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Are We Making Progress?

Trends in the US Child Care Subsidy Program

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Prepared by

Public Policy Associates
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Authors

Nathan Burroughs, Ph.D.
Craig Van Vliet

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Introduction

This report explores long-term trends in family use of the federal child care subsidy program by race, ethnicity, and socioeconomic status. We focus specifically on long-term trajectories in equity of access to subsidies and whether the rise of center-based child care has influenced subsidy use by groups that have been historically marginalized and families with very low-income.

Major findings include:

- The decline in child care subsidy use has been mirrored by a decline in the number of families eligible for the subsidy. The cause of this decline in the number of eligible families is likely due to state and federal policy changes, increases in income and employment after the 2008 recession, and a decline in birth rate.
- Despite the overall change in eligibility, there has been little change in the proportion of CCDF eligible families by race and ethnicity.
- The share of participation in CCDF decreased more substantially for families that are Black (0.5% decrease every year) than families that are white (0.1%), even though the proportion of families that are Black and CCDF eligible did not change.
- Over time those in deep poverty were slightly less likely to utilize the CCDF than those not in poverty at all. This might reflect increasing eligibility requirements as well as an increase in income eligibility.
- The proportion of CCDF recipients using center-based care has grown steadily. Black and Hispanic families are less likely to use centers than white families. This relationship has remained fairly stable.

Findings in this report are from analysis of secondary data drawn from Child Care and Development Fund (CCDF) Administrative Data series, CCDF Policies Database, and American Community Survey (ACS). State-level contextual data was merged with individual-level sequential cohort data between 2001 and 2019 to test hypotheses related to subgroup differences in subsidy participation and enrollment in center-based care, as well as changes in these relationships over time. Analysis was conducted using both fixed- and random-effects models, and results will be tested for robustness using alternative variable operationalization. Our study includes:

- A longitudinal analysis of inequalities by race, ethnicity, and degree of poverty in all 50 states
- The interrelationship of subsidy participation with provider type
- The use of large-scale multi-level models controlling for geography and time.

Background

LITERATURE REVIEW

Child Care Subsidy Program

The federal child care subsidy program is designed to help families with low incomes afford and obtain high-quality child care, with an aim of improving child outcomes and family workforce participation. Research suggests that children from families with low-income benefit from participating in high-quality early childhood education (ECE) programs (Mendez, Crosby, and Siskind, 2018). However, funding for, access to, and utilization of child care subsidies remains disparate and inequitable across race, ethnicity, and income level. Families that receive subsidy funds are less likely to have access to the full range of providers (including center-based programs) in their communities (Adams & Rohacek, 2002).

Alongside demographic inequalities of access is regional variation in access to subsides. The federal child care subsidy program is funded by a federal block grant, the Child Care and Development Block Grant (CCDBG), that supports states in providing child care subsidies to families with low-incomes. The CCDF is not a unitary program. States have considerable latitude in how they set eligibility requirements, including family income, work requirements, and the degree to which sub-state units can establish different rules for participation. As noted in the 2022 CCDF Policies Database (updated annually by the Urban Institute), state policies with respect to eligibility requirements, application systems, expectations of providers, and other aspects of the program vary widely across state contexts – and can change rapidly in response to exogenous circumstances such as COVID-19. This variation in state policy can have substantive impacts on subsidy recipients, such as the quality of care provided (Greenberg et al. 2018, Isaacs et al. 2018) and persistence in the program (Jenkins & Nguyen 2019).

Utilization Patterns Over Time

Provider Type

In recent years there has been an increase in the number of licensed center-based care options and a corresponding decrease in unregulated, family, and home-based providers (National Center on Early Childhood Quality Assurance, 2019). However, center-based care can be less affordable for families with low income, including full-time care for young children and supplemental part-time care for school-age children and summer care (Baldiga et al., 2018). Consequently, families with low-income are less likely to use center-based care for their young children than families with higher income (Halle et al., 2009).

This difference in enrollment trends could have a negative impact on the development of infants and toddlers from families with lower-income. Past studies have demonstrated that children in center-based care had better pre-academic outcomes than home based or family/ nonregulated home-care arrangements (Forry, Davis, & Welti, 2013).

In part to address these concerns, new requirements including in licensing, training, professional development, reporting, inspections and recording were introduced in the 2014 Child Care and Development Block Grant Act. However, there have been fears that these stricter requirements might have the effect of pushing home-based providers out of the system. According to Henly and Adams (2018), an increased focus on quality since 2014 may have advantages to child care centers at the expense of home-based settings. Other research found that families might be leaving the formal market entirely, instead of moving to quality centers (Mohan 2017).

The National Center on Early Childhood Quality Assurance (2019) found that the number of licensed slots in center-based providers had increased, while those in home-based care had decreased. Adams distinguished that this shift had implications for populations that depend on home-based care—because home-based care tends to have more flexibility and offer more nonstandard hours than child care centers. According to Mohan (2017), CCDF providers overall were becoming increasingly licensed and center based. From 2006 to 2015 the share of regulated providers (including center- and home-based) had increased, while license-exempt settings had decreased (Mohan 2017).

Race/Ethnicity and Socioeconomic Status

Disparities in access to care are exacerbated by the fact that subsidy *recipients* may have substantially lower-income than the overall population of families *eligible* for subsidies (Government Accountability Office [GAO], 2016). Nationwide, children who lived in families with incomes below 100 percent of the federal poverty guidelines were overrepresented among subsidy recipients by an estimate of nearly 15 percentage points when compared to eligible children (GAO, 2016). Children in families with incomes between 100 percent and 149 percent of the poverty guidelines were underrepresented among subsidy recipients by an estimated 3 percentage points (GAO, 2016).

The GAO noted that subsidy recipients were more likely to be Black, and less frequently other racial or ethnic groups, when compared to the population of children eligible for subsidies. The proportion of Black children among all subsidy recipients was 17 percentage points higher than the proportion of Black children among all subsidy-eligible children; however, Hispanic children were underrepresented to a large degree among subsidy recipients—an estimated 15 percentage points—when compared to eligible Hispanic children (GAO, 2016). The GAO added, "The lower level of subsidy receipt among Hispanics in many states may reflect differing preferences for child care or barriers to accessing child care subsidies, or both[1]." According to Daugherty (2009), this may be more due to the linguistic barriers and access to centers than to parent preferences. Daugherty found that Hispanic children in the United States lag other children in terms of enrollment in preschools and child care centers. However, Crosby et al. (2016) found that there was little differentiation in center-based arrangements among Hispanic immigrant and non-immigrant households with low income as compared to similar white and Black peers.

Schmit and Walker (2016) highlighted the importance of studying state-level data by race and ethnicity about differential access to child care programs, including Head Start and the CCDBG services. They found in

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[1] Government Accountability Office (GAO). (2016). *Child care: Access to subsidies and strategies to manage demand varies across states.* U.S. Government Accountability Office. Reports to Congressional Committees (p. 29).

their analysis that more than 85 percent of eligible children, regardless of race, were not receiving CCDBG services. When they looked at race and ethnicity, the participation was low with considerable cross-state variability. They found that on average only 21 percent of eligible Black children, 11 percent of eligible Asian children, 8 percent of eligible Hispanic/Latino children, and 6 percent of eligible American Indian/Alaska Native (AI/AN) children were served through the CCDBG. Research from California's child care and development system (Schumacher, 2017) also found similar patterns, with the share of eligible children enrolled in CCDF subsidized child care program low across all racial and ethnic groups (11.0 percent for Latino children; 7.8 percent for Asian children; 31.8 percent for Black children; and 18.2 percent for white children).

Ullrich, et al. (2019) suggested that shifts in state policy decisions within CCDF may have contributed to the variation in access to the subsidy across groups (regardless of type of care), while Henly and Adams (2018) identified that policy strategies in ECE and general trends toward center-based care may have placed barriers on vulnerable groups accessing subsidies. Similarly, according to Madill et al. (2018), there are increased constraints on child care decisions for families with lower-income as compared to families with higher-income. They found that parents with lower-income were more likely to have fewer choices in type of care. Further, the type of child care provider used by distinct groups may reflect varying levels of ECE access for those groups (Madill et al. 2018). Families with higher-income were more likely to use center-based care, while families with lower-income were more likely to use home-based or family care. Furthermore, Sandstrom et al. (2018), using Census tract-level data from public-use data tables, found that a large share of all subsidy-eligible families were living in child care deserts and did not have adequate access to high-quality child care centers. They also noted that access was sometimes limited to low-quality centers, those not open during nonstandard hours, and providers not licensed to accept infants.

Measurement of Child Care Eligibility

An important question for researchers is the appropriate metric for assessing the potential demand for child care subsidies in a given state. Although federal regulations set a maximum family income level to receive the subsidy (85% of state median income), most states have income limits that are much lower (CCDF policies database). States also have different work requirements and methods for calculating income from each other. As a consequence, a simple comparison of the proportion of children under federal income limits or belonging to a particular demographic subgroup would overestimate the potential demand for child care subsidies.

The Assistant Secretary for Planning and Evaluation (ASPE) employs the Transfer Income Model (TRIM), a microsimulation using five-year ACS data to estimate the percentage of children eligible under state rules, which has been employed by researchers to model inequalities in CCDF participation across states (Ullrich et al., 2019). However, the TRIM model uses *children* as the unit of analysis rather than families, and hence may overestimate the proportion of families from given subgroups due to differences in the average number of children. Families with more children are implicitly overrepresented in a child-centered analysis.

Conceptual Approach, Research Questions, & Hypotheses

The structure of opportunities for using social services is powerfully shaped by the interplay between a person's specific characteristics and the structural features of institutions with which they interact. Because certain groups of people bear historic and continued marginalization or disadvantage (such as discrimination, less social capital, weaker support from family), it may be more difficult for them to access services, *even when the stated intent of those services is to serve them.* CCDF child care subsidies are a good example, in that they are intended to make it easier for working families with low incomes to access child care. However, policy must consider whether the use of those services is different for distinct populations (for example, different racial and ethnic minorities or those with extremely low income), and hence whether policies must be specifically tailored to meet their needs. This is especially the case when changes in the child care marketplace may have a differential impact on certain groups. There are a host of reasons why center-based care might be more or less attractive to particular populations (e.g., geographic proximity, cost, cultural mismatch), and so it is essential to determine whether the emerging preponderance of center-based care could have implications for child care equity—and hence whether policy must adjust considering such inequities.

EQUITY AND THE SUBSIDY PROGRAM

Inequalities in child care subsidy participation within and across states touches on a core goal of the CCDF program: improving access to high quality child care for families. On behalf of CCDF, Thomson et al. (2020) has developed an access framework that specifies five dimensions: reasonable effort, affordability, child development, parental need, and equity. The equity dimension includes three principal sub-dimensions of socioeconomic equity (family income), geographic equity (within-state variation such as rural/urban), and racial, ethnic, and cultural indicators.

Although this study does not speak directly to the question of *which* state factors may contribute to variation in the share of eligible families that participate in the program, it does provide important longitudinal data on systematic differences in equity across states.

RESEARCH QUESTIONS

1. Is there long-term inequality in child care subsidy use for families that are disadvantaged by race, ethnicity, and/or income?
2. How does the growing prevalence of center-based care influence equity in use of CCDF subsidies?
3. How does restrictiveness of state rules influence estimates of the subsidy eligibility?

The first question builds on the work of Ullrich et al. (2019), among others, demonstrating inequality in subsidy use by race and ethnicity. The question extends that work by examining subgroup inequalities using secondary data from multiple points in time, potentially yielding more robust estimates of long-term (in)equality and allowing for the identification of longer-term trends. In addition, whereas Ullrich et al. focused on racial and ethnic differences, we also consider the degree to which deep poverty—understood as 50 percent of the federal poverty guidelines—acts as a barrier to subsidy use (Madill et al. 2018).

The second research question considers whether the growing importance of center-based care (and the decline in family and home-based care) has implications for equity (cf. National Center on Early Childhood Quality Assurance, 2019). Henly and Adams (2018) also raised questions about how the rise in center-based care could function as a barrier to child care access, focusing on families with non-standard work schedules, infants and toddlers, and special needs, as well those living in rural areas. The effect of the trend towards center-based care on race, ethnicity, and deep poverty has received less attention. For example, there is mixed evidence on the question of whether Hispanic families are less likely to use center-based care (Daugherty, 2009; Crosby et al., 2016).

The limited available research has also generally relied on cross-sectional samples. This project takes advantage of large-scale longitudinal secondary data to explore how the use of center-based care is systematically associated with inequality in subsidy use, which allows for both better causal identification and the examination of trends.

Methods

Estimating State Eligibility

State eligibility estimates were derived by cross referencing employment, income, family and school enrollment data from the ACS micro area one-year estimates from 2009 through 2022 with the Urban Institutes' CCDF Policy Database. The policy database identifies CCDF rules for eligibility, including reasons a family or child might be considered eligible and income limits for eligibility for each state between 2009 and 2023. Common reasons for eligibility include:

- Parental employment
- Educational enrollment
- Searching for work
- Medical reasons
- Special needs and disability status
- Foster care, or protected status of children

Many of these eligibility criteria are quite granular (and hence, difficult to measure using ACS data), so only employment and educational reasons were considered while creating the estimates.

Employment type (full-time, part-time and self-employed), income, and hours usually worked from the ACS were utilized to determine if each family would be eligible for employment reasons, and current grade level was used to determine if a family was eligible for education reasons. In instances where someone was identified as being a college student, and had no other form of income, it was assumed they were full-time for simplicity reasons, as many states require a full-time load. If a state counted a combination of work and college credit hours, it was also assumed that the parent met the credit hours required.

Eligibility estimates were generated for each different set of eligibility rules for each state. Estimates were aggregated to the yearly level and averaged across the year in instances where rules changed during the course of the year, weighted by how long the given policy was in place for over the course of that year. The standard household weights were then applied to each family to get an estimate of total families. These estimates were then aggregated by race and poverty status.

Time Series Analysis

State level time series trends of CCDF eligible and enrolled families were aggregated on the yearly level from 2009 to 2019 and broken down by race and poverty status. Aggregate models of percentage of eligible families enrolled in centers and of those using the grant as well as the total eligible population were analyzed using both state clustered standard errors and Newey West standard errors, with a lag of 2 which was decided using a statistical standard of the quadric root of time ($t^{1/4}$) separately. These models used state level fixed and random effects as well.

Additionally, the research conducted an interrupted time series design to determine whether the rates of eligibility and enrollment changed following a change in the federal rules after 2014. This analysis employed Newey-West calculations and an interaction between the time trend and a dummy variable indicating pre/post time.

Fixed-Effects Regression Analysis

Aggregate level models were also analyzed using a fixed effects design. The fixed effects were identified as both state and year. The data presented heteroskedasticity, so significance testing utilizing clustered standard errors, cluster on the state level, as states each had their own sampling procedures.

Mixed-Effects Regression Analysis

Individual-level models were analyzed using mixed methods logistical and fixed-effects regressions. In various methods state and year were set as random and fixed effects to analyze the national level impact of the CCDF program. The CCDF Administrative Data Series was utilized to predict whether a given family was enrolled in center care, as well as predicting the race and poverty status of the individual. For the models in predicting center-care enrollment, one model in which year and state were random effects in a three-level model was utilized, as well as one where state was a random effect, with the year as a continuous slope, and interacted with covariates. In the later model these interaction terms as well as their root terms were analyzed as random slopes, while in the former the individual racial terms were analyzed as random slopes on the X level. In both cases, the models failed to achieve convergence. This was likely due to a false identification of a leveling off by the optimizers. This is not an uncommon occurrence when creating multilevel models with big data sets, especially when there are so many individuals for each category. To prove the outcomes were accurate, and not false extrema, the models were conducted using different optimizers and compared to ensure that they all produced similar results.

Detailed information about the variables and data sources used in the analysis are in Appendices A and B.

Results

The results of our analysis are divided into two sections. First, we present descriptive trends on utilization of the CCDF program nationally and across states, both in the aggregate and by family socioeconomic status, race, and ethnicity. We also examine changes in subsidy use by provider type.

Second, we present the results of regression analysis related to inequalities in child care subsidy use, trends in these inequalities, inequalities in subsidy participation by provider type, and the interaction of subgroup participation and provider type over time.

DESCRIPTIVE RESULTS

Although numerous reports have testified to the long-term decline in child care subsidy utilization and the growing importance of center-based care, to date there has been little attention paid to how these trends relate to equity of participation in the CCDF program. In this section, we examine the degree to which falling CCDF utilization could be partly explained by compositional changes in the pool of eligible families and the characteristics of families that engage with the subsidy are examined.

CCDF Eligibility by Race, Ethnicity, Poverty, Provider Type, and State Over Time

Based on our estimates of CCDF eligibility by state using ACS data, the PPA team found that the decline in child care subsidy utilization has been mirrored by a decline in the number of eligible families. From 2009 through 2019 there was a drop in the number of families eligible for the child care subsidy. The monthly average number of families that were CCDF eligible dropped by approximately 45,000 each year. These trends were not consistent over time. After a significant increase in the number of eligible families from 2009 to 2010, the numbers remained fairly stable until 2014. From that point there was a significant decrease between 2014 and 2017, at which point the number of eligible families again stabilized at about 400,000 families lower than 2010, or a decrease of 7%.

Figure 1. Average Number of Monthly Eligible Families per 1,000

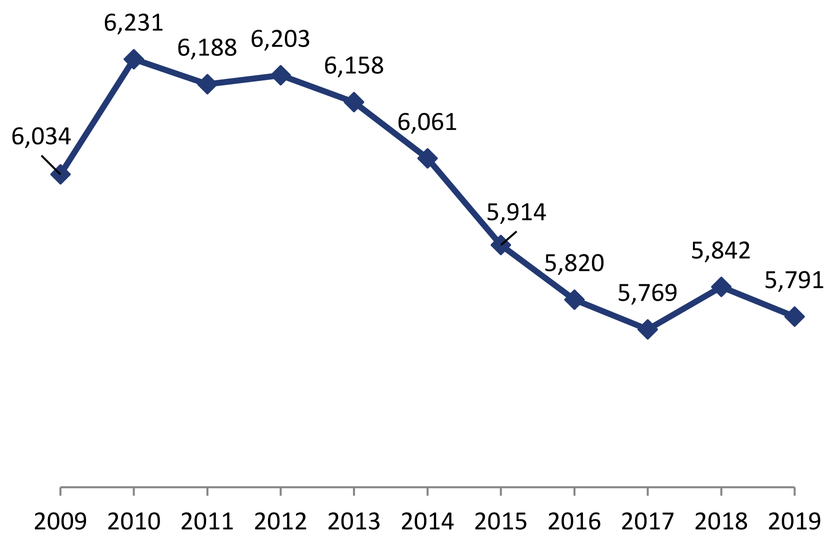
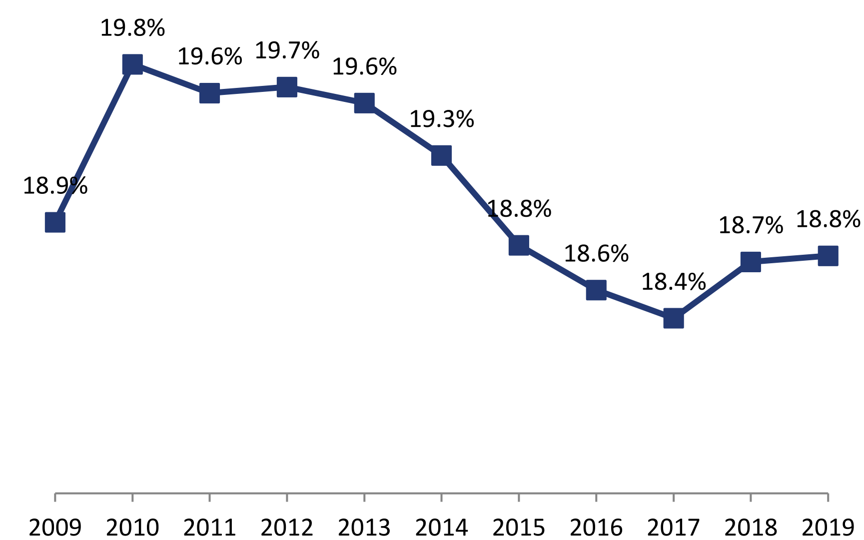


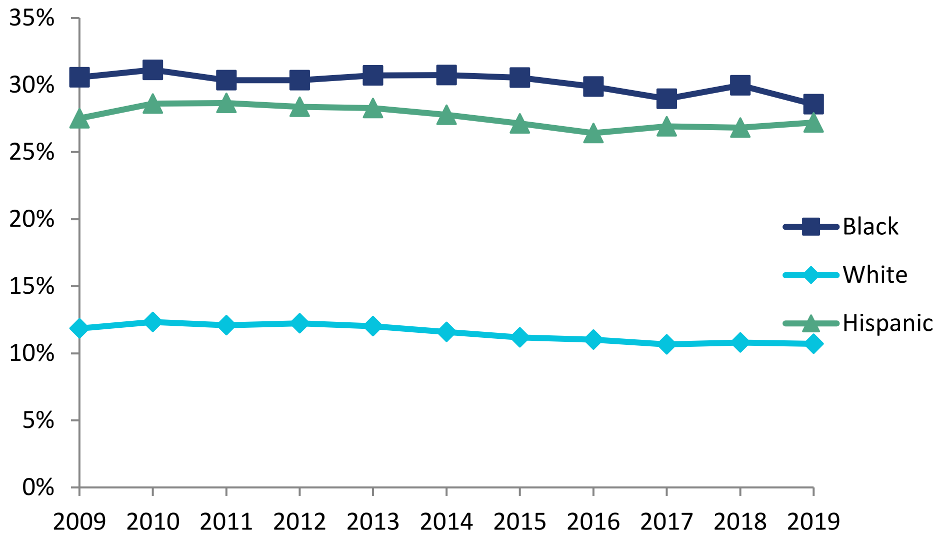
Figure 2. The Monthly Average Proportion of Families That Are Eligible



The cause of this decline in the number of eligibilities is likely due to a number of factors, including state and federal policy, increases in income and employment after the 2008 recession, and a decline in natality (i.e., birth rate). As indicated in Figure 2, as the change in the proportion of families with children that were eligible appears to have a less share decline than the decline in the number of eligible, indicting a change in larger child poverty trends.

Trends in Eligibility by Racial, Ethnic, and Income Subgroups

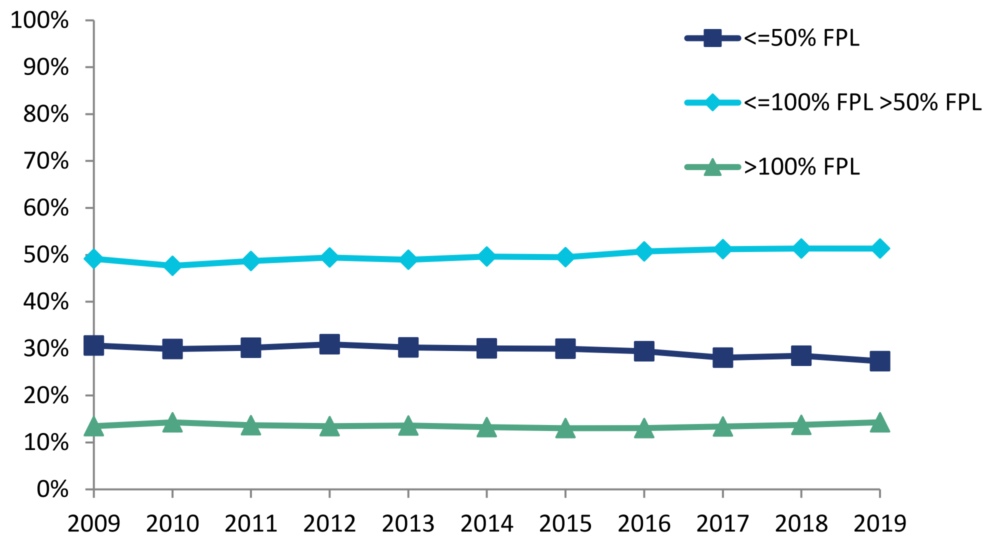
Figure 3. The Estimated Proportion of Black, Hispanic and White Families That Are CCDF Eligible Each Year



Despite the overall change in the number of eligible families, there has been little change in the proportion of families that are eligible by race and ethnicity, or the percentage of Black, Hispanic, and white families that are eligible for CCDF. For instance, the proportion of Black families that were eligible declined slightly (2% points) and the same goes for white families, while the proportion of Hispanic families that were eligible remained unchanged (see Figure 3).

Despite the percentage of CCDF eligible families by race/ethnicity being relatively unchanged, the actual *number* of Black and white families that were eligible decreased by a larger percentage than their share of the total population. The number of Black families that were eligible for CCDF programs decreased by about 100,000 families (8%), while the number of Black families with a child under 13 fell by only 1%. The number of CCDF-eligible white families decreased by 400,000 (20%), while the national population of all white families with children under 13 decreased by 12%. The number of CCDF-eligible Hispanic families increased by 200,000 (10%), while the national total of Hispanic families with children under 13 grew by 13% (900,000 families). The number of eligible families decreasing faster than total families could point towards increasing difficulty of getting CCDF, or it could potentially indicate a decrease in child poverty. This helps demonstrate the complexity of dealing with different measurements and proportions. A focus on the *rate* of eligibility and/or participation by type of family can lead to very different conclusions than examining the *number* of families. For example, the proportion of families that are eligible might show little change, while changes in counts can show significant differences over time. These kinds of measurement differences makes it important to test, and measure differences in multiple different ways.

Figure 4. Proportion of Average Monthly Families for Different Poverty Statuses

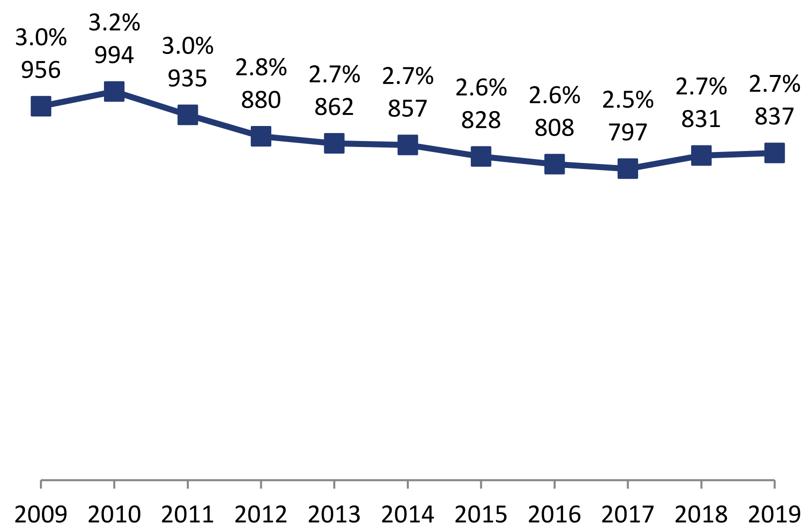


The estimated proportion of families that are eligible for CCDF programs that fall into different levels of income has also changed little since 2009. The proportion of families in deep poverty (families earning less than or equal to half of the federal poverty line [FPL]) that were estimated to be eligible for CCDF programs decreased slightly, while the proportion of those not in poverty and those in moderate poverty rose slightly. Generally though, the proportion of those eligible by income level stayed relatively stable over the 11 years. The slight increase of those above deep poverty might be the result of more generous income thresholds, while a decrease of those in deep poverty might be due to other more restrictive eligibility criteria, such as number of hours of work required. Changes in the share of all families that are below the poverty line could also be a contributing factor.

CCDF Participation by Subgroup, State, Provider Type, and Time

Over the course of the 11 years, CCDF *participation* decreased in a similar manner to that of *eligibility*. Approximately 160,00 fewer families were enrolled in 2019 than 2010, a 16% decrease.

Figure 5. Average Number of Monthly Families Participating per 1,000 (as Share of All Families)



Some of the decrease was caused by the reduction of eligible families, which dropped by 7%. This resulted in a drop in the share of all families enrolled in the program from 3% to 2.7%, which is a decrease of 10%.

From 2009 through 2019, the proportion of all Black families that were enrolled and received funds from the CCDF dropped from 9% to 7%, or 86,000 fewer families. This resulted in Black families accounting for 36% of families enrolled in CCDF during 2019, a decline from 2009 where they comprised 41% of families enrolled. This decrease happened even though the total number of all Black families across the nation remained relatively unchanged. Over this time, white families also took up a smaller share (from 30% to 26%) of families enrolled. This is probably the case as the total number of all white families with children under 13 dropped by 12%, but, the proportion of all white families that participated in the CCDF remained steady (1.6% to 1.4%). Hispanic families exhibited a similar pattern, starting at 2.7% of all families participating in 2009 and ending at 2.5% in 2019. However, the number of Hispanic families grew by 12%, so Hispanic families took a larger percentage of CCDF families (4%) and increased total enrollment (8,800 more families) despite a decrease in participation rates.

Figure 6. Monthly Average of the Proportion of Families Enrolled in CCDF for Black, White and Hispanic Families

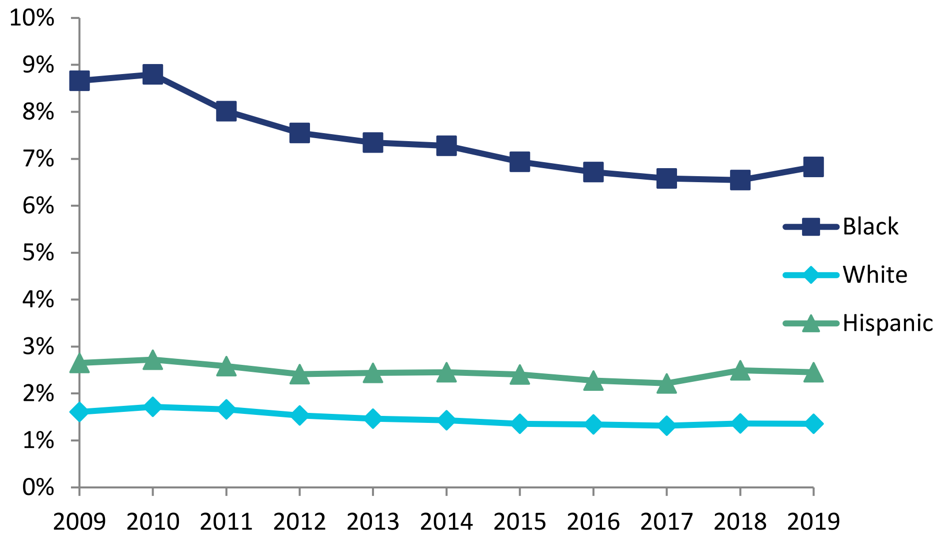
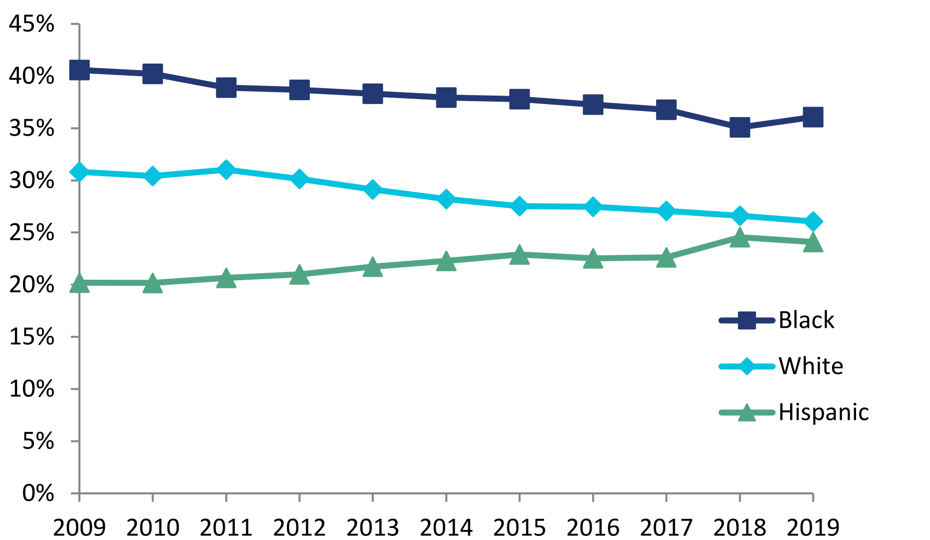


Figure 7. The Share of Enrolled Families by Race/Ethnicity



According to the Kids Count Data Center, the child poverty rate has been decreasing nationally since 2012 (The Annie E. Casey Foundation, 2024). As such it should be expected there would be fewer families in poverty making use of the subsidy. The proportions of families in poverty and families in deep poverty that use the subsidy have decreased from 8% to

6% (83,000 less families) and 7% to 6% (71,000 less families), respectively, while the proportion of families not in poverty remained essentially the same (increased by .14 percentage points and 36,000 families). As a consequence, the share of enrolled families that are in poverty, but not deep poverty went from 29% to 25% and the share of subsidies that went to those in deep poverty decreased from 28% to 21%. Thus, *the majority of subsidy recipients in 2019 were families above the poverty line (53%).*

Figure 8. The Share of CCDF Enrollment by Poverty Status

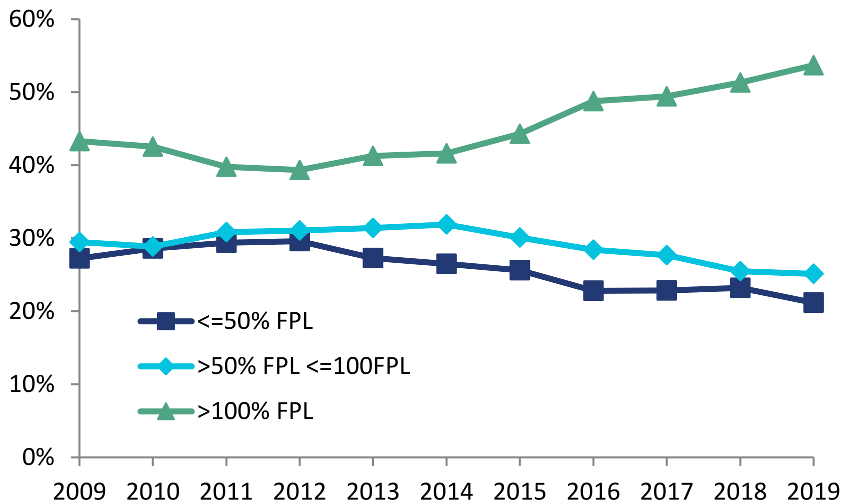
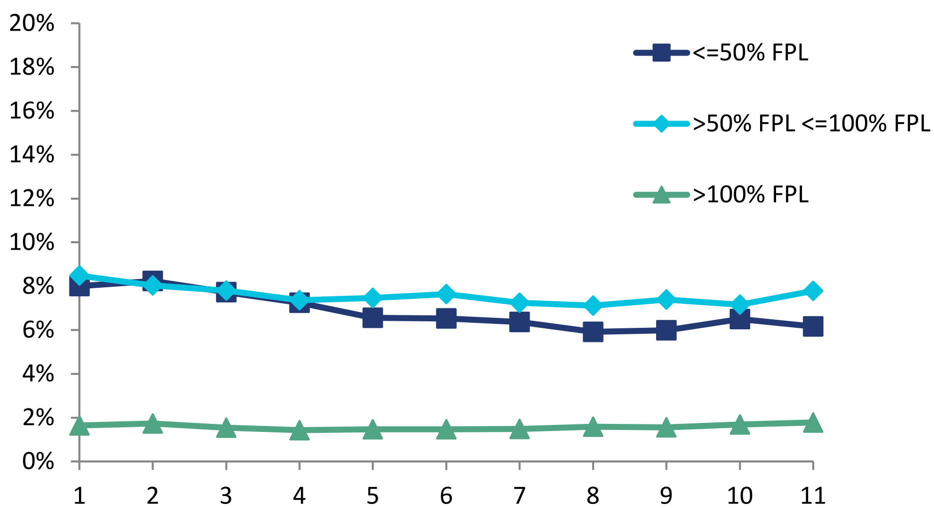


Figure 9. Proportion of Each Poverty Strata Enrolled in CCDF



CCDF Participation by Provider Type

Throughout the entire 11-year period included in the data set, child care centers controlled a super majority of the market share of CCDF payments. However, the importance of centers has grown dramatically over time, from enrolling 67% of families in CCDF in 2009 to 80% of families in 2019. Group homes remained relatively stable during this period, while home-based providers lost about 3% of market share, or three fourths of their share in 2019. Family providers declined even more precipitously, decreasing from 23% of families receiving CCDF funds to just 13%. It is unclear to what extent this is due to provider attrition, families no longer needing care or families moving to different types of care.

Figure 10. Market Share of CCDF Clients in 2009

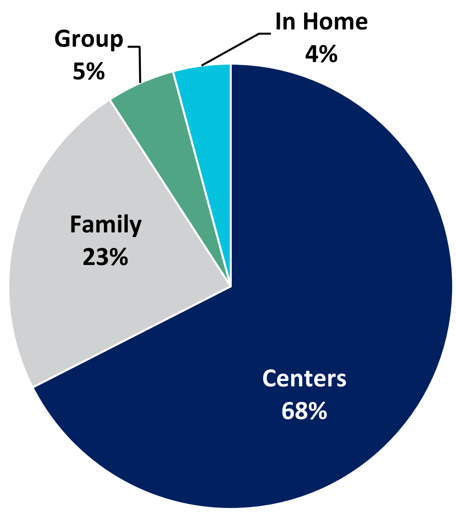
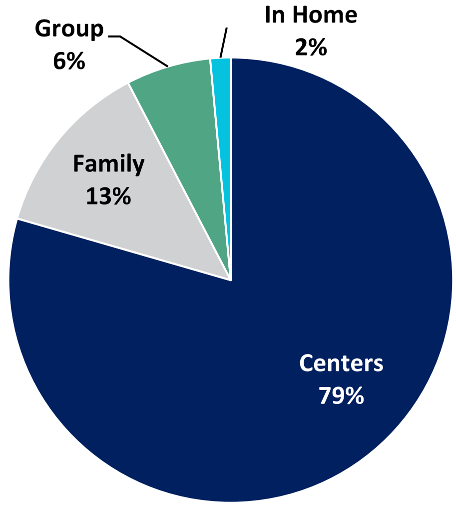
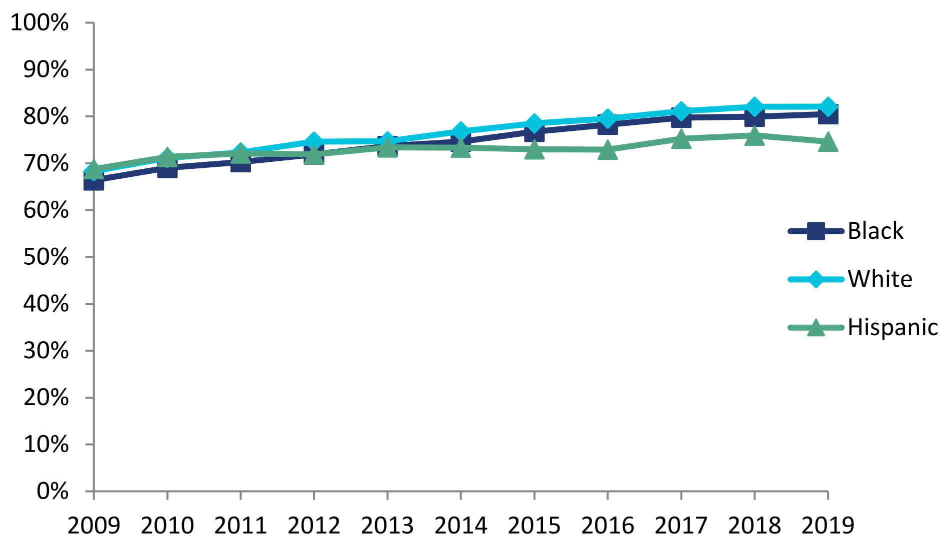


Figure 11. Market Share of CCDF Clients in 2019



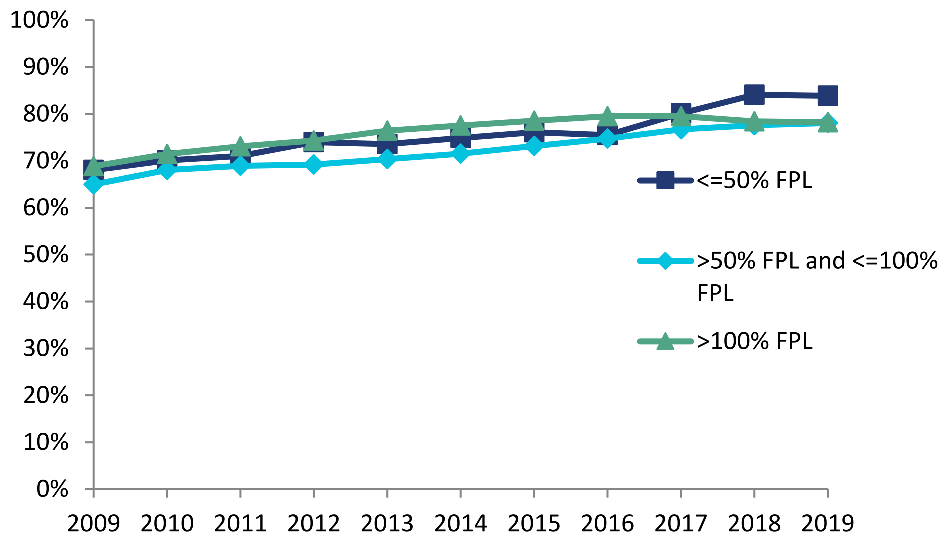
These trends *generally* held for all three racial/ethnic groups, but trends appear to be exacerbating differences in utilization by provider type. White families are the most likely to go into centers and saw the biggest growth in center enrollment, while Hispanic families are the least likely to use centers and have had the smallest growth in using center based care.

Figure 12. Percentage of Families Enrolled in Center-Based Care for Black, Hispanic and White Families



The CCDF administrative data series also identified difference trends in center utilization by family income. As with national patterns, there has been a steady shift towards center-based care. However, those in deep poverty had a sudden jump in the proportion of those in centers beginning in 2018.

Figure 13 Percentage of Families Enrolled in Center-Based Care for Each Poverty Strata



HYPOTHESIS TESTING

In this section, we present the results of inferential analysis using a multiple model approach. Each hypothesis is examined using both aggregate-level and individual-level mixed effects models. In addition, the hypotheses addressing change over time include an aggregate interrupted time series (ITS) analysis that tests for significant changes pre- and post-2014. The results of the individual-level models are mostly quite similar to the aggregate models, so for ease of presentation we have included a summary table incorporating aggregate results, including ITS results (Table 1, below). In comparing models across subgroups, the research team constructed 95th percentile confidence intervals around each subgroup estimate to determine whether there was a statistically significant difference between groups.

Table 1. Summary of Aggregate Models

	WHITE	BLACK	HISPANIC	DEEP POVERTY	MODERATE POVERTY	NOT IN POVERTY
Hyp 1a % subsidy	0.336*** (0.0444)	0.274*** (0.0193)	0.119*** (0.0162)	0.220*** (0.0258)	0.255*** (0.0153)	0.271*** (0.0688)
Hyp 1b trend in % subsidy	-12.2e-05*** (2.06e-05)	-.744e-05 (1.31e-05)	2.66e-05** (1.11e-05)	-4.73e-05* (2.72e-05)	-8.05e-05*** (1.28e-05)	11.8e-05*** (2.60e-05)
Hyp 2a % in centers	0.552*** (0.111)	0.156** (0.0703)	0.135*** (0.0375)	0.326*** (0.107)	0.301*** (0.0574)	0.125 (0.130)
Hyp 2b trend in % in centers	-4.53e-05* (2.40e-05)	-3.32e-05* (1.77e-05)	2.45e-05 (1.56e-05)	-1.03e-05 (3.56e-05)	-5.64e-05*** (1.82e-05)	5.78e-05 (4.01e-05)
Hyp 1b ITS post-2014 subsidy	0.00729*** (0.00258)	0.0154 (0.0396)	0.00984 (0.0147)	0.0271*** (0.00891)	0.00478 (0.00324)	0.00738*** (0.00272)
Hyp 2b ITS post-2014 subsidy centers	0.00375 (0.00333)	0.000938 (0.00187)	-0.00133 (0.00175)	-0.00393 (0.00483)	-0.0158*** (0.00226)	0.0197*** (0.00493)

Standard errors in parentheses. * p>.05, **p>.01, ***p>.001

Hypothesis (1a): Hispanic Families and Those in Deep Poverty Have Been Less Likely to Use CCDF Subsidies

The analysis supports the hypothesis that Hispanic families are less likely to use the subsidy program. Our analysis did not support the hypothesis that those in deep poverty were less likely to use the subsidy program.

For the aggregate model, the research team compared the intercepts for each subgroup controlling for state and year random and fixed effects, as well as the percentage of the state's eligible families that were from that subgroup. The outcome variable was the proportion of the state's CCDF recipients that were from that subgroup. The intercept is therefore the estimated proportion of recipients from that group controlling for other factors (acknowledging the possibility of omitted variable bias). In comparing the intercepts across subgroups of interest using 95th percentile confidence intervals, the analysis indicates that the share of Hispanic families was statistically significantly lower than the share of white and Black families, controlling for the share of the state's share of the population as well as state and time effects. Our analysis indicated no significant difference in the proportion of CCDF participants from different income categories (deep poverty, moderate poverty, not in poverty).

Hypothesis (1b): Among Black and Hispanic families and Those in Deep Poverty, the Likelihood of Using CCDF Subsidies Has Decreased Over Time

The analysis does not support the hypothesis that the likelihood of using the subsidy has decreased over time for families who are Black, Hispanic and/or in deep poverty.

The aggregate model was similar to that employed for Hypothesis 1a, except that a trend variable was substituted for year fixed effects and used as the predictor of interest. The purpose of this analysis was to compare trends in CCDF subsidy participation over time for each subgroup, using state-level effects. Controlling for the share of the state's eligible population for each type of family, this analysis indicates that, even controlling for the characteristics of the state's eligible families, the proportion of recipients that are Hispanic has increased over time, while the share of white families has declined.

In addition, families in both moderate and deep poverty have lower percentages, while those not in poverty have increased. However, comparison of coefficients across subgroups did not indicate that these differences were statistically significant. The interrupted times series analysis found that, after the 2014 reauthorization the percentage of white, non-poor, and those in deep poverty receiving the subsidy increased, but the differences across subgroups were not statistically significant. The aggregate analysis therefore did not support the hypothesis.

Hypothesis (2a): Subsidy Users Who Are Black, Hispanic, or in Deep Poverty Have Been Less Likely to Enroll in Center-Based Care

The analysis supports the hypothesis that subsidy users who are Black or Hispanic are less likely to enroll in center based care, but does not support the hypothesis that those in deep poverty are less likely.

The second set of hypotheses is focused on the question of differences in program participation by provider type, controlling for state and temporal context. The aggregate model for hypothesis 2a examines the share of CCDF participants in centers who are from a given type of family, controlling for (1) the share of that family type among the state's CCDF eligible families, and (2) the proportion of CCDF recipients in center-based care.

As with Hypothesis 1a, we used confidence intervals to compare differences in intercepts across subgroup models. Consistent with other literature, we found that Black and Hispanic families constituted a statistically significantly smaller share of CCDF center-based recipients than white families. However, there were no significant differences in the share of CCDF participants in centers by income category.

The individual-level analysis used a mixed-effects model that measured the likelihood that a CCDF recipient would be in center-based care, while controlling for recipient race and income category. This analysis employed a combined model, with white and non-poor as the control variable reference categories. The model included state and year random and fixed effects. As presented in Table 2, Black and Hispanic families were less likely to be in centers, as were those in moderate poverty. It should be noted that, although statistically significant, the effect sizes are fairly modest, as white families were only about 1.4 times more likely to enroll in centers as Black families and 1.1 times more likely than Hispanic families. Both the individual and aggregate models provide support for differences in program type by race/ethnicity, but do not support the hypothesis that those in deep poverty are less likely to be in center-based care.

Table 2. Individual-Level Estimate of Center-Based Care for CCDF Participants

PREDICTOR	LOGISTIC COEFFICIENT	S.E.	ODDS RATIO
Intercept	1.31	0.04	
Black	-0.36***	0.03	0.70
Hispanic	-0.10***	0.02	0.90
Other race/ethnicity	-0.16***	0.02	0.85
Moderate poverty	-0.19***	0.01	0.83
Deep poverty	0.00	0.02	1.00

*p>.05, **p>.01, ***p>.001

Hypothesis (2b): Among Subsidy Users Who Are Black, Hispanic, Or in Deep Poverty, the Likelihood Of enrolling in Center-Based Care Has Decreased Over Time

The analysis does not support the hypothesis that subsidy users who are Black, Hispanic or in deep poverty are less likely to enroll in center based care over time.

The aggregate model for Hypothesis 2b combines elements of prior aggregate analyses. Based initially on the model for Hypothesis 2a, it predicts the percentage of CCDF recipients in centers for each subgroup, controlling for the prevalence of that family type in the state's eligible population and the share of those in center-based care. The main independent variable in this analysis is the trend between 2009 and 2019. The coefficient for time is compared across subgroups using confidence intervals to determine whether the shift towards center-based care has been more or less prominent among different types of families. Our analysis indicates that, *controlling for other factors*, white and Black families' use of centers has declined over time, as has those in moderate poverty. However, the differences in these trends are not statistically significant, which is to say we cannot prove that there is a difference between the impact by subgroup over time.

As with Hypothesis 2a, the individual-level model employs a combined model predicting the likelihood that a recipient is in center-based care. Added to the prior model is an indicator for trends, as well as interactive terms for the time trend for each subgroup. As presented in Table 3, there is an increasing likelihood that recipients will be in centers, but as with the aggregate analysis there are minimal differences between types of families. The only statistically significant coefficient is for families in deep poverty, who are more likely to be in centers over time, but the effect size for this estimate is extremely small.

Table 3. Individual-Level Estimate of Center-Based Care for CCDF Participants Over Time

	LOGISTIC COEFFICIENT	S.E.	ODDS RATIO
Intercept	0.67	0.17	

	LOGISTIC COEFFICIENT	S.E.	ODDS RATIO
Black	-0.26***	0.07	0.77
Hispanic	-0.08	0.09	0.92
Other race/ethnicity	-0.10	0.06	0.91
Moderate Poverty	-0.21***	0.03	0.81
Deep Poverty	-0.07	0.04	0.94
Trend	0.08***	0.01	1.09
Trend Black	-0.01	0.01	0.99
Trend Hispanic	-0.01	0.01	0.99
Trend Other race/ethnicity	-0.01	0.01	0.99
Trend Moderate Poverty	0.00	0.00	1.00
Trend Deep Poverty	0.01*	0.00	1.01

*p>.05, **p>.01, ***p>.001

There is also little evidence for subgroup differences in center use after 2014. The aggregate interrupted time series analysis indicates an increase in the percentage of CCDF recipients in center-based care that are white, in deep poverty, or not in poverty. However, the difference in these trend estimates across groups is not statistically significant. In terms of trends, none of the analyses suggest that the trend towards center-based care has had a disproportionate impact on families that are Black, Hispanic, or in deep poverty.

Discussion

The child care subsidy program aims to expand access to high-quality child care to working families that may otherwise be unable to afford it. Among its many provisions, the 2014 reauthorization emphasized improvements that implicitly benefited center-based providers over home-based ones and may have contributed to declining CCDF participation by home-based providers. Given the evidence that some families may prefer home-based providers, the growing importance of centers in the CCDF program raises the possibility that parents in deep poverty and from Hispanic families could be implicitly disadvantaged in their access to the subsidy.

This analysis suggests that the general decline in CCDF participation between 2010 and 2019 is in part due to a decline in the number of eligible families, which is likely occurring because of declining birth rates (i.e., there are just fewer families with children), recovery from the Great Recession (as family incomes rise, hence making them ineligible), and changes in federal and state eligibility criteria. However, descriptive data suggests important changes in the distribution of families that make use of the subsidy. The proportion of enrolled families that are Hispanic has risen while the share of white and Black families has declined. At the same time, there has been a dramatic increase in the proportion of CCDF recipients that are from families above the poverty line. These trends have occurred while the proportion of *eligible* families in each group has remained fairly constant. Meanwhile, the increasing role of centers in serving CCDF families has been associated with a growing proportion of all types of families in centers, but that trend appears more pronounced among white families and those in deep poverty, with slower growth among Hispanic families.

These broad national trends may conceal important differences between states. As a federal block grant, the CCDF program exhibits considerable differences between states, both due to compositional factors (states have wildly different demographic profiles), the character of child care markets, and state regulatory decisions. Our strategy for controlling for the differences across states using mixed-effects indicates that, consistent with other literature, Hispanic families are underrepresented in the CCDF program as a whole as well as in centers. This provides some support for the idea that center-based care does not always meet the needs of Hispanic families. Interestingly, controlling for state and year effects suggests that Black CCDF families are also less likely to use centers than white families. However, families in deep poverty were *not* underrepresented in the CCDF program or (among subsidy recipients) in centers. In other words, there is some evidence for racial and ethnic inequality, but not economic inequality.

Our analysis also suggests that there have been no statistically significant trends in either the relative shares of CCDF recipients by race, ethnicity, or socioeconomic status, nor changes in makeup of CCDF recipients in centers. The changes in the subsidy program between 2009 and 2019 were not associated with changes in equity of access, as measured in this study.

Several caveats should be kept in mind in interpreting the results of this study. First, the analysis is necessarily constrained by the availability of the data, which ends in 2019. The massive shock to the child care system accompanying the COVID-19 pandemic, and the large federal funds invested in the child care system as part of relief efforts, are not captured in this study. It is thus very much a picture of the pre-pandemic environment, which is likely quite different five years later. Second, this work should be viewed as essentially exploratory. The analysis is mainly descriptive and correlational, and any causal attributes should be resisted. Relatedly, although Ullrich et al. (2019) examined inequalities in subsidy use across states for a single year, this study attempted to extend this work both forwards and backwards to illustrate long-term trends.

There is a great deal more work that remains to be done to fully capture inequalities of access in response to state and federal policy, including the specific impacts of state eligibility regulations, the degree to which trends in participation represent actual shifts among providers or attrition and replacement, the relative importance of compositional changes as opposed to policy changes in explaining trends, and potential levers for enhancing the participation of those most in need.

References

Adams, G., & Rohacek, M. (2002, February 1). *Child care and welfare reform.* Brookings Institution. https://www.brookings.edu/research/child-care-and-welfare-reform/

Baldiga, M., Joshi, P., Hardy, E., & Acevedo-Garcia, D. (2018). *Data-for-equity research brief: Child care affordability for working parents.* Institute for Child, Youth and Family Policy. https://www.nichq.org/sites/default/files/resource-file/ChildCare%20Affordability%20brief.pdf

Crosby, D., Mendez, J., Guzman, L., & Lopez, M. (2016, November 17). *Hispanic children's participation in early care and education: Type of care by household nativity status, race/ethnicity, and child age.* National Research Center on Hispanic Children & Families.

Daugherty, L. (2009). *Child care choices of Hispanic families: Why aren't families using center care?* [Doctoral Dissertation, Pardee RAND Graduate School]. RAND Corporation. https://www.rand.org/pubs/rgs_dissertations/RGSD258.html

Forry, N. D., Davis, E. E., & Welti, K. (2013). Ready or not: Associations between participation in subsidized child care arrangements, pre-kindergarten, and Head Start and children's school readiness. *Early*

Childhood Research Quarterly, 28(3). https://experts.umn.edu/en/publications/ready-or-not-associations-between-participation-in-subsidized-chi

Government Accountability Office (GAO). (2016). *Child care: Access to subsidies and strategies to manage demand varies across states.* U.S. Government Accountability Office. Report to Congressional Committees. https://www.gao.gov/assets/690/681652.pdf

Greenberg, E., Isaacs, J. B., Derrick-Mills, T., Michie, M., & Shantz., K. (2018). *Are higher subsidy payment rates and provider-friendly payment policies associated with child care quality?* Urban Institute. https://www.urban.org/research/publication/are-higher-subsidy-payment-rates-and-provider-friendly-payment-policies-associated-child-care-quality

Halle, T., Hair, E., Nuenning, M., Weinstein, D., Vick, J., Forry, N., & Kinukawa, A. (2009). *Primary child care arrangements of U.S. infants: Patterns of utilization by poverty status, family structure, maternal work status, maternal work schedule, and child care assistance* (Publication No. 2009-17). Child Trends. https://www.acf.hhs.gov/sites/default/files/documents/opre/child_trends_9a.pdf

Henly, J. R., & Adams, G. (2018). *Increasing access to quality child care for four priority populations: Challenges and opportunities with CCDBG* *reauthorization*. Urban Institute. https://www.urban.org/research/publication/increasing-access-quality-child-care-four-priority-populations

Isaacs, J., Greenburg, E., Derrick-Mills, T. (2018). *Subsidy policies and the quality of child care centers serving subsidized children.* Urban Institute. https://www.urban.org/research/publication/subsidy-policies-and-quality-child-care-centers-serving-subsidized-children

Jenkins, J. M., & Nguyen, T. (2019). *Keeping kids in care: What makes a difference in state CCDF policy?* (EdWorkingPaper: 19-121). Annenberg Institute at Brown University: http://www.edworkingpapers.com/ai19-121

Johnson, A., Martin, A., & Brooks-Gunn, J. (2011). *Who uses child care subsidies? Comparing recipients to eligible non-recipients on family background characteristics and child care preferences*. Children and Youth Services Review 33, 1072-1083.

Madill, R., Lin, V. K., Friese, S., & Paschall, K. (2018). *Access to early care and education for disadvantaged families: Do levels of access reflect state's child care subsidy policies?* Child Trends. https://www.childtrends.org/publications/access-early-care-education-disadvantaged-families-levels-access-reflect-states-child-care-subsidy-policies

Mendez, J., Crosby, D. A., & Siskind, D. (2018). *Access to early care and education for low-income Hispanic children and families: A research synthesis.* National Research Center on Hispanic Children and Families. https://www.hispanicresearchcenter.org/research-resources/access-to-early-care-and-education-for-low-income-hispanic-children-and-families-a-research-synthesis/

Mohan, A. (2017). *Fewer children, fewer providers: Trends in CCDBG participation.* CLASP. https://www.clasp.org/sites/default/files/public/resources-and-publications/publication-1/CCDBG-Provider-Factsheet-2006-2015.pdf

National Center on Early Childhood Quality Assurance (2019). *Addressing the decreasing number of family child care providers in the United States.* U.S Department of Health and Human Services, Administration for Children and Families, Office of Head Start, Office of Child Care, and Health Resources and Services Administration. https://childcareta.acf.hhs.gov/sites/default/files/addressing_decreasing_fcc_providers_revised_final.pdf

Porter, T., Paulsell, D., Del Grosso, P., Avellar, S. Hass, R., & Vuong, L. (2010). *A review of the literature on home-based child care: Implications for future directions.* Princeton, NJ: Mathematica Policy Research.

Sandstrom, H., Claessens, A., Stoll, M., Greenberg, E., Alexander, D., Runes, C., & Henly, J. (2018). *Mapping child care demand and the supply of care for subsidized families: Illinois-New York Child Care Research Partnership.* Urban Institute. https://www.urban.org/sites/default/files/publication/97286/mapping_child_care_demand_and_the_supply_of_care_for_subsidized_families.pdf

Schmit, S., & Walker, C. (2016). *Disparate access: Head start and CCDBG data by race and ethnicity.* CLASP. https://www.clasp.org/publications/report/brief/disparate-access-head-start-and-ccdbg-data-race-and-ethnicity

Schumacher, K. (2017). *Enrollment in subsidized child care and development programs varies by race and ethnicity.* California Budget & Policy Center. https://calbudgetcenter.org/resources/subsidized-child-care-and-development-programs-vary-by-race-and-ethnicity/

Thomson, D., Cantrell,E., Guerra,G., Gooze, R., Trout, K., Child Trends (2020). *Conceptualizing and Measuring Access to Early Care and Education.* Washington, DC: U.S Department of Health and Human Services, Administration for Children and Families

The Annie E. Casey Foundation. (2024). *Kids Count Data Center.* https://datacenter.kidscount.org/

Ullrich, R., Schmit, S., & Cosse, R. (2019). *Inequitable access to child care subsidies*. CLASP. https://www.clasp.org/sites/default/files/publications/2019/04/2019_inequitableaccess.pdf

Appendix A. Data Sources

The data sources used in the analysis are described below.

CCDF ADMINISTRATIVE DATA SERIES

The CCDF Administrative Database series includes random samples of 200 subsidy users per month in each of the 50 states and the District of Columbia, for a total sample of 2,400 cases per year. Currently the data runs from 2001 to 2019. As a random sample for each month in each state, these data provide a generalizable sample for a given state's subsidy users and can therefore be used to generate estimates for all subsidy users in a state. The state samples can also be weighted to produce national estimates. This dataset includes child-, family-, and provider-level data, including (most importantly for this study) family income, race, ethnicity, and provider type.

As indicated in the CCDF Administrative Database technical documentation, there were cases where family, child, and setting cannot be matched, and hence were excluded. The data from each state in each year were merged to produce longitudinal estimates for each state's CCDF population. Family identifiers were checked to ensure that participating families were not double counted across months.

Because states use non-CCDF funds to support child care subsidies, state pooling factors in each year were employed for the main analysis to isolate the CCDF-supported population only. Although the CCDF Administrative Database is not a true panel dataset (making it impossible to build individual fixed-effects models) it is easily the richest large-scale longitudinal dataset available.

Because this is a family-based (rather than child-centered) analysis, a focal child was randomly selected by each family in a given month to avoid over-counting families with multiple children. To create family demographic estimates, the research team followed the procedures described in the CCDF administrative data series technical documentation to get estimates of the number of families meeting certain criteria.

CHILD CARE POLICY DATABASE

The CCDF Policies Database includes detailed information on the rules governing each state's child care subsidy program. These data are drawn from state CCDF plans. The key element extracted from these data is the maximum base-eligibility limit for families with different numbers of children. Although these data are freely available in a single spreadsheet (which has already been used by the proposed research team), they only cover a portion of the study period. Consequently, analysis using eligibility-threshold data is restricted to years after 2008.

AMERICAN COMMUNITY SURVEY

The American Community Survey is an ongoing survey that provides data every year and covers a broad range of topics about demographic, economic, social and housing characteristics. This project specifically used micro area data provided by IPUMS, which gives responses on the individual level and household level. This project utilized the one-year estimates of the population to conduct analysis, using variables on employment status, employment type, hours normally worked in a week, family size, ages, wage, school attendance, racial characteristics, geographic characteristics.

Appendix B. Variables

POVERTY

Poverty status was determined using the ACS variable Poverty. This variable measures family income as a percentage of the poverty line. A family was deemed to be in poverty if this variable was less or equal to than 100 and in deep poverty if less than or equal to 50.

RACE/ETHNICITY

Racial and ethnic categories were broken down by the categories as defined by the ACS. In order to remove multicollinearity in regression methods, all Hispanic families were coded as Hispanic without respect to other racial or ethnic identifiers, meaning that whatever race they identified as in the ACS (Black, white, Latino) they were instead recoded as Hispanic.

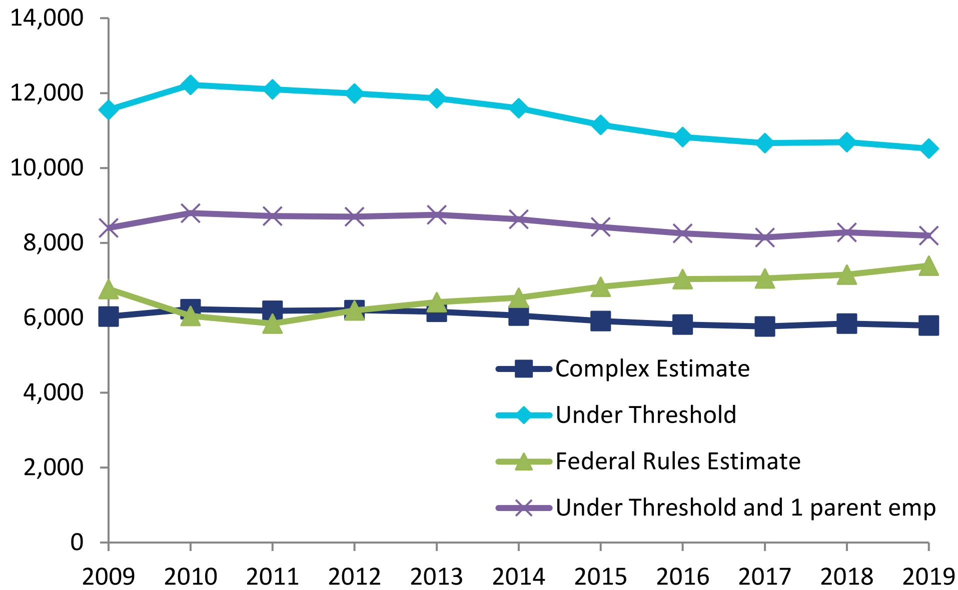
Appendix C. Comparing Eligibility Using Simple and Complete Model of Eligibility Rules

Creating a detailed estimate of the number of eligible families across states can be a time-consuming and laborious process, since it requires cross referencing of administrative policies across states and years. As a supplementary analysis, the research team investigated whether estimates of eligibility were substantially different using simpler methods, such as using just the eligibility income threshold for families with children under 13. It was discovered that this strategy greatly overestimated the number of eligible families, with important biases by family subgroups. While controlling for year and state, the simpler model overestimates the number of eligible Hispanic and white families just under 100% each, and black families by 60%. It overestimated the number of eligible families by income status even more: those in deep poverty by 120% (x 2.2) and moderate poverty by 170% (x 2.7).

A slightly better strategy was to estimate eligibility based on whether the family has at least one employed parent. This approach required an additional computational step and necessitated the use of ACS micro data rather than existing census tables. This slightly more sophisticated measure exhibited smaller but still significant biases.

Another estimation procedure was to use 85% of the median income, or the federal rules measure as is reported by the ACF. This method was also a little more computationally difficult, as it required computing the median income of each family size for each state and it required knowing the employment status of each parent. Unlike the previous methods, this required all parents to be employed. In early years this measure lined up well with the research team's more complex methods, but over time the estimates diverged.

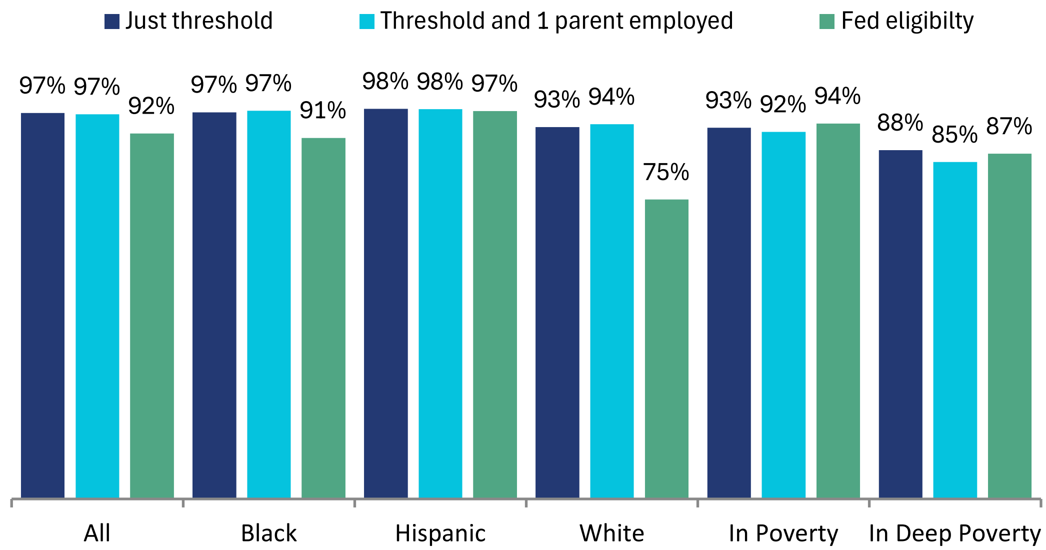
Figure 14. National Estimates of CCDF Eligible Families Using Simple vs Complex Models



On aggregate levels, each model was a rather strong predictor of trends in the more complex model for the total population, as each explained over 90% of the variation in the complex estimate while including state and year fixed and random effects. Each model did a good job of predicting temporal variation in participation by Hispanic and Black families, but the federal eligibility model (using 85% the median income) was far less accurate at predicting white families than the other models.

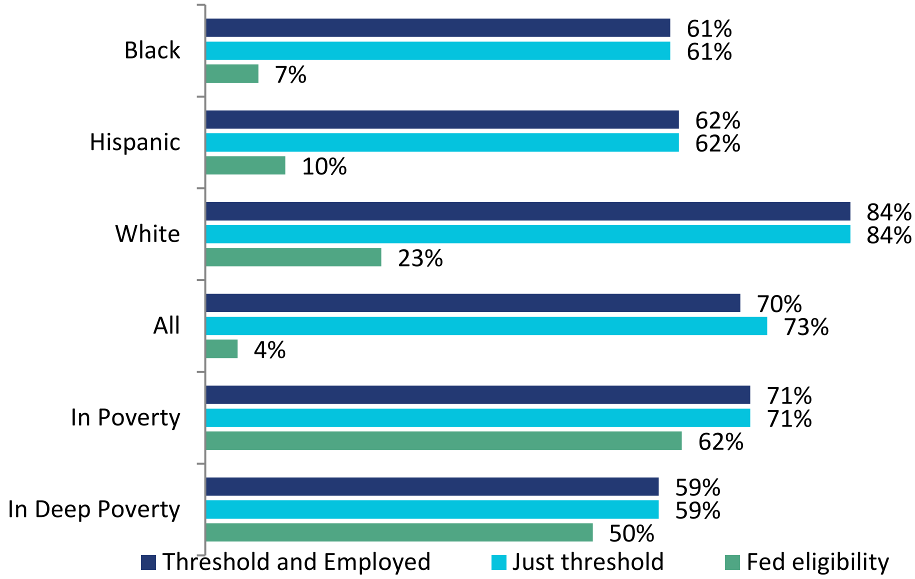
These models did less well at explaining how eligibility of families in poverty changes over time. This may have been due to changes in eligibility criteria related to family income. Thus, resulting in a bias where the simple model overestimates the number of eligible families that are in poverty.

Figure 15 R-Square for Time Trends While Using the Simpler Models to Predict for the More Complex Ones



The alternative models did a poor job of predicting changes within states. These estimates appeared to just track the differences between states, and not the trends within them. The R square for within the panels while utilizing fixed effects were dramatically lower. In fact, the estimates for the federal eligibility have weak correlation, which was likely caused by the divergence in trends between the two models that grows over time. This impact was much bigger for racial groups, than those in poverty.

Figure 16. R-Square for Within Panels While Using the Simpler Models to Predict for the More Complex Ones



Are We Making Progress?

TRENDS IN THE US CHILD CARE SUBSIDY PROGRAM

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