used ESRI's ArcGIS Online World Geocode Service and ESRI ArcGIS to geocode and analyze family and child care provider addresses. The nearest distance calculation was then performed using the ArcGIS "Generate Near Table" tool.

Second, we estimated the opportunity cost of traveling to the nearest quality-designated program compared to traveling to the nearest non-quality-designated program. Since there are fewer quality-designated programs than programs that are not quality designated, a typical family probably travels farther for quality-designated care. This family thus incurs a measurable burden of additional travel for selecting the less accessible type of care.

¹³ Not all families and providers could be mapped due to their use of a Post Office Box or our inability to match their address against the locator.

We calculate this travel burden by subtracting the average distance to the nearest non-quality-designated program from the average distance to the nearest quality-designated program. For example, if in Cook County the average distance from families' homes to their nearest non-quality-designated child care center is one mile and the average distance to the nearest quality-designated center is three miles, then families' average opportunity cost of using quality-designated center care is two additional miles of travel for each trip families take from home to center.¹⁴ We report the average opportunity cost for the subsidized families.

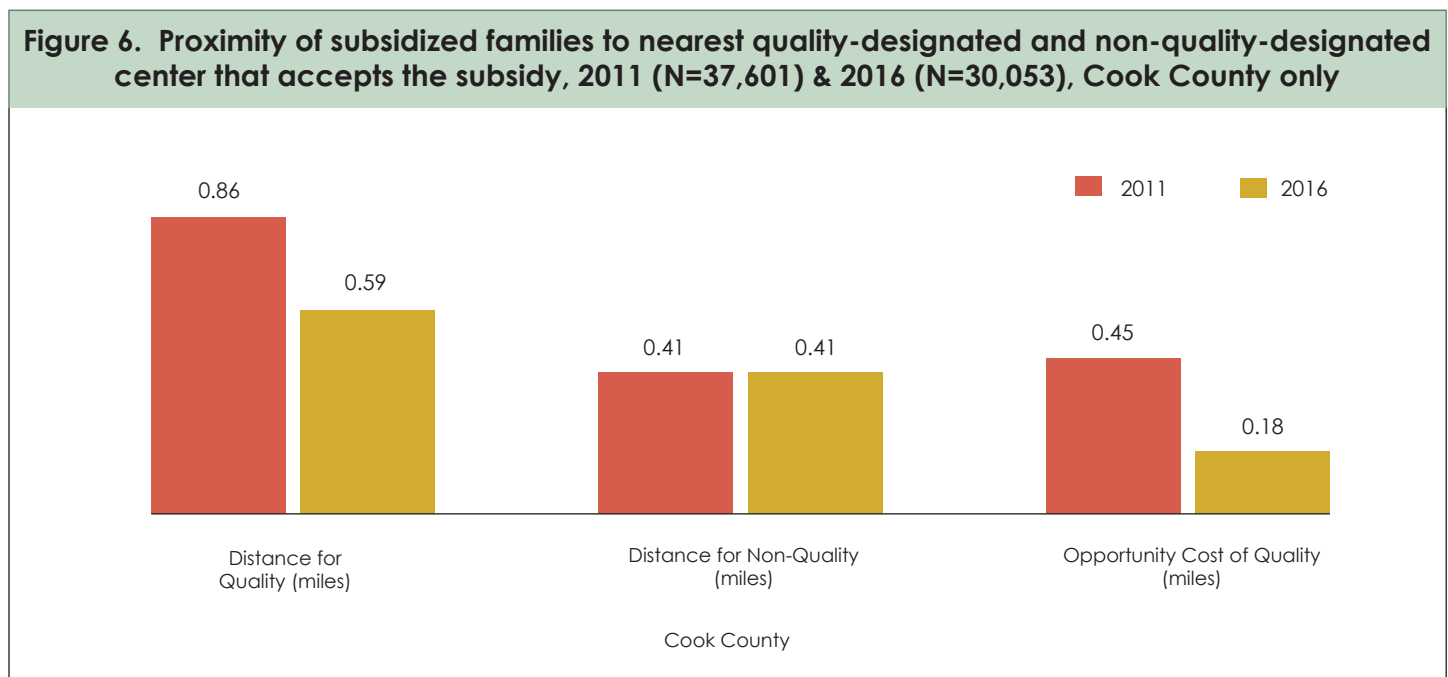
Key Findings

Changes in Proximity to Child Care for Subsidy Families

Figures 6 and 7 display the results of our distance analysis for child care centers and homes respectively for Cook County as a whole. In Figure 6, the first set of bars show the average distance families lived from their nearest quality-designated child care center: 0.86 miles in 2011 and 0.59 miles in 2016. We understand this 31 percent decline to be a substantial improvement in geographical access.¹⁵

The second set of bars in Figure 6 shows that the average distance families live from a center with no quality designation was shorter than the distance to a quality-designated center: an unchanging 0.41 miles in each year.

The third set of bars in Figure 6 is the difference between the first two sets, i.e., the opportunity cost (in miles) of using the nearest quality-designated center instead of the nearest center with no quality designation. In 2011, the cost of using quality-designated child care was 0.45 additional miles. By 2016, this dropped to just 0.18 additional miles, what we would consider improved geographical access.

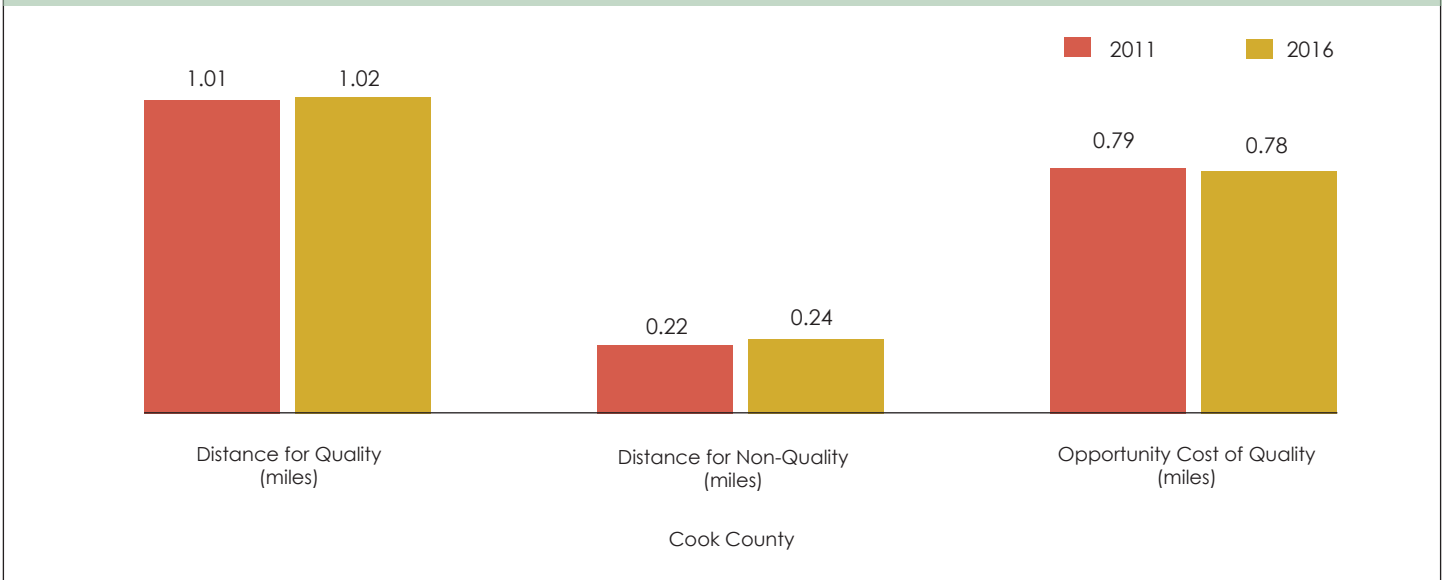


¹⁴ While opportunity costs are often measured in ratios (such as the ratio of the commuting distance to the nearest quality-designated program to the commuting distance to the nearest licensed program), we opted to use a more intuitive measure that could be expressed in miles rather than ratios. Also note this simple measure of the travel burden abstracts from a variety of considerations such as whether the commute to a child care program takes a subsidized parent farther or less far out of her way to work or school. For a discussion, see Illinois Action for Children, *Getting There: Cook County Parents' Commute to Child Care and Work* (2012), available at http://www.actforchildren.org/wp-content/uploads/2016/02/Distance_Study_June_2012_FINAL.pdf

¹⁵ Again, these straight line distances are not actual commuting distances but indicators. Each straight-line distance between two points is the hypotenuse of a right triangle. Since Cook County roads are largely laid out on a grid, the actual commuting distance may be closer to the sum of the other sides of the triangle.

Figure 7 shows the same results for licensed child care homes in Cook County. Analysis One had found that the number of quality-designated child care homes increased a small amount in Cook County from 2011 to 2016 (despite the declining number of licensed homes overall) and were mostly located in communities with high concentrations of subsidy-eligible children. We might thus expect to find subsidized families in 2016 living shorter distances from the nearest home with a quality designation. In fact, the first set of bars in Figure 9 shows that this distance measure did not fall from 2011 to 2016. The new quality slots were not located where many actually subsidized families were able to use them. Their numbers were not large enough to lower our distance indicator.

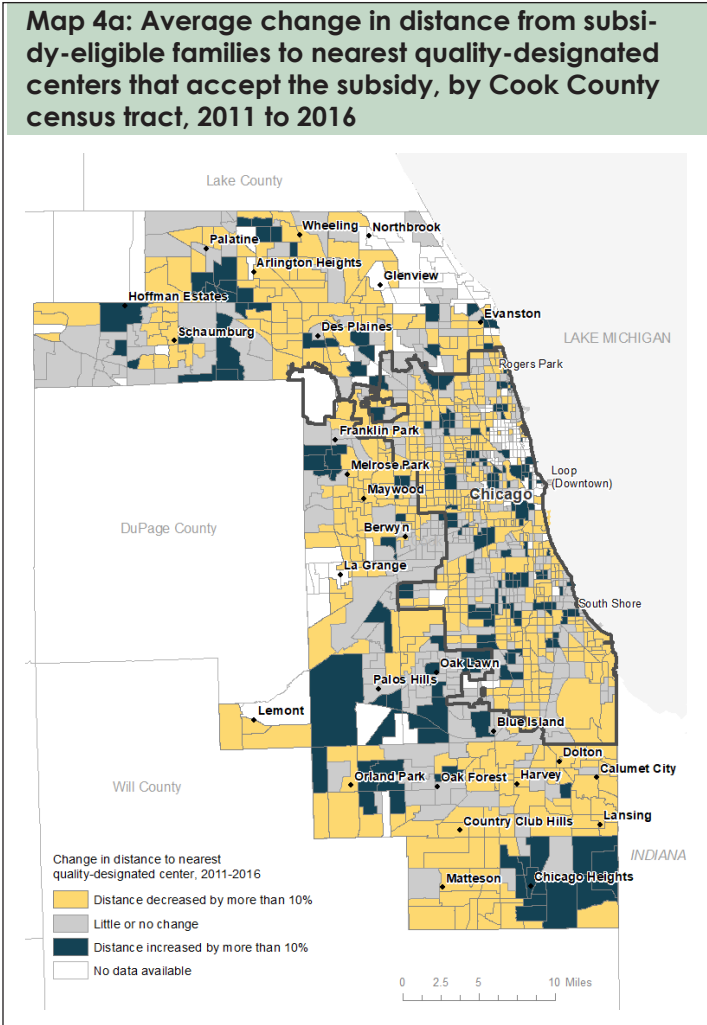
Figure 7. Proximity of subsidized families to nearest quality-designated and non-quality-designated home that accepts the subsidy, 2011 (N=37,601) & 2016 (N=30,053), Cook County only



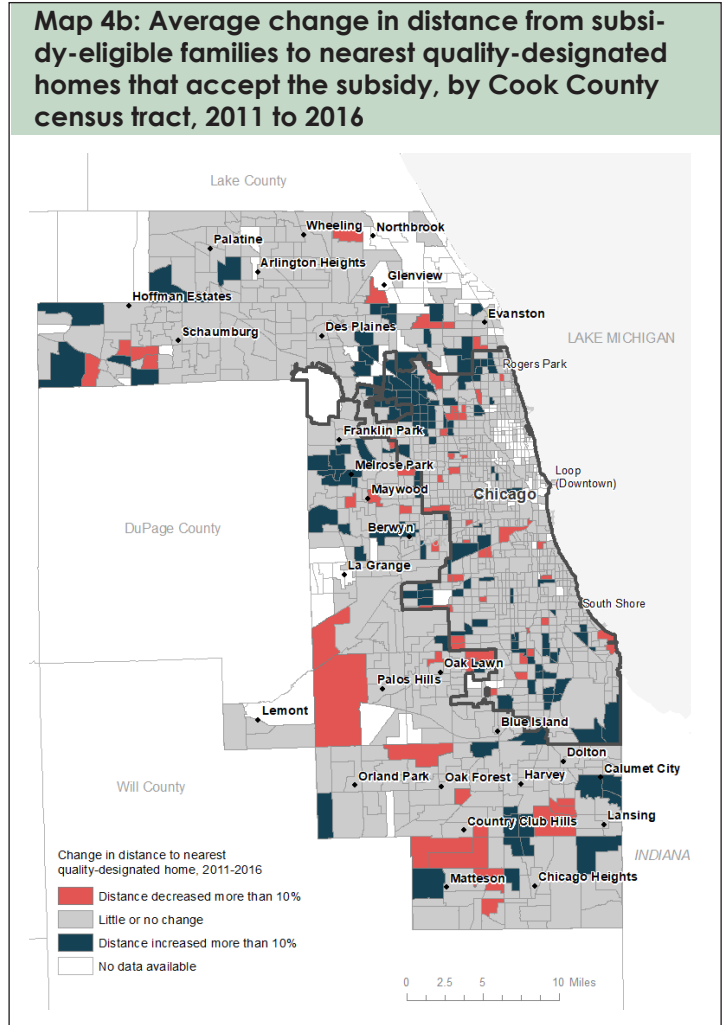
Since the nearest child care homes that were not quality designated also did not become more accessible (second set of bars in Figure 7), the average subsidized parent's opportunity cost of selecting a quality-designated home remained the same in 2016, and quite high (third set of bars).

Community Variations in Proximity Changes

For Cook County as a whole, the average distance to quality-designated care in centers decreased and in homes changed very little. However, there was variation within the county, with quality care becoming farther on average for subsidy families in some census tracts and closer for families in other tracts. Maps 4a and 4b show this variation by census tract and indicate which parts of the county benefited most in terms of geographical access from the changes that occurred between 2011 and 2016. Map 4a shows change in proximity to quality-designated center care and Map 4b to quality-designated home care.



In Map 4a, census tracts shaded gold had improved access for subsidized families to quality-designated child care centers, with improved access defined as a 10 percent or greater decrease in the average distance. Improvements were widespread in Cook County. However, in a few dozen clusters of tracts (in blue) subsidized parents' distance to quality-designated centers increased by at least 10 percent. Notably, increasing distance appears in communities in central and south Chicago and in the south, southwest and northwest suburbs. These communities and the census tracts in gray (which had little or no change) bear further study.¹⁶



In Map 4b, census tracts shaded red had improved access for subsidized families to quality-designated child care homes (declining distance of 10 percent or more to the nearest quality home). These tracts are scattered lightly throughout the county. We see more instances of blue tracts in which quality-designated home care became more distant for subsidy families, particularly in tract clusters in the northwest and far south sides of Chicago, the western suburbs and in the southern suburbs. By far the most census tracts (in gray) showed little or no change. This reflects the limited growth of quality-designated home slots during the period.

¹⁶By "further study," we mean that policy makers and program developers would benefit from community surveys of parents and providers and data on the price of care, to estimate the unmet need for child care and options for expanding access. For example, in some communities unusually large portions of subsidized parents might work late into the evening, early in the mornings and on weekends, when most child care centers do not operate. Building or subsidizing new high-quality centers with traditional operating hours might not be an effective way to increase access for such parents.

Summary and Discussion

This study examined whether subsidized families' access to child care, particularly high-quality child care, improved or worsened from 2011 to 2016. Our findings allow us to answer our research questions in the following ways:

1. How much high-quality, subsidized child care has become available to meet the needs of subsidy-eligible families with a child under age 6?

Our basic regional analysis found that from 2011 to 2016 Cook County and Southwestern Illinois had substantial gains in quality-designated child care slots for subsidy-eligible children under age 6: 11,953 slots (a 63 percent gain) and 3,220 slots (a 192 percent gain) respectively. Nevertheless, these regions began at a very low level of quality-designated slots and the sharp gains raised coverage levels in 2016 to only 27 percent and 36 percent of subsidy-eligible children in Cook County and Southwestern Illinois respectively. (Figure 1)

While not all eligible parents would want a quality-designated subsidy slot for their child, nevertheless, large majorities had very limited access. Moreover, each region had more than 2.5 times as many children who were not eligible for the subsidy and who might compete with subsidy-eligible children for the region's quality-designated slots.

2. What are the community-level variations in access and change in access to high-quality child care for subsidy-eligible families with children under age 6?

On a community level, 59 percent of the gains in quality-designated subsidy slots in Cook County occurred in communities with higher-than-average concentrations of subsidy-eligible children. In Southwestern Illinois, however, a substantial number, but only 34 percent of the total, took place in communities with higher concentrations of subsidy-eligible children. This suggests that in the lower-income communities of Southwestern Illinois that had higher concentrations of subsidy-eligible children, negative factors in the market for child care, such as the poor economy and declining population, overrode the positive market impacts that child care policy might have had. (Figures 4 & 5)

Also on the community level, maps show that only some of the communities with highest need (many eligible children) had substantial gains in quality-designated subsidy slots from 2011 to 2016, while others had little change or even losses of slots. Only 51 percent of Cook County census tracts saw improvements in coverage, while only 60 percent of Southwestern Illinois census tracts had improvements. (Maps 1a & b, 2a & b, 3a & b)

This highlights the need for community-level analysis to determine whether such community differences in access are as serious as they appear and warrant closer attention to determine why they occur and to suggest policy solutions to inequitable access.

3. How did child care centers and child care homes compare in terms of change in supply between 2011 and 2016?

In both study sites, child care centers had the large majority of quality-designated subsidy slots and most of the growth in those slots. (Figures 2 & 3). In 2011, child care centers had 98 percent of all Southwestern Illinois quality-designated subsidy slots – the other two percent were in homes – and over the period 2011-2016, centers had 99 percent of the growth in quality-designated subsidy-accepting slots. In Cook County in 2011, child care centers had 93 percent of all quality-designated subsidy-accepting slots and 92 percent of the growth in those slots from 2011 through 2016.

The poor results for access to quality-designated child care homes reflects a national decline in licensed child care homes that policy makers have done little to address, much less reverse, financial instability resulting from the recession and shocks to the subsidy system, and the fact that ExceleRate Illinois was not promoted to home providers until late into our study period (2015).

As in many states, Illinois policy makers need to assess their response to the decline in licensed child care homes and the very slow growth of quality-designated homes, as well as whether it makes good policy sense to try to increase the supply of quality-designated home child care, and if it does, what would be the most effective approach.

In Cook County we measured the physical proximity of quality-designated subsidy programs to the residential addresses of subsidized families. Our findings reflect our earlier results: over the study period the distance between families and quality-designated subsidy-accepting centers narrowed considerably, as the number of center programs with quality designation increased. Subsidized families' residential distance from their nearest child care home, however, did not change.

4. Is there evidence that Illinois and federal child care policy, and particularly its efforts to improve the quality of child care, has had an impact on subsidy-eligible parents' access to high-quality care?

It is difficult to attribute changes in child care supply in a very complex economic and policy environment to child care policy. Our analytic tools, moreover, are not powerful enough to establish causation unequivocally. Nevertheless, some of our findings are suggestive of some policy success, albeit a limited success.

First, in Cook County most gains (59 percent) in quality-designated subsidy slots from 2011 to 2016 occurred in communities with higher than average concentrations of subsidy-eligible children. Providers who served these children were, perhaps, more likely than others to respond to policy incentives such as grants and payments for improving quality. In Southwestern Illinois, which had far less favorable economic conditions for expanding quality but faster growth in quality and higher coverage at the regional level, the majority of new quality-designated subsidy slots occurred in communities with lower concentrations of subsidy-eligible children — many of which were higher-income communities. These results suggest that Illinois and federal policy to improve access to quality-designated child care for low-income families was effective in more favorable environments such as Cook County, and less of a success in the unfavorable economic environment of Southwestern Illinois. This is not to say that Cook

County was a good environment for rolling out a policy of quality enhancement in 2011- 2016, but even in its unstable policy environment, steady economic growth made Cook County more favorable for responding to policy initiatives for low-income families than the more economically challenged Southwestern Illinois during that period.

Second, most of the improvements in each region took place in child care centers rather than in child care homes. This is consistent with the timeframe of Illinois rolling out quality improvement policies for child care centers two years earlier than they were scheduled to roll out for homes. It is also consistent with a declining trend in child care homes. The policy rollout for homes, moreover, was probably undermined by Illinois' emergency reductions in child care assistance and support in August 2015.

These findings are not proofs, but suggest that Illinois and federal policy worked, albeit in a limited fashion. They also suggest that policy innovators need to pay attention to the environment into which they send their innovations. The economy, state government finances, other policy changes, and larger independent trends in child care demand and supply could support or undermine the policy innovation.

Appendix 1. Overview of the Illinois-New York Child Care Research Partnership Study

The Illinois-New York Child Care Research Partnership (IL-NY CCRP), funded through two consecutive grants from the Office of Planning, Research and Evaluation in the Administration for Children and Families, U.S. Department of Health and Human Services, joins researchers from the University of Chicago and the Urban Institute with state and local child care administrators in Illinois and New York. Phase 1 of the Partnership (2010-2014) explored factors contributing to child care subsidy instability from the perspective of subsidy program participants.

The study sites include Westchester and Nassau Counties in New York State and two regions in Illinois: Service Delivery Area, (or SDA), 6 in Cook County and SDA 14 that serves 7 counties in the southwestern portion of the state. These sites were initially selected because of the distinct subsidy policies in Illinois and New York.

Phase 2 (2013-17) has continued to explore the factors that impede low-income families' access to high-

quality, stable care arrangements and investigates strategies that can encourage subsidized providers' participation in quality improvement efforts. Three research activities were completed through 2018:

1. Case studies of local sites including policy and document analysis and interviews with local policy stakeholders;
2. A local supply and demand analysis, which involved mapping the supply of care in each study site against the estimated number of subsidy-eligible children;
3. A qualitative study of subsidized providers to glean knowledge about a) providers' responses to families' challenges with maintaining subsidy stability and child care continuity, and b) providers' perspectives and experiences with quality improvement efforts. The current study completes the second part of the second phase of the study—a geospatial analysis of subsidized families' access to child care over time.

Appendix 2. The Economic and Demographic Context, 2011 – 2016

Cook County is diverse in race, ethnicity, and language (Table A1). The median household income is somewhat above the national average yet the poverty rate is also higher, particularly in Chicago. By contrast, the Southwestern Illinois site has a predominantly white population with the exception of the East St Louis area, which has a majority African American population. The Southwestern Illinois region

has only a small population that is foreign-born or with limited English proficiency. The seven counties of the region, however, have diverse economic conditions and trends, as indicated in Table A2 by the wide range of their median household incomes and the contrasting changes in their median household incomes from 2011 to 2016.

Table A1. Demographic Characteristics of Local Population in Study Sites

	Cook County			Southwestern Illinois			United States
	2011	2016	Change, 2011-16	2011	2016	Change, 2011-16	2016 (change since 2011)
Population	5,182,969	5,227,575	0.9%	673,001	668,329	-0.7%	318,558,162 (3.9%)
Employment	2,525,287	2,734,184	8.3%	241,638	240,125	-0.6%	131,944,000 (9.4%)
Median household income	\$54,598	\$56,902	4.2%	\$ 46,148 to \$69,291	\$48,343 to \$72,956	-0.2% to +11.7%	\$55,322 (4.9%)
Poverty rate under 5 years	23.7%	24.6%	0.9 pts	24.5%	23.9%	-0.6 pts	23.6% (0.4 pts)
White alone	55.2%	56.7%	1.5 pts	80.4%	79.9%	-0.5 pts	73.3% (-0.7 pts)
Black alone	24.9%	23.9%	-1.0 pts	16.0%	16.1%	0.0pts	12.6% (0.1 pts)
Asian alone	6.2%	6.8%	0.6 pts	0.9%	1.0%	0.2 pts	5.2% (0.5 pts)
Two or more races	1.8%	2.4%	0.6 pts	1.8%	2.2%	0.4 pts	3.1% (0.5 pts)
Hispanic or Latino	23.6%	24.9%	1.2 pts	2.8%	3.2%	0.4 pts	17.3% (1.3 pts)
Foreign-born	21.0%	21.1%	0.0 pts	2.3%	2.3%	0.0 pts	13.2% (0.4 pts)
Speak English less than "very well"	15.4%	14.4%	-1.0 pts	1.2%	1.2%	0.0 pts	8.5% (-0.2 pts)

Sources: With the exception of employment, all data come from American FactFinder (factfinder.census.gov), American Community Survey 5-Year Estimates, 2007-2011 and 2012-2016. Illinois employment data are annual total nonfarm employment for 2011 and 2016 from Current Employment Statistics, Economic Information and Analysis, Illinois Department of Employment Security (Cook County is from the Workforce Investment Areas series and the seven SDA14 counties are from the non-Metropolitan Statistical Area Series <http://www.ides.illinois.gov/LMI/Pages/CES.aspx>). US employment is total nonfarm employment from the Bureau of Labor Statistics, BLS DataFinder, seasonally adjusted Series CES0000000001 for June 2011 and June <https://beta.bls.gov/dataQuery/search>.

Table A2 shows the range and growth the median household incomes in the seven counties of Southwestern Illinois and Cook County. In Cook County and five of the seven Southwestern Illinois counties, median income grew more slowly than the national average of 4.9 percent.

Table A2. Median incomes in Southwestern Illinois Counties and Cook County, 2011 & 2016			
Illinois counties	2011	2016	Change
Bond County	\$50,672	\$52,159	2.9%
Clinton County	57,246	63,929	11.7%
Madison County	53,143	54,573	2.7%
Monroe County	69,291	72,956	5.3%
Randolph County	46,148	48,343	4.8%
St. Clair County	50,109	50,006	-0.2%
Washington County	53,036	54,936	3.6%
Cook County	54,598	56,902	4.2%

Source: American Community Survey 5-Year Estimates, 2007-2011 and 2012-2016. (See Table A1.)

Appendix 3. Data Definitions and Data Sources

Child care providers. The universe of child care providers for this analysis includes licensed providers open year-round or during the school year that serve children under age 6 and offer full-time care (defined below). Provider types include licensed child care centers, preschools, center-based Head Start programs, family child care homes, and group family child care homes. We exclude license-exempt programs, summer camps and school-age-only programs.

Full-time provider. A provider is considered full time if the total hours per week of at least one program session equals 35 hours or more. Some home providers report continuous but separate daytime, evening or overnight sessions, and we counted across home providers' continuous sessions to determine total hours.

Licensed child care. A center or home-based child care program that is licensed and monitored by the Illinois Department of Children and Family Services. A license is generally good for three years, and specifies the number and ages of children the provider may care for at one time and the hours that the provider may operate.

Subsidized provider. A subsidy accepting provider, or any provider who: 1) received a subsidy payment

for providing care to at least one child, according to FY2011 and FY2016 IDHS records (available for Cook County only) or 2) reported that they are willing to accept a child with a subsidy, as recorded in the NACCRRAware financial assistance field.

Birth to five slots. The total number of children under age 6 that a program can serve. For child care centers this is the sum of full-time slots per age for children under six as self-reported by centers to their local Child Care Resource and Referral agency in regular data updates. For licensed home providers this is calculated as 75 percent of a provider's total licensed capacity. See below for more detail.

Quality-designated programs. Providers enrolled in Illinois' quality rating system in 2011, providers with a bronze, silver or gold "Circle of Quality" in Illinois' quality rating and improvement system, ExceleRate Illinois, in 2016, or providers with national accreditation as reported in NACCRRAware, including accreditation from the National Association for the Education of Young Children (NAEYC), National Association for Family Child Care (NAFCC), National Accreditation Commission for Early Care and Education Programs (NAC), and National Early Childhood Program Accreditation (NECPA).

Data Sources:

The main data files for estimating the child care supply draw on site-specific extracts from NACCRRAware, the database developed by Child Care Aware of America (formerly NACCRRRA – the National Association of Child Care Resource and Referral Agencies). The Illinois data set includes comprehensive lists of licensed child care centers, preschools, family child care homes, and group family child care homes. The Illinois Network of Child Care Resource and Referral Agencies (INCCRRA) provided child care data for Illinois programs operating as of June in both 2011 and 2016 from its NACCRRAware database.

These datasets include a self-report field indicating whether a provider is willing to care for children with the child care subsidy. We also linked Cook County NACCRRAware data files to the state's child care subsidy payment records to identify other licensed providers who actually received a subsidy payment in fiscal years 2011 and 2016. Together these comprise our supply of subsidy-accepting providers in Cook County. Comparable subsidy payment data were not available for Southwestern Illinois and therefore the estimate of subsidy-accepting providers relies only on self-reports in that study site.

While the total number of licensed child care programs and the slots in these programs are known, the portion of slots for the birth-to-five populations is harder to determine, particularly in home-based care. For child care centers, it is fairly straightforward to determine birth-to-five slots because centers typically designate a

number of slots for each age group. Centers voluntarily report these slot-by-age data to their local Child Care Resource and Referral agencies (CCR&R), however, and data are missing for a portion of subsidy centers (14 to 16 percent of Cook County centers depending on the year and one to three percent of Southwestern Illinois centers).

For licensed homes, determining birth-to-five slots is more challenging because the number of children per age that home providers can serve varies depending on the total number of children in care, the age of children, and the presence of an assistant. Illinois home providers report enrollment by age to their CCR&R rather than slots by age, and enrollment data are missing for a significant number of subsidy home providers (27 to 30 percent in Cook County and 3 to 7 percent in Southwestern Illinois). Among home providers that do report their enrollment, they fill, on average, 53 percent of their total licensed slots with birth-to-five-year-old children, indicating that almost half of their slots are either unfilled or filled by school-age children. However, enrollment data undercount available slots in cases where under-enrolled providers are willing to care for additional children. Therefore, the actual birth-to-five capacity lies somewhere between 53 and 100 percent of the provider's total licensed capacity. We calculate birth-to-five home slots as 75 percent of the providers' total licensed capacity which is roughly the midpoint between the enrollment average (53 percent) and the total capacity (100 percent).



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