



# Stability of Subsidy Participation and Continuity of Care in the Child Care Assistance Program in Minnesota

Elizabeth E. Davis, Caroline Krafft and Kathryn Tout  
University of Minnesota and Child Trends

## Introduction to the Minnesota Child Care Choices Research Brief Series

The Minnesota Child Care Choices Research Briefs are designed to answer questions of interest to state child care administrators, county agency staff, and other early childhood stakeholders. The questions they have include: How do parents make decisions about child care arrangements? What factors affect whether a family uses child care subsidies? How will Minnesota's QRIS affect families with low incomes, particularly those eligible to receive a child care subsidy? What family, community, and child care characteristics affect child care stability and reliability, and parents' employment outcomes?

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## INTRODUCTION

The Minnesota Child Care Assistance Program (CCAP) provides subsidies to help low-income families pay for child care while parents are working, looking for work, or attending school. The program can help make quality child care affordable and is intended both to support employment for low-income families and to support the development and school-readiness of children. Research on how children and families are using the program can help policymakers improve program design and implementation to support these dual goals. In this brief, we use CCAP administrative data to analyze some key aspects of how families participate in the program in Minnesota. This research updates and expands an earlier study<sup>1</sup> and follows families over a longer time period. The key objectives of this study are to understand how long children participate in CCAP, how long their subsidized care arrangements last, and whether they are likely to return to the program after a break in subsidy receipt. The continuity of children's subsidies and subsidized care arrangements has important implications for children's development and families' ability to maintain employment.<sup>2</sup>

## DATA AND METHODS OVERVIEW

The data on children and families in CCAP were obtained from the Minnesota Department of Human Services under a research agreement. The monthly data cover four full years, from January 2009 to December 2012. A child is identified as having a specific subsidized arrangement in a calendar month if he or she was cared for by a child care provider that was paid for in part or full by the CCAP program. If the child received care from any provider paid by CCAP during a month, the child is considered to be "on CCAP" or receiving a child care subsidy. A spell is defined as a series of uninterrupted consecutive months receiving subsidy (when examining continuity of subsidy receipt) or with a particular arrangement (when examining arrangement continuity).<sup>3</sup> A child's CCAP spell

<sup>1</sup>Elizabeth E. Davis et al., *Continuity of Care and Participation in the Child Care Assistance Program* (Bethesda, MD: Child Trends, 2013).

<sup>2</sup>Deana Grobe, Roberta B. Weber, and Elizabeth E. Davis, "Why Do They Leave? Child Care Subsidy Use in Oregon," *Journal of Family and Economic Issues* 29, no. 1: 110–127; Heather Sandstrom and Sandra Huerta, *The Negative Effects of Instability on Child Development: A Research Synthesis, Low-Income Working Families Discussion Paper No. 3.*, (Urban Institute: 2013); Henry Tran and Marsha Weinraub, "Child Care Effects in Context: Quality, Stability, and Multiplicity in Non-Maternal Child Care Arrangements during the First 15 Months of Life," *Developmental Psychology* 42, no. 3 (2006): 566–82; Yoonsook Ha, "Stability of Child-Care Subsidy Use and Earnings of Low-Income Families," *Social Services Review* 83, no. 4 (2009): 495–525; Marcia K. Meyers, Theresa Heintze, and Douglas A. Wolf, "Child Care Subsidies and the Employment of Welfare Recipients," *Demography* 39, no. 1 (2002): 165–79; Gina Adams and Monica Rohacek, *Child Care Instability Definitions, Context, and Policy Implications* (Washington, DC: Urban Institute, 2010).

<sup>3</sup>In this brief, the length of a spell on CCAP or in a child care arrangement is based on payment for child care services and is distinct from the length of a family's eligibility period for CCAP.



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This brief is based on data from the Child Care Assistance Program (CCAP). CCAP is Minnesota's child care subsidy program funded by the Child Care and Development Fund (CCDF) and a combination of federal, state and local government resources. Counties administer the program. Families are eligible for CCAP if their income is below 175 percent of the federal poverty level, adjusted for family size. Families remain eligible for CCAP until their income reaches 250 percent of the federal poverty level, or when their co-payment for child care has exceeded the cost of care. Three types of child care assistance are available:

1. Minnesota Family Investment Program (MFIP) – Diversionary Work Program (DWP) Child Care: This assistance covers child care expenses associated with approved work activities that are authorized in a family's Employment Services Plan.

2. Transition Year Child Care: This assistance covers child care expenses during work hours (a minimum of 20 hours per week), or time-limited job search, for up to 12 months after the MFIP/DWP case has closed.

3. Basic Sliding Fee (BSF) Child Care: This assistance may be available to families who meet the income eligibility guidelines, have a parent working at least 20 hours per week or participating in approved education or in time-limited job search, and who are not receiving MFIP/DWP or Transition Year child care. Priority groups for these limited funds include basic education students, families moving off Transition Year

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ends (and the child is said to exit the subsidy program) when a child does not receive subsidy for one or more calendar months. A spell with a particular provider ends when a child does not receive subsidized care with that provider for one or more months. It is important to note that even if a child exits CCAP, that child may still continue with a particular child care arrangement, but we do not observe this continuation because the data include only subsidized arrangements.

Although we have four years of data, many spells of subsidy receipt began before the study period (prior to January 2009) and many continued after the end of the study period (December 2012). Spells that began before the start of the study are called "left-censored" spells, and we exclude these from our study because their full length cannot be known. Spells that continue after the end of the study period are called "right-censored" spells. Although we cannot know how long these spells will ultimately be, we do know how long they have been so far, and with appropriate statistical methods, these spells are incorporated into the study. Over the four-year period, 84,986 children began a spell of CCAP participation after January 2009, and these children are the basis of the analysis in this brief. The characteristics of the children and their families in the sample are described in the appendix, Table A-1.

In addition to examining spells of subsidy receipt and length of subsidized arrangements, we also analyze whether children return to CCAP after exiting. How likely are they to return to CCAP? How quickly do they do so? The answers to these questions are based on two concepts. Similar to the idea of a spell of CCAP participation, we compute the length of gaps in participation, that is, the number of months in a row a child who was on subsidy goes without subsidy. These gaps end if a child again receives subsidized care, referred to as a return to CCAP. Because we are looking at children who were on subsidy during the study period, none of the gaps are left-censored. However, many gaps are right-censored, representing children who have not yet—and may never—return to CCAP. These right-censored gaps are accounted for with appropriate statistical methods.

We present the findings of the analyses in three sections. First, we examine the length of uninterrupted spells of CCAP participation for all children and by subgroups with different characteristics. Second, we examine the length of subsidized care arrangements for all children and by subgroups. Last, we look at whether and when children return to CCAP after a gap in CCAP participation.

## FINDINGS

### Length of continuous spells of CCAP participation

#### **For how long do children receive CCAP subsidies?**

Given the variety of circumstances and needs of families receiving child care assistance, it is not surprising that the duration of continuous participation in CCAP varies widely across children. One-quarter of children leave the subsidy program quite quickly, within four months. Another quarter, however, stay on continuously for at least 18 months. The median subsidy spell length is eight months, meaning that half of the children who start receiving child care assistance have left the program (for at least one month) after eight months, while the other half continue on CCAP for longer than eight months. At eight months, the median CCAP spell length in Minnesota is longer than in other states, and has remained the same over the past four years.<sup>4</sup>

<sup>4</sup>The same median length in Minnesota (eight months) was found in Davis et al., *Continuity of Care and Participation in the Child Care Assistance Program* using 18 months of data from 2009-2010. See Kendall Swenson, *Child Care Subsidy Duration and Caseload Dynamics: A Multi-State Examination* (U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, 2014) for information on subsidy duration in other states.

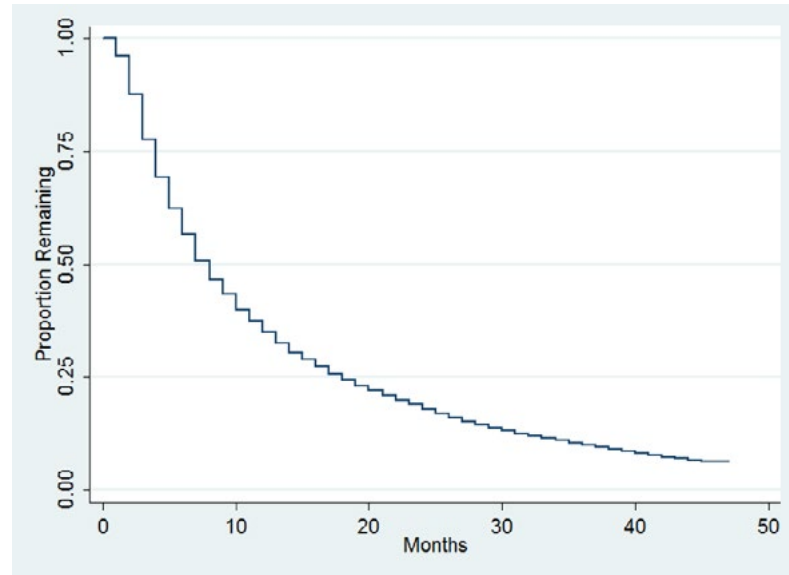
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Care, families receiving subsidy in one county and moving to another Minnesota county, and families in which at least one parent is a veteran.

During state fiscal year 2013, Minnesota served an average of over 31,000 children per month, at a cost of approximately \$200 million federal, state and county dollars.

Another way to demonstrate the variation in subsidy continuity among children who participate in CCAP is by showing the proportion of children remaining on subsidy by the length of time since starting the spell (e.g., one month from start, two months, etc.). Figure 1 shows that some children leave CCAP rapidly, after only a few months, while others receive child care assistance continuously for two or three years. As noted earlier, half of the children have left by eight months while one-quarter continue on CCAP for 18 months or more.

**Figure 1. Proportion of children continuously receiving child care assistance in Minnesota, by the number of months since starting spell**



Source: Authors' calculations based on Minnesota CCAP administrative data.

Note: Spell lengths were measured using the Kaplan-Meier method and include the first non-left censored spell for each child.

### ***Does the length of CCAP participation vary with child characteristics?***

While the administrative data do not provide information on reasons for exiting CCAP, we expect that differences in the length of time that children participate in CCAP are related, at least in part, to changes in family circumstances and needs. We next explore whether there are differences in the length of time that children participate in CCAP for different subgroups based on child, family, and provider characteristics.

Table 1 presents the percentage of children continuously receiving subsidy by the length of their spell, for all children and by subgroup based on child or family characteristics. After three months, 78% of all children are still receiving subsidy (that is, 78% of spells continue after three months). At six months, 57% of children remain. By nine months, only 43% of children remain, and at a year (12 months), around a third (35%) of children continue to receive child care assistance without a break. A quarter (24%) of children continue past 18 months, 18% past two years, and 10% for more than three years.

As shown in Table 1, there are differences in the patterns of continuous subsidy receipt for certain subgroups. While the pattern of CCAP spell lengths does not differ by gender,<sup>5</sup> there are differences by ethnicity in the time children remain on subsidy.<sup>6</sup> American Indian/Alaskan children, Asian children, and Hispanic/Latino children leave subsidy more rapidly than children of other ethnicities and have shorter continuous spells of CCAP participation. Older children also have shorter spells. For instance, after 12 months, 39% of children zero to two years old remain on subsidy, 34% of children three to five years old remain on subsidy, and only 28% of children six years or older remain on subsidy. There are only small differences by household size, with children from households with six or more members having slightly longer spells of subsidy participation than those in smaller households. Children of single parents also have slightly longer spells; for instance, after six months, while 57% of children of single parents remain on subsidy, only 54% of children from two-parent households do so. Those receiving food stamps or who are on MFIP/DWP<sup>7</sup> have shorter spells than those not receiving such benefits, but those receiving housing assistance have longer spells than those not receiving housing assistance.<sup>8</sup>

The reasons that families receive child care assistance are recorded in the data as related to training and education, employment, or both (as well as a small category of other reasons, including child protective services). The reason for receiving subsidy is significantly related to how long children participate in CCAP. Children receiving subsidy because of parents with both employment and training/education have longer spells, while those with only training/education or another reason have shorter spells than those with only employment as the recorded reason. With regards to the CCAP sub-programs,<sup>9</sup> those in the Basic Sliding Fee (BSF) program had the longest spells, while those on MFIP/DWP and Transition Year child care had relatively shorter spells.<sup>10</sup>

**Table 1. Percentage of children continuously receiving subsidy, by number of months since starting spell**

Spell continues at least:	3 mo.	6 mo.	9 mo.	12 mo.	18 mo.	24 mo.	36 mo.
All children	78	57	43	35	24	18	10
<b>Gender</b>							
Female	78	57	43	35	25	18	10
Male	78	57	43	35	24	18	10
<b>Race/ethnicity (multiple possible)</b>							
American Indian/Alaska Native	72	46	33	24	15	10	5
Asian	76	54	40	30	20	14	7
Black	78	57	43	35	25	18	10
Pacific Islander	78	57	38	28	17	12	7
White	78	58	45	36	26	19	11

<sup>5</sup>We test the statistical significance of differences across subgroups using a Cox proportional hazards model, which allows us to assess whether there are significant differences after accounting for other characteristics. So, for example, there are not significant differences by gender after accounting for other characteristics.

<sup>6</sup>All differences by race/ethnicity are statistically significant except for Pacific Islanders.

<sup>7</sup>Minnesota administers TANF funds through the Minnesota Family Investment Program (MFIP) and the DWP (Diversionary Work Program). Families may receive cash and/or food assistance.

<sup>8</sup>All differences by child age, household size, and benefit receipt are statistically significant.

<sup>9</sup>Families may receive CCAP under a variety of different sub-programs, including (1) as part of their MFIP/DWP support, (2) during the year after families were on MFIP/DWP (referred to as "Transition Year") while working or searching for work, and (3) while working, looking for work, in training, or in education and falling within certain low-income eligibility guidelines (Basic Sliding Fee).

<sup>10</sup>All differences by reason for CCAP, program, and provider type are statistically significant, except legal non-licensed care is no different from centers after accounting for multiple characteristics.

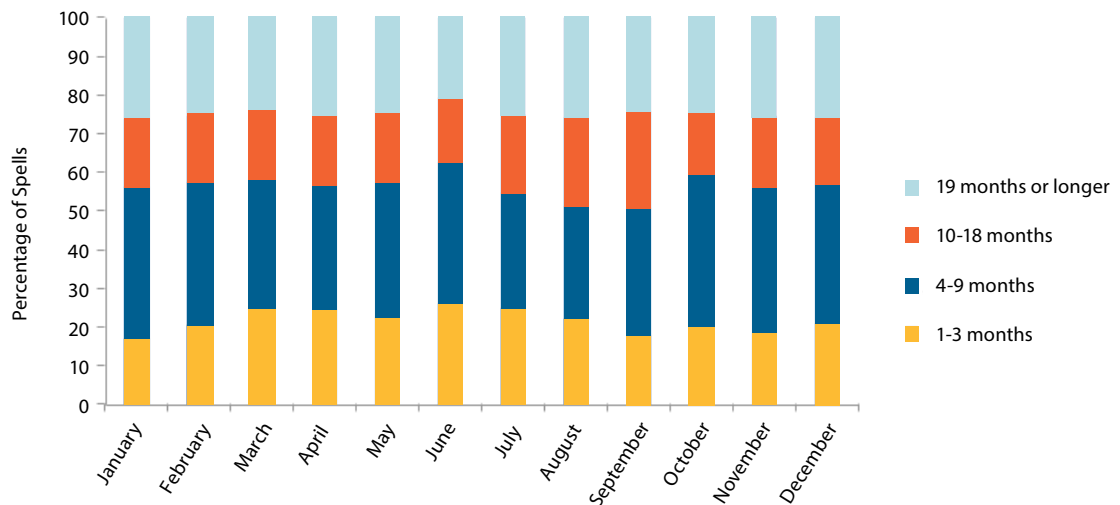
Spell continues at least:	3 mo.	6 mo.	9 mo.	12 mo.	18 mo.	24 mo.	36 mo.
Hispanic or Latino	74	52	38	30	21	15	8
Child age							
0-2 years	81	61	48	39	29	22	14
3-5 years	79	57	43	34	23	16	8
6+ years	71	48	36	28	18	13	6
Household size							
0-3 persons	78	56	43	34	24	18	10
4-5 persons	77	56	43	35	24	18	10
6+ persons	79	59	46	38	26	19	10
Single parent							
No	76	54	41	32	21	15	8
Yes	78	57	44	36	25	19	11
Food stamps							
No	82	63	51	42	31	24	14
Yes	77	55	42	33	23	16	9
MFIP/DWP							
No	79	60	47	39	28	21	12
Yes	76	53	39	31	21	15	8
Housing assistance							
No	77	56	42	34	23	17	10
Yes	80	60	48	40	29	22	12
Reason for CCAP							
Employment	78	58	45	37	26	19	11
Training/education	75	50	35	24	17	11	6
Emp. and train/ed.	80	59	44	35	24	16	8
Other	67	42	29	23	15	10	5
Program							
Basic Fee	81	63	50	42	30	23	13
MFIP/DWP Child Care	76	53	39	31	21	15	8
Transition Year	75	55	42	34	24	18	10
Multiple programs	79	57	41	32	21	14	.
Provider type							
Center	76	55	43	34	24	18	10
Legal family child care	79	58	45	36	26	19	11
Legal non-licensed care	80	58	43	35	23	16	8
Multiple	86	69	55	45	29	23	12

Source: Authors' calculations based on Minnesota CCAP administrative data.

Note: Spell lengths were measured using Kaplan-Meier method and exclude left-censored spells that began in January 2009 or earlier.

There is substantial seasonality in CCAP participation, as evidenced by differences in the length of children’s spells depending on the month in which the spell began. Figure 2 shows the distribution of spell lengths by the start month of the spell. There are relatively more short (one- to three-month) spells in the months leading up to summer and during the summer (March through August) than during the other months of the year. Some spells of CCAP participation that begin in the spring may end during the summer when families may use alternate, non-subsidized care. Another reason for shorter summer spells is that children starting spells in the summer may end subsidized care when they return to school.<sup>11</sup>

**Figure 2. Length of subsidy spells in months, by calendar start month**



Source: Authors’ calculations based on Minnesota CCAP administrative data.

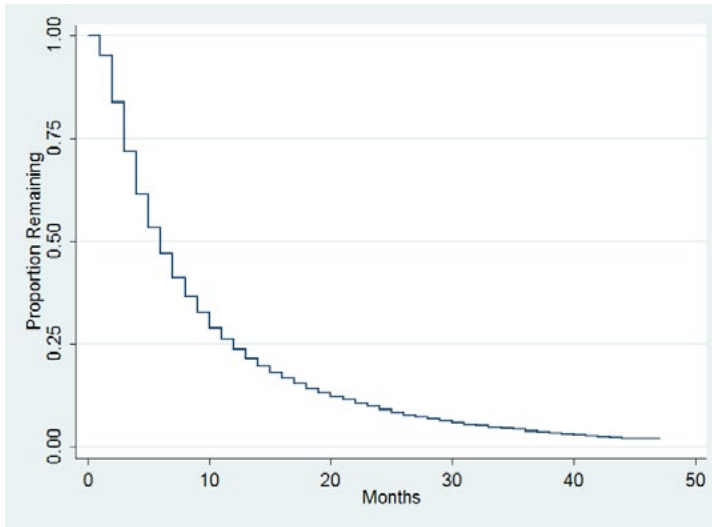
Note: Spell lengths were measured using Kaplan-Meier method and exclude left-censored spells that began in January 2009 or earlier.

### Continuity of subsidized care arrangements

During a spell of subsidy receipt, children may have more than one child care provider, either concurrently or sequentially. In this section, we investigate the length of children’s subsidized arrangements in terms of the number of consecutive months until there is a break of at least one month in subsidy payments for that arrangement. Figure 3 presents the proportion of arrangements continuing by month. The 25th percentile for the length of an arrangement is three months, the median six months, and the 75th percentile is 12 months. These are slightly shorter than the four months (25th percentile), eight months (median), and 18 months (75th percentile) for spells of subsidy receipt. For many children, the length of a spell of subsidy receipt is the same as the subsidized length of an arrangement.

<sup>11</sup>Compared to January, there are statistically significant differences in exit by start month for spells starting in February through July and October. There are not significant differences in other months.

**Figure 3. Proportion of subsidized arrangements continuing by month**



Source: Authors' calculations based on Minnesota CCAP administrative data.

Note: Spell lengths were measured using Kaplan-Meier method and exclude left-censored spells that began in January 2009 or earlier.

***How many different arrangements do children have within a month or a spell?***

Given that the length of subsidized arrangements is slightly shorter than for subsidy spells, some children must have more than one arrangement in a spell. Over all the months of subsidy data, on average children had 1.06 providers in a given month, which includes both children using multiple providers simultaneously and children who switched from one provider to another within the same calendar month. Looking at spells that started during the first two years of data,<sup>12</sup> almost a quarter (24.5%) of children had multiple providers during a spell (multiple providers occurred either in the same month or in sequence). So while the majority of spells of subsidy receipt involve one provider, a substantial share involve multiple providers.

**Leaving and returning to CCAP**

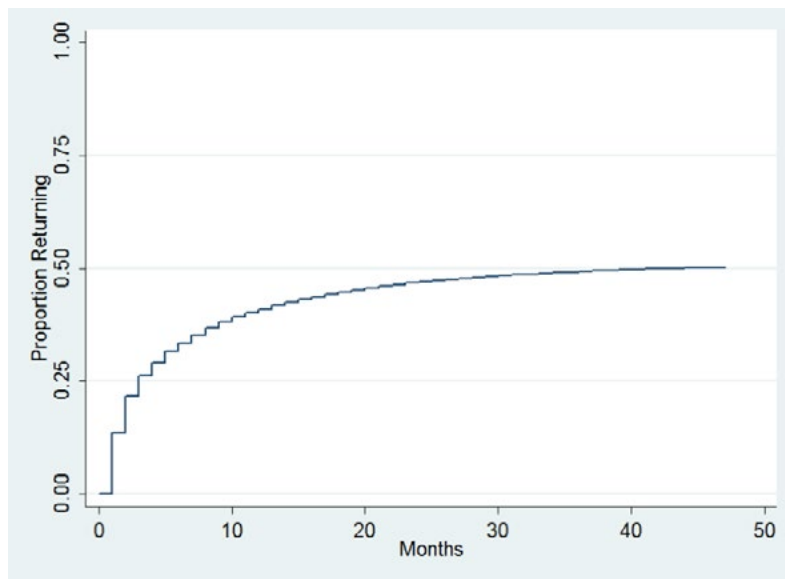
***When children stop using subsidy, how likely are they to start again?***

Figure 3 shows the proportion of children returning to the subsidy program after a gap in subsidy receipt of at least a month. Many children never return after exiting CCAP. While 25% of children return to subsidy within three months after exiting, it is only after 44 months that half of children have returned. Most of the children who return do so quickly. Of all the children who exit CCAP, 25% return within 3 months, 33% within six months, 41% within a year (12 months) and 47% within two years (24 months). Returns after a gap of more than two years are very infrequent.

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<sup>12</sup>We limit this analysis to the first non-left-censored spell that began in 2009 or 2010 only in order to reduce the number of subsidy spells that have not ended by December 2012. Of these spells, only 9.3% of spells were right-censored, that is, had not ended as of the end of the data period.

**Figure 4. Proportion of children returning to subsidy by number of months since start of first break**



Source: Authors' calculations based on Minnesota CCAP administrative data.

Note: Break lengths were measured using Kaplan-Meier method.

### ***Do returns vary by characteristics?***

The chances and timing of children's returns to subsidy after a period of non-participation vary by children's characteristics. Table 2 shows the proportion of children who have returned to CCAP by various points in time and by the characteristics of children, families, and the providers that were used while in CCAP. These characteristics were measured during the last month the child was on subsidy before exiting, as the data do not include information on the children after they have left CCAP. There are not substantial differences in returns by child gender.<sup>13</sup> American Indian/Alaskan children are the least likely to return within three months (only 23% do so), followed by Asian (24%) and white children (24%). Around 26% of Hispanic/Latino children and 30% of black children return within three months. After 24 months, Asian children are the least likely to have returned (only 38% do so), followed by white children (43%), American Indian/Alaskan, Pacific Islander (46%), and Hispanic/Latino children (46%). Black children are more likely to return within two years, with 54% returning in that timeframe.

Younger children, especially children zero to two years of age, are more likely to return to subsidy after they exit CCAP. Children three to five years and six or more years of age show similar rates of return in the short run, but in the long run, after 36 months, more three- to five-year-olds (47%) return than children six or older (41%). Children from mid-sized households (four or five persons) are the least likely to return. Children from small households (zero to three persons) are less likely to return in the short run than children from large households (six or more persons), but children from small and large households show similar patterns in the long run. Children from single-parent households are slightly more likely to return after exiting than children not in single-parent households. Those who were receiving food stamps, MFIP/DWP, or housing assistance are much more likely to return to subsidy than those not using these supports.

The rate and likelihood of returning to CCAP also varies depending on the reason the family had been

<sup>13</sup>All differences in breaks are statistically significant after accounting for multiple characteristics, except for by gender, for Pacific Islanders and in certain start months (compared to January, breaks in February-July and in September and December are significantly different).



receiving subsidy. Those who had received CCAP for training and education-related reasons are much more likely to return, both in the short and long run. Children whose program was MFIP/DWP are the most likely to return in the short run, and MFIP/DWP and Transition Year children have high chances of returning in the long run (note that they may return to a different sub-program, including BSF). Those who were on the Basic Sliding Fee program are similar to Transition Year children in the short run, but are less likely to return in the long run.<sup>14</sup> Children who were in centers prior to their exit from CCAP are the most likely to return, followed by children in legal non-licensed care and licensed family child care.

**Table 2. Percentage of children returning to CCAP within various months, by characteristics at start of first break**

Return within:	3 mo.	6 mo.	9 mo.	12 mo.	18 mo.	24 mo.	36 mo.
All children	26	34	38	41	45	47	49
<b>Gender</b>							
Female	26	33	38	41	44	47	49
Male	26	34	38	41	45	47	49
<b>Race/ethnicity (multiple possible)</b>							
American Indian/ Alaska Native	23	31	36	39	43	46	48
Asian	24	29	32	34	37	38	39
Black	30	39	44	47	52	54	57
Pacific Islander	28	33	37	41	45	46	50
White	24	31	35	38	41	43	45
Hispanic or Latino	26	33	37	40	44	46	48
<b>Child age</b>							
0-2 years	29	38	44	47	53	56	59
3-5 years	25	32	36	39	42	44	47
6+ years	24	29	34	36	38	40	41
<b>Household size</b>							
0-3 persons	26	34	39	42	46	48	51
4-5 persons	26	32	37	39	43	45	47
6+ persons	29	37	41	43	46	48	50
<b>Single parent</b>							
No	25	31	35	38	41	43	46
Yes	26	34	39	42	46	48	50
<b>Food stamps</b>							
No	22	27	31	33	36	38	40
Yes	28	36	41	44	48	51	53

<sup>14</sup>Some Minnesota counties have waiting lists for families seeking CCAP under the Basic Sliding Fee program; other programs have priority, which may affect the chances and timing of return.

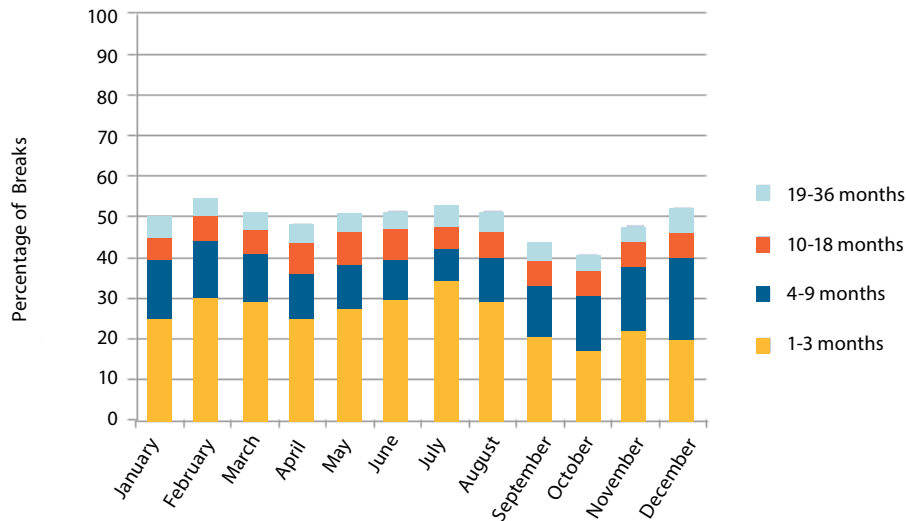
Return within:	3 mo.	6 mo.	9 mo.	12 mo.	18 mo.	24 mo.	36 mo.
<b>MFIP/DWP</b>							
No	25	32	36	39	42	44	46
Yes	28	37	43	46	50	53	55
<b>Housing assistance</b>							
No	24	31	35	38	41	43	46
Yes	36	46	52	56	61	64	66
<b>Reason for CCAP</b>							
Employment	25	32	36	39	43	45	47
Training/ education	35	44	49	52	56	58	61
Emp. and train/ed.	31	39	44	47	50	52	54
Other	26	35	40	43	47	50	52
<b>Program</b>							
Basic Fee	26	32	36	38	41	43	44
MFIP/DWP Child Care	28	36	42	45	49	52	54
Transition Year	24	32	37	41	45	48	50
Multiple programs	22	31	36	39	43	44	.
<b>Provider type</b>							
Center	27	35	40	43	46	49	51
Legal family child care	25	31	36	38	42	44	46
Legal non-licensed care	26	34	38	41	45	47	50
Multiple	33	41	48	50	53	55	57

Source: Authors' calculations based on Minnesota CCAP administrative data.

Note: Break lengths were measured using Kaplan-Meier method.

As was the case with the duration of subsidy spells (Figure 2), the probability and timing of returns to CCAP are related to the month in which the break in participation started. Figure 5 shows the percentage of children returning over time by the start month of their break. Children whose participation gap started in July were particularly likely to return within one to three months, as were children whose breaks started in February, March, June or August. Children whose break in participation started in the fall, especially September, were less likely to return quickly, or at all within three years. These patterns are likely to be related to summer versus school-year care needs.

**Figure 5. Percentage of children returning to CCAP, by length of break in participation and break start month**



Source: Authors' calculations based on Minnesota CCAP administrative data.

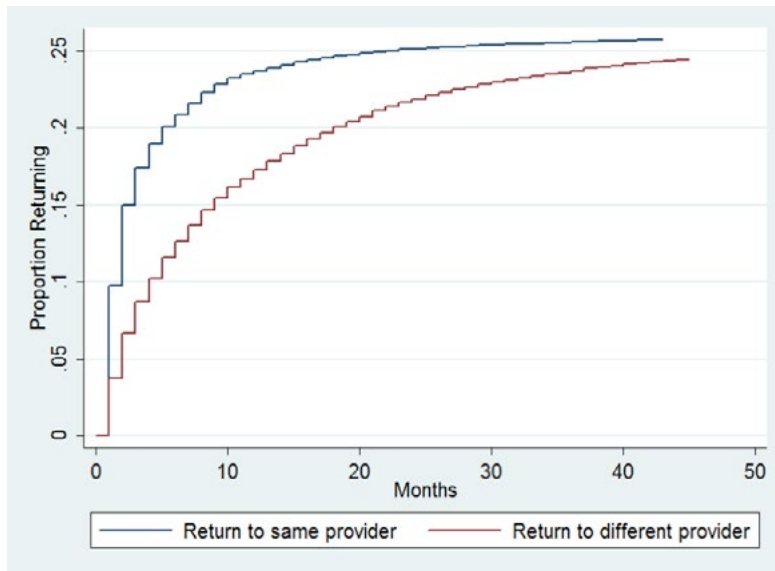
Note: Break lengths were measured using Kaplan-Meier method. Analysis is based on the first observed gap in participation.

***Do children return to the same provider or a different one?***

When children return to CCAP after a break in participation, in some cases they return to the same arrangement that had been previously subsidized. In other cases, a new subsidized arrangement begins. Figure 6 shows the proportion of children who return to the same provider<sup>15</sup> and who return to a different provider over time. Together, these returns add up to the overall probability of return shown in Figure 4. Children are more likely to return to the same provider overall, and are particularly likely to return to the same provider in the first few months after exiting subsidy. Returning to a different provider happens in both the short and long term.

<sup>15</sup>Returning to the same provider is defined as when a child returns, they have an arrangement with at least one of the providers they were using in their last month of subsidy receipt before their break.

**Figure 6. Proportion of children returning to subsidized care with the same or a different provider, by number of months since start of first break**



Source: Authors' calculations based on Minnesota CCAP administrative data.

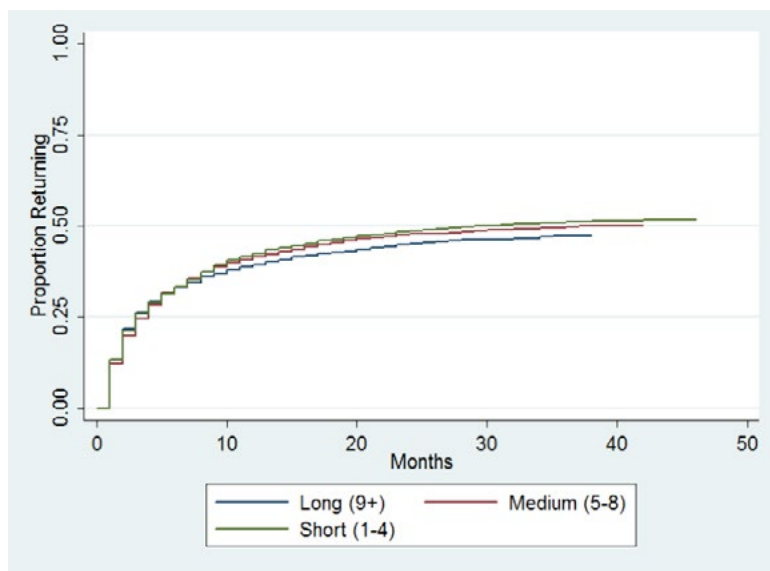
Note: Break lengths were measured using Kaplan-Meier method. Analysis is based on the first observed break in participation.

***Does the probability of return vary by the length of time previously spent on CCAP?***

Short spells of CCAP followed by frequent and rapid returns, often referred to as “cycling,” are of particular concern for program effectiveness and continuity of care.<sup>16</sup> However, in Minnesota there is very little variation in the pattern of returns to CCAP based on the length of the spell preceding an exit from subsidy. Figure 7 shows the proportion of children who return to subsidized care, by the length of the spell that preceded their exit. Dividing spells into short (one- to four-month), medium (five- to eight-month) and long (nine-month or more) categories, there is very little difference in the pattern of returns in the first ten months or so after leaving subsidized care. In the long run, there is a very slight difference between the pattern of returns for those who were on subsidy for long versus short or medium spells, with slightly fewer of those who had experienced long spells returning. These differences are very small, and the differences between returns for short and medium spells are almost non-existent. Children who have short spells of subsidy are no more likely to rapidly return to subsidy than children with medium or long spells.

<sup>16</sup>Gina Adams, Kathleen Snyder, and Jodi R. Sandfort, *Getting and Retaining Child Care Assistance: How Policy and Practice Influence Parents' Experiences, Occasional Paper* (Washington, DC: The Urban Institute, 2002).  
 “Child Care and Development Fund (CCDF) Program; Proposed Rule,” *Federal Register* 78, no. 97 (May 20, 2013): 29442–29498.

**Figure 7. Proportion of children returning to subsidized care, by length of preceding spell and month**



Source: Authors' calculations based on Minnesota CCAP administrative data.

Note: Break lengths were measured using Kaplan-Meier method. Analysis is based on the first observed break in participation.

## SUMMARY AND CONCLUSIONS

Previous studies have found that many spells of subsidy participation are short, with median spell lengths ranging from three to ten months in different states.<sup>17</sup> These studies also found that many children return for another (usually short) spell of participation in the subsidy program. Policymakers have raised concerns that short spells and cycling in and out of the subsidy program may not support the program goals of enabling stable employment of parents and continuity of care for children.<sup>18</sup> Disruptions in subsidy receipt may lead to disruptions in care arrangements.

In Minnesota, as in other states, there is considerable variation in how long children continuously receive child care assistance. While half of children used subsidy continuously for at least eight months, including a quarter of children who were on subsidy for 18 months or more, other children had shorter spells, including a quarter of children with spells of four months or shorter. The median subsidy spell length of eight months in Minnesota is as long or longer than in most other states that have reported similar results.

In Minnesota, as in other states, certain characteristics are associated with leaving the child care subsidy program more quickly. Children whose families received child care assistance for reasons related to education or training, rather than employment, had shorter spells. Those whose families received MFIP/DWP or Transition Year child care had shorter spells than those on the Basic Sliding Fee program. School-aged children had shorter spells than younger children, likely because of summer and school-year schedule changes. Certain subgroups were also more likely to return to CCAP, including those receiving MFIP/DWP or SNAP benefits, those in training or education (in contrast to employment), and those in center-based care.

<sup>17</sup>Meyers et al., *The Dynamics of Child Care Subsidy Use: A Collaborative Study of Five States*; Ha, "Stability of Child-Care Subsidy Use and Earnings of Low-Income Families."

<sup>18</sup>"Child Care and Development Fund (CCDF) Program; Proposed Rule."

The length of time children typically spent continuously in a subsidized arrangement was slightly shorter than the amount of time spent continuously in CCAP. Half of subsidized relationships lasted six months or less, and only 25% were a year or longer. Children typically had only one subsidized provider during a spell of CCAP participation, although they may have had additional caregivers who were not subsidized and therefore not included in the data.

A short spell of subsidy receipt followed by an exit and a quick return, or cycling off and back on the program, raises concerns about the impact of these disruptions for children. About half of children who left returned to CCAP within four years. Most who returned did so quickly, with 25% returning within three months and 33% within six months. This rate of return was similar to other states.<sup>19</sup> Children who returned to CCAP were more likely to return to the same provider they used previously, especially if they returned quickly. However, children's timing and probability of return was not related to the length of spell that preceded it. Thus, rapid cycling off and back on subsidy does not seem to occur frequently. This finding contrasts with findings from Wisconsin, where mothers with short spells of three months or less returned more quickly than those with longer spells (three-quarters of them returned within ten months).<sup>20</sup>

The administrative data on children participating in CCAP provide detailed information about patterns of participation over time. The data provide limited information, however, about the reasons for leaving the program. Particularly in cases where the child returns to CCAP within a few months, further research is needed to investigate why there was a break in participation. It may be that the parent lost her job and did not need child care while searching for another job. If the child returned to the same provider, it may be that the arrangement continued even though there was a break in CCAP participation. It is important to determine, however, whether short breaks in CCAP participation are related to CCAP administrative practices or policies. If there is a break in participation of a few months followed by a return to a different provider, is this change in provider by choice, or did the loss of the subsidy disrupt an arrangement that otherwise would have continued? Sorting out the reasons for families' leaving CCAP and changing arrangements would likely require a detailed parent survey focused on understanding those changes as they are occurring.

One important policy that has been linked to disruptions in subsidy participation is the requirement to recertify subsidy eligibility at regular intervals. Research in other states has demonstrated that families are much more likely to end their subsidy participation in the month of redetermination.<sup>21</sup> In Minnesota, the standard eligibility redetermination period is six months, which is similar to the redetermination period in over half of states.<sup>22</sup> The fact that the median subsidy spell length in Minnesota is eight months suggests that redetermination may not be as great a barrier to subsidy continuity in Minnesota as in other states, as many families successfully recertify without a break in CCAP participation. However, other policies, including the close link between authorized hours of care and work schedules, may make it difficult for parents with unpredictable work hours to receive child care assistance.<sup>23</sup>

Using combined federal and state funding, the state of Minnesota is able to provide certain eligible families with subsidies to help them access child care while the parents are working, looking for work, or attending school. While there is variation in how long children receive subsidies, compared to other states, subsidy participation is more stable in Minnesota. Variation in the continuity of subsidy receipt is due in part to variable child care needs and parent schedules, for example, care needed while the parent attends a short-term training program. The research findings in this brief can help policymakers improve program design and implementation to better achieve the dual goals of supporting parental employment and children's development.

<sup>19</sup>Me Meyers et al., *The Dynamics of Child Care Subsidy Use: A Collaborative Study of Five States*.

<sup>20</sup>Ha, "Stability of Child-Care Subsidy Use and Earnings of Low-Income Families."

<sup>21</sup>Grobe, Weber, and Davis, "Why Do They Leave? Child Care Subsidy Use in Oregon"; Charles Michalopoulos, Erika Lundquist, and Nina Castells, *The Effects of Child Care Subsidies for Moderate-Income Families in Cook County, Illinois*. (OPRE 2011-3, Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2010); Yoonsook Ha and Daniel R. Meyer, "Child Care Subsidy Patterns: Are Exits Related to Economic Setbacks or Economic Successes?," *Children and Youth Services Review* 32, no. 3 (2010): 346–355.

<sup>22</sup>Sarah Minton et al., *The CCDF Policies Database Book of Tables: Key Cross-State Variations in CCDF Policies as of October 1, 2012*, OPRE Report (Washington, DC, 2013), <http://www.urban.org/publications/412977.html>.

<sup>23</sup>Adams and Rohacek, *Child Care Instability Definitions, Context, and Policy Implications*.

## APPENDIX 1. Sample and number of observations

This study uses data from the administrative systems of the CCAP program. The data were obtained from the Minnesota Department of Human Services under a research agreement. The variables were defined in line with federal government reporting requirements and provided on a monthly basis for four years (2009-2012).

There are 1,690,123 observations, where an observation is a child-month, that is, months in which a child received subsidized child care services. The data include 100,625 unique children who received CCAP for at least one month in the study period. Of these children, 15,639 had only left-censored spells. After excluding these children, 84,986 unique children remain as the sample we analyze in this study. Excluding left-censored spells, there are 1,228,169 observations on the child-month level. Essentially, “new” entrants were used to provide a portrait of the CCAP caseload.<sup>24</sup> For the descriptive statistics, we use the characteristics of the child and family in the first month of the first observed non-left-censored spell for the child in order to describe entrants’ characteristics; the characteristics of the caseload at a particular month are likely to be different because the children who remain on for longer appear for more months and may have different characteristics.

In analyzing arrangement continuity, we are essentially examining how long a child will typically spend with a provider, and we treat as unique observations a particular combination of month, child, and provider. After excluding left-censored arrangements (which may have begun prior to January 2009), there are 154,209 unique child-provider combinations analyzed in this study. There are 1,792,087 observations, where an observation is a unique combination of month, child, and provider. For the descriptive statistics, we use the characteristics of the child and family in the first month of the first observed non-left-censored spell for an arrangement. Again, the characteristics of the caseload in a particular month are likely to be different.

When we analyze exits from CCAP and the chances of returning, as with spells of subsidy receipt, we examine children in each month. There are 1,732,098 observations, where an observation is a child-month for a child who has exited subsidy. The data include 82,207 unique children who had received CCAP for at least one month in the study period but then were not receiving CCAP for at least one month. In the descriptive statistics, we use the characteristics of the child and family in the last month of CCAP before exit; the characteristics of the caseload at a particular month are likely to be different, because the children who exit more frequently or rapidly may have different characteristics than the entire caseload.

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<sup>24</sup>The children who started a spell of CCAP participation during the study period may have participated in the program prior to January 2009; thus, the spell observed in the study may not be the first spell of CCAP participation for the child. The entry cohort approach, in which children who had only left-censored spells of participation are excluded, is standard in duration studies of program participation.

## APPENDIX 2. Additional Tables

**Table A-1. Characteristics of children participating in CCAP at start of first non-left-censored spell**

Gender	Percentage
Female	48.8
Male	51.2
Race/ethnicity (multiple possible)	
American Indian/Alaska Native	5.5
Asian	4.3
Black	41.4
Pacific Islander	0.2
White	56.6
Hispanic or Latino	7.7
Child age	
0-2 years	47.1
3-5 years	27.5
6+ years	25.3
Household size	
0-3 persons	48.6
4-5 persons	36.2
6+ persons	15.2
Single parent	
No	25.9
Yes	74.1
Food stamps	
No	19.9
Yes	80.1
MFIP/DWP	
No	52.9
Yes	47.1
Housing assistance	
No	79.6
Yes	20.4
Reason for CCAP	
Employment	75.7
Training/education	7.9
Emp. and train/ed.	13.1
Other	3.3



Program	
Basic Fee	33.8
MFIP/DWP Child Care	55.2
Transition Year	8.7
Multiple programs	2.2
Provider type	
Center	49.9
Legal family child care	30.5
Legal non-licensed care	18.7
Multiple	0.8
<b>TOTAL</b>	<b>100.0</b>

Source: Authors' calculations based on Minnesota CCAP administrative data.

## DEFINITIONS OF TERMS USED IN THIS STUDY

**Spell:** A “spell” measures the length of time that a child participated in CCAP without a break. For this study, a spell of CCAP participation was defined as the number of consecutive months in which the child received subsidized child care (care paid in part or full through CCAP). A spell ended when there was a full month in which the child did not receive any subsidized child care through CCAP.

**Left-censored spell:** A spell that includes the first month of the study period and therefore may have begun prior to the study period. (These spells were excluded from the study.)

**Right-censored spell:** A spell that includes the last month of the study and therefore may continue past the end of the study period. (These spells were included in the study, and appropriate statistical methods were used to account for the right censoring.)

**First (observed) non-left-censored spell:** The first spell for a child that begins during the study period, excluding left-censored spells. Most of the analysis was based on the first observed non-left-censored spell for each child (including only one spell per child).