STATE POLICY RESPONSES TO COVID-19: EXAMINING THE IMPACT ON MICHIGAN'S CHILD CARE ASSISTANCE PROGRAM

Using administrative data, the research team analyzed the impact of policy changes to Michigan's child care assistance program (Child Development and Care, or CDC) on families, children, and providers. These policies were designed to stabilize the child care marketplace in general in the wake of the COVID-19 pandemic, but also to make it possible for child care providers to remain solvent despite stay-at-home orders and other disruptions caused by the pandemic.

The policy changes examined for this brief included those instituted during 2020 (with some continuing into 2021):

- Allowing providers to bill for enrolled children who were absent due to the pandemic, beyond the 360-hour annual maximum, even if the facility was closed.
- Offering Child Care Relief Fund grants to providers to help with their operating expenses. Requiring child care rate reductions/credits by providers to parents as part of the Child Care Relief Fund grant terms. (These were not limited to CDC recipients.)
- Extending the redetermination period by six months (for cases that came due in March through June 2020).
- Allowing providers to bill for school-aged children who were engaged in remote learning while in care.

The analysis of administrative data is part of a larger study on the effects of child care assistance program policy changes being carried out by Public Policy Associates, Inc. (PPA). This is being done in partnership with the Michigan Department of Education (MDE), which administers the CDC program, and the Michigan Department of Health and Human Services (MDHHS), which determines eligibility for the program.

The effects of child care policy changes were estimated by comparing subsidy utilization patterns in 2020 to similar time points in 2019 using multiple statistical methods (including t-tests, multivariate regression, and survival analysis). The State implemented the policies at different points in time and were in effect for different durations, so policy changes were grouped together for particular periods of time for analysis. Three sets of policy changes were compared with the prior year:[1]

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[1] Seasonal identifiers are included for ease of interpretation.

- Policy Group #1 includes automatic increase in absence hours and billing of school-aged children, child care relief funds for providers, and the extension of the redetermination period. The time frame for this group is five pay periods (i.e., 10 weeks), between March 29 and June 6.

- Policy Group #2 includes the Child Care Relief Fund grants for providers[2] and child care rate reduction subsidies for parents. The analysis window for this group is the three pay periods between July 5 and August 15.

- Policy Group #3 includes the increase in absence hours by provider request and the allowing of billing for of school-aged children while learning remotely during the school day—six pay periods between September 27 and December 19.

PPA's focus in the analysis is understanding the impact of the policy changes on the continuity of care (whether a child remained with the same provider), the quality of care received (as indicated by provider star ratings in the state's Quality Rating Information System [QRIS]), intensity of family participation in the program (defined as the number of sequential weeks of subsidy use), and the degree to which providers continued to bill the program. The research team also analyzed the data by parent and child race and ethnicity, income, and geographic location.

When reviewing the findings, it is crucial to remember that these data provide information about payments, not whether children were actually receiving care from providers. Because providers were able to bill for children who were enrolled but not actually present, the administrative data does not provide clear information on whether a child was actually at the child care provider on a given day—only that they were on the approved list of enrolled children. As a consequence, the findings below are targeted on the degree to which clients and providers remained active in the program—whether they chose to keep their child enrolled with a provider and on the subsidy program even if they were being kept at home during the pandemic.

For example, because the new policies allowed providers to bill for absent children, it is impossible to directly measure whether there were breaks in continuity of care using payment data. However, provider payment data does allow insights into whether parents withdrew from their current provider or providers stopped serving a given child because of closures, slot reductions, or other reasons.

In addition, because the aim of these policies was to stabilize program participation, the hypothesis tested in the statistical analysis was that there was no meaningful difference between 2019 and 2020 patterns. This is quite different from the usual statistical approach, which is to test for differences that are unlikely to be random. The analysis was therefore based on equivalence (i.e., are 2020 outcomes roughly equal to 2019) rather than tests of differences. More details on the analysis are included in the methods section.

Recommendations

Overall, Policy Group #1 policies (automatic absence hours and school billing, provider grants, and extended redetermination) in March-June were associated with more stable participation in the CDC

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[2] Grants to providers extended across two different sets of analysis.

program by providers and families. Similar policies should therefore be considered in the event of other large-scale emergencies like pandemics and natural disasters.

The apparent success of simple, direct actions to support providers in stabilizing the child care marketplace for low-income families suggests that these strategies might be applied on a more permanent basis. Straightforward subsidies to providers and policies that are automatic carry lower administrative burdens and might help alleviate the long-term decline in the number of providers and encourage more families to participate in the child care subsidy program.

Further research is required to fully understand the impact of pandemic-related policies. Differential impacts by child age and geographic area should be investigated, as should both short-term outcomes before and after policy implementation and longer-term outcomes covering the entire range of policy interventions.

Results

After a sharp decline in March 2020, family and provider participation in the CDC program stabilized in August.

As might be expected, there was a substantial drop in participation in the CDC program associated with the outbreak of COVID-19. As presented in Figure 1, monthly CDC data included in the states Greenbook publication shows that the number of CDC recipients declined from about 35,000 in January 2020 to roughly 25,000 in August. What is notable is the stability in the number of CDC recipients beginning in August, despite the dramatic increase in COVID-19 cases in the second half of the year.[3]
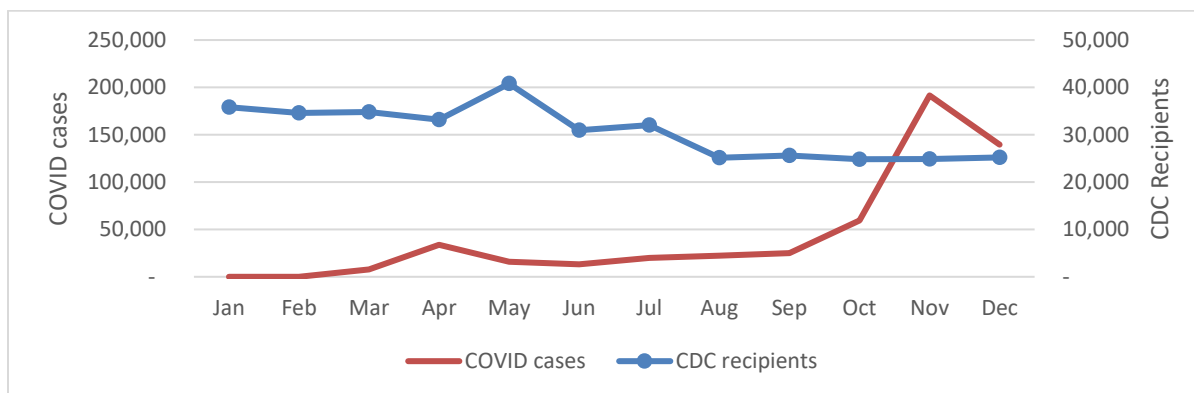

Figure 1. Trends in Number of COVID Cases & CDC Recipients (2020)

The administrative data also shows a sharp drop in the number of providers receiving CDC payments. From January 2019 through March 2020 (the month when stay-at-home orders began) there were an average of 5,522 providers participating in the program (see Figure 2). This number declined

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[3] COVID-19 case counts were obtained from Michigan's public data: https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173---,00.html.

precipitously beginning in the middle of March, from 5,388 to a low of 4,201 in the middle of June. The average number of providers between March 14 and the end of the year was 4,437, a 20% decline.
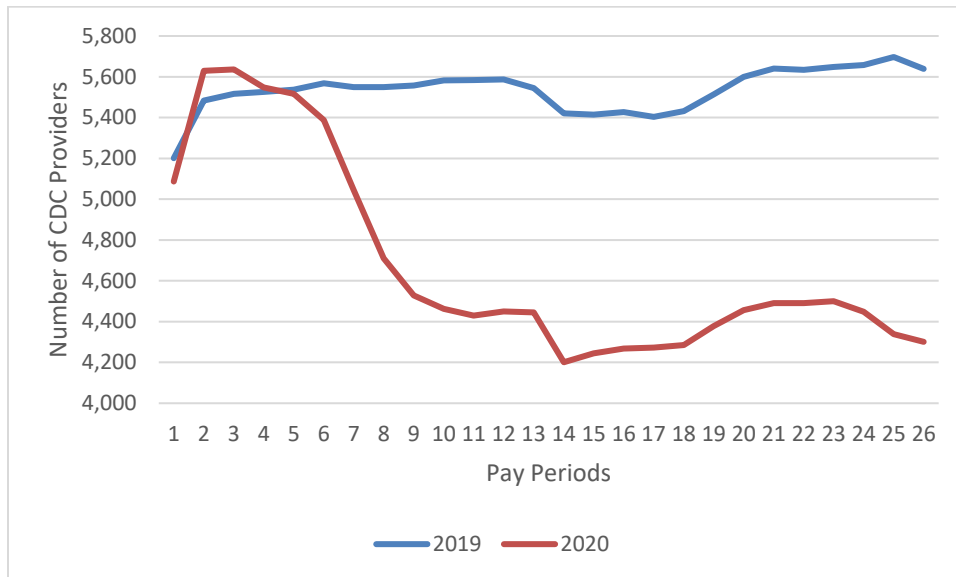
Figure 2. Providers Serving CDC Clients, 2019 & 2020

The relative stability of participation in the CDC program by providers and families after an initial drop suggests that the policies implemented may have helped stabilize the child care marketplace after the early shock of the pandemic, although there were still far fewer providers than prior to the pandemic. Detailed case-level analysis described below further investigates this possibility.

There was little change in the quality of providers serving families.

Although QRIS ratings were effectively frozen during the pandemic, there was still a possibility that higher-rated providers would be disproportionately affected, or that families would have incentives to attend lower-rated providers. Child care centers tend to have higher QRIS ratings and serve more children, so the COVID-19 safety protocols, which limited the number of children in attendance, could have resulted in disproportionately larger drops in CDC participation. However, analysis of the mean QRIS ratings associated with children participating in the CDC program indicated that quality ratings were essentially unchanged between 2019 and 2020. In general, the QRIS ratings were quite similar to the same pay periods in the previous year. The only exception was for Policy Group #3 (application for increased absence hours and school-aged billing), which saw a decline from 3.31 to 3.2 stars and was just outside the statistically significant equivalence bounds. However, robustness tests using ordinal regression did not identify any meaningful difference. There was also no difference in the likelihood of a child receiving a subsidy being in a starred program (of any rating).

Children were just as likely to remain with the same provider during the early months of the pandemic as the previous year.

The payment data suggests that the policies may have contributed to greater continuity of care. The mean number of pay periods with the same provider for any of the three time spans under examination remained fairly consistent. For Policy Group #1, the average number of pay periods increased slightly from 4.6 to 4.7, while they declined slightly for Policy Group #2 (2.84 to 2.81) and Policy Group #3 (5.4 to 5.3). These slight changes are not statistically significant.

Policies in effect during the early stages of the pandemic (Policy Group #1), which included automatic increased in authorized hours and school-aged billing, were associated with somewhat higher levels of continuity of care than at the same time the previous year, as measured by survival analysis. In 2020, children were more likely to remain with their provider for all five pay periods. The average rate of persistence was 87% in 2020 compared with 81% in 2019 (controlling for other factors). This is very likely due to the policy that automatically paid providers for enrolled children whether or not they were actually in attendance. There was no difference in the likelihood of breaks in continuity compared with the prior year for the other groups of policies.

Families were more likely to remain in the CDC program earlier in the pandemic but exited at a higher rate in later periods.

As with continuity of care, there were quite different patterns in rates of family persistence in the program under the first set of policies compared with those later in the year. During the time in which Policy Group #1 was in effect, families had a slightly higher average number of pay periods in the program as compared with the prior year, and no difference in the likelihood of a break in participation.

Family persistence was much weaker during the periods of Policy Group #2 (grants to providers and rate reductions for parents) and Policy Group #3 (application for increased authorized hours and school-aged billing). While there was no major difference in the total number of pay periods of participation compared with the previous year, families were much more likely to have breaks in service in 2020: 69% more likely with Policy Group #2, and 92% more likely with Policy Group #3.

There were fewer providers of all types serving CDC clients.

During each of the policy groups under analysis, there were fewer child care providers who received CDC program payments than during the prior year: 17% fewer in the first set of policies (automatic increased hours and school-aged billing, grants to providers, extended redetermination), and 21% fewer in the other two policy groups. Similarly, the total number of children served was 12% lower under Policy Group #1, 26% lower in Policy Group #2, and 25% lower in Policy Group #3. Although centers experienced a steeper decline in program participation during the early stages of the pandemic, the share of children served by provider license type (family, group, center) saw little change from the previous year.

The results suggest that child care providers were more likely to stop serving CDC clients (at least temporarily) during spring and fall 2020 than during the previous year. Controlling for provider type, there was a greater likelihood of breaks in program participation for the policies in place at the beginning and end of the pandemic (Policy Group #1 and Policy Group #2)

During Policy Group #1, providers were 47% more likely to have a gap in receiving payments. Policy Group #3 saw a 35% higher likelihood of breaks. By contrast, there was no greater likelihood of breaks during the summer (Policy Group #2). The apparent difference in results with respect to the participation in the CDC program by families as opposed to providers should not been seen as a contradiction, as providers can serve different numbers of children, and as the provider-level analysis controls for types of providers.

The policy changes did not have a differential impact by racial, ethnic, or income group.

A key aim of this study is to examine the differential impact of policies on disadvantaged subgroups—in particular, racial and ethnic minorities in Michigan, and those in severe poverty. All of the analyses described above were tested to determine whether parents that were African American, Hispanic, or reported no income had different experiences than parents that were White and CDC families at higher income levels. After using multiple statistical methods (see the methods section for details), the results were quite consistent: in no instance was there a statistically or substantively significant difference in outcomes. This does not mean that there are not inequalities in access or utilization across subgroups—only that differences across subgroups in CDC participation were unchanged between 2019 and 2020.

The results were not an artifact of geography.

An important question to address is whether the results of the analysis are due to geography rather than policy. There is a considerable variation in the functioning of child care marketplaces across different parts of Michigan (for example, in access to child care), in the timing and intensity of COVID-19 outbreaks, in population density, and in local responses to the pandemic. In other words, the results could be driven largely by a few high-population counties that are quite different from the state as a whole. To account for this possibility, robustness tests were conducted that controlled for geographic differences (either as counties or groups of similar counties). Several statistical tests were employed to test for the impact of geography (see the Methods section for details), but none of them had any appreciable impact on the results. In short, although there are important differences in program utilization across geographic regions, they do not account for the impact of policies.

Table 1. Summary of Key Results

Focal Group	Outcome	Policy Group 1		Policy Group 2		Policy Group 3	
		2019	2020	2019	2020	2019	2020
Children	Mean number of consecutive pay periods with the same provider	4.57	4.69	2.84	2.81	5.41	5.29
	% remain with same provider entire period	82%	87%	89%	87%	79%	73%
	Mean star rating of provider	3.30	3.25	3.31	3.20	3.33	3.20
	% pay periods in a starred program	66%	68%	67%	67%	66%	65%
Families	Mean # of pay periods	4.35	4.59	2.73	2.68	5.04	4.94
	% remain entire period	85%	88%	89%	87%	81%	74%
Providers	% remain entire period	91%	87%	94%	95%	88%	85%

Methods

All case-level analysis used 2019-2020 administrative data from Michigan's Bridges system, which includes payments made to providers for families receiving the subsidy. Payments are made for 2-week periods. Cases in which there were multiple parent identifiers associated with a specific child, provider identifiers were missing, or in which multiple providers received payment in the same pay period for a child were excluded from the analyses. Race, ethnicity, and geographic location for children and parents were imputed where there was missing data. Inferential analysis did not link parent, child, or provider identifiers across time periods; as a simplifying assumption, they were treated as unique within each calendar year.

All parents of any race identifying as Hispanic were grouped into a Hispanic category, such that all other racial categories were defined as non-Hispanic. Families were defined as in extreme poverty if their modal (most common) category across pay periods was that they had no reported income.

The analysts used t-tests to calculate differences in mean number of pay periods by the same provider, mean star ratings by child (with non-rated programs excluded), mean number of pay periods of program participation by families, and mean number of continuous spells by families. Logistic regression was used to estimate differences in whether a child remained with the same provider for the entire span of pay periods in the given analysis, whether a child was ever in a starred program or remained in one for the full span of time, family persistence over the entire time span, and provider participation for all pay periods in the analysis. The analysts used ordinal regression to estimate

differences in star ratings, with star ratings using the modal category where there were multiple star ratings listed. Likelihood-of-exit analysis was conducted with survival analysis via Cox regressions. All regression analyses were run with and without controls for provider type, which had no effect on results.

Child-level regression analysis controlled for child race and ethnicity and family extreme poverty using dummy variables, and included child age. Family-level regression analysis used parent race, ethnicity, and extreme poverty. Provider analysis controlled for provider type, defined as license-exempt (where appropriate), family home, group home, center-based care, and all other[4]/multiple.

The main predictor in each analysis was the year, comparing the appropriate group of pay periods in 2020 to the identical pay periods in 2019. Equivalence testing was used to determine substantive significance. All results were first converted to effect sizes, with standard t-tests using Cohen's d. Odds ratios were converted to Cohen's d using the method described in Chinn 2000. Hazard ratios were converted to Cohen's d using the method described in Azuero 2016. Equivalence tests were conducted using the TOST procedure (see Lakens 2017). The standard Cohen's d level of .20 for a "small" effect size was used as the equivalence bounds. A Cohen's d of +/- .2 converts to an odds ratio of 1.44 to .70 and a hazard ratio of 1.29 to .77. For each analysis, a difference was deemed to be substantively significant if the entirety of the 90% confidence interval was outside of these ranges.

Examination of equity of impact was conducted first via moderator analysis using an interaction term of subgroup and year, run separately for each subgroup of interest with statistical significance used to determine whether there was a differential impact by subgroup. A second approach used equivalence testing, partitioning the regression model into two samples (one for the subgroup of interest and the other for the reference category), and then determining whether the difference is outside the equivalence boundary (as described above). Geographic impacts were conducted using both fixed-effects and random effects (multi-level) models. Geography was classified by counties and by a modified PUMA classification that aggregated counties with multiple PUMAs to the county level.

References

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[4] Providers affiliated with tribal communities or the military.