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Continuity and Stability: Dynamics of Child Care Subsidy Use in Oregon

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Child Care Policy Research Consortium and the Five-State Dynamics Study Team

To better inform child care policymaking, the Child Care Bureau of the Administration for Children and Families in the U.S. Department of Health and Human Services in 1995 began funding Child Care Policy Research Partnerships. These partnerships use or build upon existing data to increase understanding of child care markets for low-income families and the impact of child care policies on them. Several of the partnerships have constructed linked, longitudinal data sets with administrative data from states' subsidy systems. These data sets create new opportunities to analyze the characteristics of children and families who use child care subsidies and the dynamics of their subsidy participation.

The Child Care Policy Research Partnerships include state policymakers, state- and city-level agencies responsible for child care services, and university-based researchers. These teams are charged with developing a research agenda in response to pressing policy questions in their states. The Partnerships work together as the Child Care Policy Research Consortium.

This report is a product of consortium members representing Illinois, Maryland, Massachusetts, and Oregon who joined together to better understand who is served by child care subsidy systems and what services they receive. Researchers in Texas, who were already engaged in similar research, agreed to join the project. The five-state child care subsidy dynamics study team included policy experts familiar with each of the five states and analysts familiar with administrative data and analytic methods. State agency partners played a critical role in helping to understand data elements and policies in each state and provided feedback on the study results and interpretations. The team member partner institutions are:

- Columbia University School of Social Work
- Linn-Benton Community College
- National Center for Children in Poverty, Columbia University Mailman School of Public Health
- Oregon State University
- Ray Marshall Center for the Study of Human Resources, University of Texas at Austin

CHILD CARE SUBSIDY DYNAMICS STUDY TEAM

Columbia University School of Social Work

Linn-Benton Community College

National Center for Children in Poverty
Columbia University Mailman School of Public Health

Oregon State University

Ray Marshall Center for the Study of Human Resources
University of Texas at Austin

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Publications by the Child Care Subsidy Dynamics Study Team

This report is one of four being published by members of the team studying the dynamics of child care subsidy use. It provides a detailed look at Oregon families receiving child care subsidies and the factors associated with length of subsidy receipt and provider stability, and it compares the findings with those of the four other states studied by the dynamics study team—Illinois, Maryland, Massachusetts, and Texas. Separate state reports will also be published for Illinois and Maryland. The fourth report: *The Dynamics of Child Care Subsidy Use: A Collaborative Study of Five States*, covers all the study states.

A duration study guide is also being prepared to enable others to conduct their own studies on the dynamics of child care subsidy use using the methodology developed through the five-state studies. The guidebook was created as a stand-alone, practical guide that documents the methods and lessons learned to support study replication. The *Duration Study Guidebook: A Guide to Implementing a Study on the Dynamics of Child Care Subsidy Use,* by Deana Grobe, Roberta B. Weber, and Elizabeth E. Davis will be available from the Oregon Child Care Research Partnership Web site after September 1, 2002 (http://www.lbcc.cc.or.us/familyresources/researchpartner/).

About the Authors

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Acknowledgments

This paper reflects the effort and input of team members working in other states as part of a five-state collaborative project on the dynamics of child care subsidy use.

The five-state dynamics study was funded in part by a grant from the Child Care Bureau, Administration on Children, Youth, and Families, Administration for Children and Families of the U.S. Department of Health and Human Services. The opinions expressed do not necessarily reflect the views of the state agencies or the federal Child Care Bureau.

We wish to thank our colleagues on the five-state dynamics study and at Adult and Family Services and the Child Care Division in Oregon, especially Roberta Henifin and Debbie Trammel, for their assistance with the data. Appreciation for her support goes to Pia Divine at the Child Care Bureau of the U.S. Department of Health and Human Services. Thanks also go to the publication and communications team at NCCP: Telly Valdellon, Carole Oshinsky, Kate Szumanski, and Martha Garvey, and a special thank you to Lee Kreader, NCCP Program and Policy Unit associate director, for his work in seeing this project through to completion.

EXECUTIVE SUMMARY

With the passage of the Act for Better Child Care and the creation of the Child Care and Development Block Grant (CCDBG) in 1990, the federal role in child care became more visible. With the consolidation of CCDBG and several other federal child care funding streams into the Child Care and Development Fund (CCDF) in 1996, the federal effort became more focused. Inclusion of CCDF in the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 formalized the joining of two national goals: supporting family self-sufficiency and promoting child well-being. This same two-generational focus is seen in the mission of the Child Care Bureau of the U.S. Department of Health and Human Services: to ensure "child care services that promote healthy child development and family self-sufficiency."[*]

Spending on child care subsidies by both the federal government and by states has increased rapidly since 1996. One study found that, among the states examined, spending on child care increased by an average of 78 percent between 1997 and 1999.[**] Most of the dollars are expended through child care subsidy programs administered directly by the states or local governments, or by contracts with child care resource and referral agencies.

As states have built their child care subsidy programs, conventional wisdom about how the program operates has emerged. For example: (1) Most families have a copay. (2) Families leave the program because they no longer meet the income eligibility guidelines. (3) High copays are a major cause for families leaving the program. (4) The higher the net value of participation the longer parents will participate in the program. (5) Care by relatives is less stable than that provided in centers and regulated family child care homes. (6) The program is serving low-income working families as they transition from welfare to work. Despite the clearer federal focus and increased expenditure, little is known about the child care subsidy program, including the validity of these commonly-expressed opinions. Up to this point little research has focused on how the child care subsidy program operates, who is served, and what services are offered.

Ongoing devolution of policymaking results in states developing diverse policies for both child care subsidy and Temporary Assistance for Needy Families (TANF) programs.

In order to learn more about the operations of the child care subsidy program, a team of researchers and state child care administrative staff designed and implemented an exploratory study of the child care subsidy program in five states: Illinois, Maryland, Massachusetts, Oregon, and Texas. The effort grew out of the Child Care Bureau's Child Care Policy Research Consortium. The child care subsidy dynamics study research team included data and policy analysts from the School of Social Work and the National Center for Children in Poverty at Columbia University, the Department of Agricultural and Resource Economics at Oregon State University, the department of Family Resources and Education at Linn-Benton Community College, and the Ray Marshall Center for the Study of Human Resources at the University of Texas.[***] Child care administrative staff in each state played a critical role in the study in clarifying differences in the policy context and data across the states.

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[*] U.S. Department of Health and Human Services, Child Care Bureau. (2001). Administration for Children and Families, Child Care Bureau vision statement. Available at <http://www.acf.dhhs.gov/programs/ccb/geninfo/vision/index.htm>.

[**] Abt Associates, Inc. (2000). *The National Study of Child Care for Low-Income Families, State and Community Substudy interim report*. Cambridge, MA: Abt Associates, Inc. Available at <http://www.abtassoc.com/reports/welfare-download/NSCCLIF.pdf>.

[***] The five-state study is reported in Meyers, M. K.; Peck, L. R.; Davis, E. E.; Collins, A.; Kreader, J. L.; Georges, A.; Weber, R.; Schexnayder, D.; Schroeder, D.; & Olson, J. A. (2002). *The dynamics of child care subsidy use: A collaborative study of five states.* New York, NY: National Center for Children in Poverty, Columbia University Mailman School of Public Health.

The team focused on two program outcomes for the study: (1) the dynamics of subsidy receipt and (2) provider stability during the period of subsidy receipt. The methodology included descriptive and survival analyses. Limitations of the data prohibited valid use of multivariate analysis. A key outcome variable is the length of the spell of subsidy receipt, that is, the number of months that a family receives a subsidy for child care without interruption. The study defines a continuous spell of subsidy receipt as ending when the child does not receive a subsidy for at least one month.

This report provides a detailed look at Oregon families receiving child care subsidies and the factors associated with length of subsidy receipt and provider stability and compares these findings with those of four other states (Illinois, Maryland, Massachusetts, and Texas). It describes the characteristics of families and children receiving subsidies, the type of care used, the stability of that care, and the length of time on subsidy. The study was designed to identify areas worthy of further study. Some of the study findings confirm expectations, while others do not.

Key Findings

- **The length of children's spells of subsidy receipt is short.**
  - The median spell of subsidy receipt ranged from three months in Oregon to seven months in Texas.
  - Second spells are also short. In Oregon, the length of second spells was the same as for first spells—a median length of three months.
  - Almost one-quarter of the families participating in the subsidy program in Oregon received a subsidy for just one month before a service interruption; some of these families returned after a month or more of not receiving a subsidy.
- **There is considerable reentry to the subsidy system.**
  - In Oregon, 40 percent of families reentered the program within 12 months.
  - Across the five states, between 35 and 58 percent of families who exited a spell of subsidy receipt returned to the subsidy system within 12 months.

The median spell of subsidy receipt ranged from three months in Oregon to seven months in Texas.

- **Most families who have short spells of subsidy receipt have a consistent provider, but approximately half of the children on subsidy for a year experience at least one transition in their primary provider.**
  - Oregon and Maryland, the states with the shortest spells, had the least stability in providers for the child.
  - A small percentage (between 5 and 10 percent) of Oregon children experienced highly unstable arrangements.
- **Ongoing devolution of policymaking results in states developing diverse policies for both child care subsidy and Temporary Assistance for Needy Families (TANF) programs.**
- **Across the five states, TANF and child care policies interact to bring different populations into the subsidy program.**
  - Median incomes among the states' subsidized families ranged from 12 to 24 percent of the state median income.
  - The proportion of subsidized children with employed parents ranged from 36 to 85 percent. In Oregon 50 percent of families were employed.
  - Child care subsidies also commonly support families in job readiness and assessment activities (from 15 percent in Illinois to 64 percent in Massachusetts).
  - Except for Massachusetts, Oregon families are the least likely to be employed and the most likely to be in job readiness or assessment activities.
- **The interaction of child care subsidy and TANF policies affect which services are provided as well as which families are served.**
  - The portion of subsidized families exempted from copayments ranged from 10 to 85 percent. In Oregon, 59 percent of families were exempt from a copay.

– The median value of copayments (among families who paid them) ranged from $29 to $67 per month across the states, and the median value of payments to providers varied by more than $150 per month.
– Oregon had the highest copayments and Oregon and Texas had the lowest payments to providers.
– The portion of subsidized children cared for in child care centers ranged from 18 percent in Oregon to 79 percent in Texas.
– The portion of subsidized children in family child care homes with a nonrelative ranged from 7 percent in Texas to 58 percent in Oregon.

- **Length of subsidy receipt varied with family and service characteristics.**
  – In all states, families with an employed parent had longer spells of subsidy receipt than did TANF-reliant families.
  – In Oregon, parents using subsidies while involved in job readiness or assessment activities had shorter spells and were slightly more likely than employed parents to reenter the subsidy program.
  – Age of child and type of care do not appear to be related to length of spell.
  – Periods of redetermination for continuing eligibility may be linked to continuity of subsidy receipt. The two states with the shortest spell lengths (Maryland and Oregon) were the only two states with three-month rather than six-month periods when families were typically required to recertify eligibility.

- **Data limitations and the complexity of interactions among TANF policies, child care subsidy policies, and family circumstances (some of which are not captured in the subsidy data) constrained use of multivariate analysis of the factors associated with continuity of subsidy use.**

Providing child care subsidies is an increasingly important public policy to support low-income families as they move off welfare, find and maintain employment, and find ways to meet the developmental needs of their children. Short spells of subsidy use are potentially problematic for families' economic and employment stability and for children's stability of care.

In Oregon, parents using subsidies while involved in job readiness or assessment activities had shorter spells and were slightly more likely than employed parents to reenter the subsidy program.

Implications for Research

Given the finding that most subsidy spells are short, the critical question is why. Short spells of subsidy use are clearly linked to certain parental and situational factors that are observed in the data, such as employment or participation in job readiness or assessment programs. Since participating families have low incomes, the majority of exits do not appear to be due to income ineligibility; further research is needed to investigate other parental and situational factors that were not available in this study.

One of the most important study findings relates to policy interactions, both interactions between TANF and child care subsidy program policies, and also interactions of policies within the subsidy program. Better understanding of the impact of these policy interactions on the population served will allow the state to decide which families it wants to target for the child care subsidy program. While subsidizing child care may be important to allow parents to participate in job readiness and assessment programs, it is not clear that support of child care for one to two months has much effect on employment or child well-being. Subsidy dollars might be more effectively spent stabilizing working families.

INTRODUCTION

With the passage of the Act for Better Child Care and the creation of the Child Care and Development Block Grant (CCDBG) in 1990, the federal role in child care became more visible. With the consolidation of CCDBG and several other federal child care funding streams into the Child Care and Development Fund (CCDF) in 1996, the federal effort became more focused. Inclusion of CCDF in the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996 formalized the joining of two national goals: supporting family self-sufficiency and promoting child well-being.

The passage of PRWORA heralded a major shift in U.S. welfare policy, imposing time limits on cash assistance and strengthening emphasis on employment. Policies such as child care subsidies that support families in the transition from welfare to work have become an increasingly important part of the nation's welfare policy and a key component of the support system for low-income working families. The costs of child care are often a large financial burden to low-income families and may reduce the incentive to work, especially for those likely to earn low wages. Problems related to child care availability, reliability, and affordability are often cited as barriers for families trying to leave welfare.

Funding for the child care subsidy program is provided to the states in part from the federal government via the CCDF block grant. Additional funding commonly comes from the Temporary Assistance for Needy Families (TANF) block grant created by PRWORA, general revenues, or other sources. Spending on child care subsidies by both the federal government and by states has increased rapidly since 1996. One study found that, among the states examined, spending on child care increased by an average of 78 percent between 1997 and 1999.[1] Despite sizeable increases in the funding of child care subsidies in recent years, however, the program is not an entitlement, and many eligible families do not receive assistance or are on waiting lists. The study noted above estimated that while the number of children served rose rapidly as funding increased, only 15 to 20 percent of eligible children were served on average in 1999.[2]

Despite sizeable increases in the funding of child care subsidies in recent years, however, the program is not an entitlement, and many eligible families do not receive assistance or are on waiting lists.

Public expenditures on child care subsidies by federal and state governments have been increasing rapidly, but there is relatively little research into the impacts of these subsidies on families and children. One study providing a summary of key child care subsidy issues notes the relative lack of studies about the characteristics of families and children using the child care subsidy program.[3] Other recent studies use data from a few states or substate regions to analyze the characteristics of those served in the child care subsidy program.[4]

As states have built their child care subsidy programs, conventional wisdom about how the program operates has emerged, such as:

- Most families have a copay.
- Families leave the program because they no longer meet the income eligibility guidelines.
- High copays are a major cause for families leaving the program.
- The higher the net value of participation the longer parents will participate in the program.
- Care by relatives is less stable than that provided in centers and regulated family child care homes.
- The program is serving low-income working families as they transition from welfare to work.

Despite the clearer federal focus and increased expenditure little is known about the child care subsidy program, including the validity of these commonly expressed opinions. With the exception of the studies described above, little research has focused on how the program operates, who is served, and what services are offered.

While many studies have examined the dynamics of cash assistance, i.e. "being on welfare," very few have analyzed the dynamics of participation in the child care subsidy program. In part this has been due to the unavailability of data and the relatively small size of the programs until recently. Two studies have examined the dynamics of subsidy use in parts of Alabama[5] and Massachusetts.[6] These studies found that median duration of enrollment in the subsidy program ranged from just under five months in Massachusetts to between eight and 12 months in Alabama.

Most politicians and taxpayers tend to view shorter periods of cash assistance from the TANF program as preferable to longer ones, but the "best" or socially optimal length of child care subsidy receipt is less clear. Many of the families leaving TANF assistance are not likely to earn enough to become ineligible for the subsidy, and child care subsidies remain an important contribution to the family budget. The U.S. Child Care Bureau, the federal administrative agency in the U.S. Department of Health and Human Services for the Child Care and Development Fund, has a two-generation focus in its vision of "child care services that promote healthy child development and family self-sufficiency."[7]

The child care subsidy program can be viewed as both a work support program and a child development program. It is intended to help families make the transition from welfare to work (or avoid welfare) by decreasing the costs of working. Ongoing receipt of child care subsidies may contribute to stability of employment and may reduce the chance that a family will return to welfare. Child care subsidies are also perceived as an important support for the development of young children, and the child care subsidy program is intended to help families meet the developmental needs of their children. The U.S. Government Accounting Office includes CCDF and other federal funds dedicated to states' child care programs (including TANF and Title XX dollars) when measuring the federal investment in early care and education.[8]

While receipt of child care subsidies does not guarantee stable child care arrangements, the provision of the subsidy may help to increase the stability of the arrangement and reduce the number of changes in arrangements. On the other hand, if families cycle in and out of the subsidy program (perhaps for administrative reasons), stability of child care arrangements may decrease.

Research has shown the importance of stable relationships in the emotional development of children.[9] Longer periods of child care subsidy receipt may be viewed as providing a positive benefit in terms of stabilizing the child–provider relationship. While receipt of child care subsidies does not guarantee stable child care arrangements, the provision of the subsidy may help to increase the stability of the arrangement and reduce the number of changes in arrangements. On the other hand, if families cycle in and out of the subsidy program (perhaps for administrative reasons), stability of child care arrangements may decrease. Short spells of subsidy use, if they correspond with frequent disruptions in child-caregiver relationships, are problematic from a developmental perspective. The two-generation focus of the child care subsidy program leads to concern for stability in three interrelated activities: employment, subsidy receipt, and child care.

Child Care Policy and Issues in Oregon

With the creation of the *New Jobs* program in 1988, Oregon launched its reform of welfare. Thus, well before the 1996 federal welfare reform law was passed, Oregon redesigned its welfare program and continued to make program changes through waivers from the federal government during the early 1990s. Throughout the various stages of welfare reform, Oregon has seen child care as essential to the objectives of its employment-focused welfare reform efforts. Child care is a key strategy in helping families find alternatives to relying on welfare payments.

The Child Care Subsidy Dynamics Study

Throughout the various stages of welfare reform, Oregon has seen child care as essential to the objectives of its employment-focused welfare reform efforts. Child care is a key strategy in helping families find alternatives to relying on welfare payments.

The Child Care Subsidy Dynamics Study grew out of a 1998 Residency Roundtable (an intensive work session on a specific research topic) on the use of administrative data in research. The study uses administrative data to examine the continuity and duration of subsidy use and the stability of child care arrangements in five states. The Office of Policy, Research, and Evaluation within the U.S. Department of Health and Human Services funded the Child Care Bureau's Child Care Policy Research Consortium to carry out the study. Four states involved in the Research Consortium were selected: Illinois, Maryland, Massachusetts, and Oregon; and one state outside the Research Consortium, Texas, was added. The study team included data and policy analysts from the School of Social Work and the National Center for Children in Poverty at Columbia University,[10] the Department of Agricultural and Resource Economics at Oregon State University, the Department of Family Resources and Education at Linn-Benton Community College, and the Ray Marshall Center for the Study of Human Resources at the University of Texas.

Child care administrative staff in each state played a critical role in the study. The study team worked closely with state staff on policy context and data issues in order to accurately represent the subsidy program. In Oregon, staff from Adult and Family Services (AFS) and the Child Care Division (CCD) provided data and information, solved problems, clarified issues, reviewed draft reports, and consulted with study team members throughout the study. The study could not have been done without their active involvement.

STUDY DESIGN, DATA, AND METHODS

The study uses data from five states (Illinois, Maryland, Massachusetts, Oregon and Texas) to investigate the characteristics of families and children receiving child care subsidies, the type of care used, the stability of that care, and the length of time on subsidy. This report focuses on what was learned about the Oregon program and includes comparisons with the other four states.[11]

Research Questions

This study addresses the following research questions:

1. Who is receiving child care subsidies in Oregon? What are the characteristics of the children (e.g., age) and families (e.g., income, employment status, TANF receipt)?
2. What are the characteristics of the care arrangements while on subsidy? What type of arrangements are used and how long do they last?
3. What is the value of the subsidy to the families? How much is paid to providers on behalf of families, and how much do families contribute through copayments?
4. What is the average length of a spell of subsidy receipt? Do families return (i.e., do they cycle on and off the child care subsidy program)?
5. What characteristics of families, children, and caretypes are associated with the length of subsidy receipt? Does length of receipt vary with age of child, parent's employment status, or type of child care arrangement?

Data and Methods

A key outcome variable of interest in this study is the length of the spell of subsidy receipt, that is, the number of months that a family receives a subsidy for child care without interruption. This report uses survival or event history analysis techniques, which are the preferred analytic alternative when time is treated as the outcome as it is in this study. Event history analysis is used to study the length of time between occurrences or events and the factors correlated with those events. The likelihood of an event occurring (or ending) is usually called the hazard rate, but might be better understood as the transition rate. Survival analysis deals explicitly with the problem of censored cases, that is, cases for which there is information missing about the start or end of a spell because of the limitations of the observation period. "Right-censored" cases are those that are underway and continue after the end of the observation period, and "left-censored" cases are those that begin before the observation period. This report uses Kaplan-Meier survival analysis techniques to adjust for those cases that continue after the end of the observation period, and, as will be discussed below, drops spells that begin before the observation period from the analysis.

The data used in this study are collected by Adult and Family Services, the Oregon agency which manages the child care subsidy program, for the purposes of establishing eligibility, making payments to providers, and fulfilling federal reporting requirements. The data are provided to Oregon State University in monthly files; each month contains records on each child who received a child care subsidy (and a corresponding family record). Researchers merge these monthly files into a longitudinal database in order to track the receipt of subsidy from one month to the next. This report defines a continuous spell of subsidy receipt as ending when the child does not receive a subsidy for at least one month. The data reflect the service month (i.e., the month in which the child received care), not the payment month (i.e., the month in which the provider was paid). As a result, disappearance of subsidy for one month represents a true break in service rather than a lag in payments.

The data in this study cover 24 months from October 1997 through September 1999. All families in Oregon who began a spell of child care subsidy receipt during this time frame are included in the analysis sample, with one exception. Any family receiving the child care subsidy in the first month of the time frame, October 1997, was dropped from the analysis (i.e., the "left-censored" cases). The analysis excludes these "left-censored" cases because the data do not include all families who start prior to October, only those who continue to receive subsidies in October. Including families who may have started prior to October would overestimate the length of subsidy receipt, because the families who started at the same time as they did, but who did not continue in the subsidy program (and thus have shorter spells) are not in the data. Excluding the left-censored cases, on the other hand, raises the concern that long spell lengths may then be undersampled and thus average spell length may be underestimated.

This report uses two methods to examine whether the length of subsidy receipt is underestimated by the exclusion of the left-censored cases. In the first test, researchers merged in a third year of data on subsidy use and repeated the survival analysis. The Kaplan-Meier estimated spell lengths are the same using three years of data as found with two years of data. As a second test, researchers compared the characteristics of the left-censored cases to new cases (that were not left censored). Differences in characteristics between the two groups might suggest there were differences that could affect spell length. As described in detail in the appendix, the characteristics of the left-censored cases are quite similar to characteristics of other cases that lasted for more than one month.

The Oregon analysis sample includes 24,879 families receiving child care subsidies for at least one month between October 1997 through September 1999, and who did not receive a subsidy in October 1997. Researchers chose one child randomly from each family to include in the analysis sample. Thus each family who received a subsidy during the time period is counted only once, regardless of the number of months during which they receive a subsidy or how many children they have in subsidized care.

The data captures over 95 percent of the Oregon families receiving assistance with child care payments. The remaining 5 percent of families receive care from a provider who has a contract with either Adult and Family Services or the Child Care Division to provide child care services. In all states in the study, except Massachusetts, the sample includes all, or nearly all, families receiving assistance paying for child care.[12] In Massachusetts, only families with current or recent TANF experience are included, and the data covers about half the state.

Measures to describe the population served were constructed directly from the administrative data. For descriptive analyses, measures were created using data from the first month of the first observed spell. Thus, for these descriptive analyses, each family is only included in the analysis one time regardless of the number of child care subsidy spells they have or the length of their spells.

In three of the five states, cash assistance payments are included in the measure of household income in the data set. In order to create comparable data for the five-state analysis, in the two states in which public assistance payments are not included in household income (Oregon and Massachusetts), the monthly value is imputed as the maximum TANF grant, given family size, for those families who are recorded as receiving TANF in a given month.

Additional family and service characteristic measures include the age of the randomly selected child, the total number of children for whom the family receives subsidies, and the welfare and employment status of the family. Parents' employment status and welfare receipt are measured as an indicator of the reason why the child is eligible to receive subsidies. The Oregon data also include a measure whose value indicates the reason the family is eligible for a subsidy. Measures of payments to providers and copayment requirements for parents are calculated at the family level, including benefits received and copayments paid on behalf of all subsidized children. Researchers also calculated the value of the subsidy to a family and the net value of the subsidy, as measured by the amount paid to the provider minus the copay. The type of care used for the randomly selected child is coded as center care, family child care (nonrelative), in-home care, or relative care.

FINDINGS ON THE POLICY CONTEXT

In order to understand the differences in subsidy dynamics across states, it is critical to comprehend the differences in policy and programs that may affect those outcomes. A major component of this study is to describe key child care subsidy policies in Oregon and to compare these with policies in the other four states.

Approximately half of Oregon families who received child care subsidies during the study period were engaged in some form of assessment or job readiness activity. Yet, the majority of families served at any point in time are employed, because employed families have longer spells.

Administrative Aspects of the Subsidy Program

In Oregon, administrative responsibility for child care is shared. The Child Care Administrator heads the Child Care Division within the Employment Department. In addition to being the lead child care agency for the state, CCD manages child care licensing, contracts with child care organizations for services to targeted populations, and oversees quality enhancement initiatives. Oregon statute places responsibility for the state role in the child care resource and referral system with the Child Care Division. Adult and Family Services, the agency within the Oregon Department of Human Services that operates TANF, manages child care subsidies and determines both policy and practice. AFS is heavily involved in quality initiatives and manages contracts with local child care resource and referral agencies to support child care access for low-income families. In contrast to the shared administrative structure in Oregon, child care is administered by a single agency in Illinois, Maryland, Massachusetts, and Texas, the other states involved in the five-state study.

One of the key objectives of the child care subsidy program in Oregon is to support the state's job placement goals. Families in job readiness or assessment activities are encouraged to enroll in the child care subsidy program. Approximately half of Oregon families who received child care subsidies during the study period were engaged in some form of assessment or job readiness activity. Yet, the majority of families served at any point in time are employed, because employed families have longer spells. There is minimal outreach to low-income, employed families; only Illinois has done substantial outreach to such families.

Oregon highly values access to child care subsidies without time spent on a waiting list. Rationing of limited dollars is managed by changes in copay levels and maximum reimbursement rates rather than through the use of waiting lists. In contrast, waiting lists were maintained in portions of Maryland, Massachusetts, and Texas for some part of the time period studied. Using a significant state investment, Illinois made the commitment to serve all eligible families and to do outreach in order to ensure that families are aware of the subsidy program.

In Oregon, as in the other four states, parents can apply for a child care subsidy in person, by mail, or by phone. After requesting an application by phone, Oregon parents can mail the completed form and documentation to their local AFS branch office. Other states differ in where and how families apply for child care assistance. In Maryland and Oregon, families apply for subsidies at the local offices of the agency that administers TANF. In Illinois and Massachusetts, families apply at local child care resource and referral agencies, and, in Texas, at local welfare offices, employment services program sites, or the child care management services agency. Although caseworkers in all the study states have some flexibility, most families in Maryland and Oregon must update their eligibility information every three months and more often if there has been a change in income or employment status. Families only need to recertify every six months in other states, although Massachusetts requires frequent recertification of families in job readiness activities.

Child Care Expenditures

In Oregon, child care expenditures increased 10-fold over a decade, from approximately $12 million in 1987–89 to $119 million in 1997–1999. In 1997–1999, sources of funding for child care expenditures in Oregon include the Child Care and Development Fund (58 percent), TANF (5 percent), Title XX (8 percent), and the state General Fund (29 percent). This expenditure represents $626 per low-income child compared to spending in the other four states of from $385 to $1,527 per child (see Table 1).

Income Eligibility

During the study period, families earning up to about 185 percent of the federal poverty level or 65 percent of state median income were eligible for the subsidy program in Oregon. In three of the five states, the maximum income level for initial eligibility is lower than it is in Oregon although in only two states is eligibility for remaining on the subsidy lower than it is in Oregon (see Figure 1).

Child Care Regulations

In Oregon, many family child care homes are unregulated, that is, they are exempt from business regulation because they are family child care providers who care for fewer than four children or for children from only one family. In addition, centers that care for children for only four hours a day and centers that are operated by public entities, such as public schools or colleges, are exempt from business regulation. If an unregulated family child care provider or center wants to be paid for care of subsidy-eligible children, they must meet certain "purchase of service regulations" that include criminal records and protective services checks. The provider must also self-certify that they meet minimal health and safety regulations. When approved, they are considered a "listed" provider. The standards for regulated and "listed" providers are similar, but regulated providers are inspected and must meet training requirements. "Listed" providers who complete the same training receive an enhanced rate.

Child care regulation varies widely across the states. Especially for family child care, the same care will be regulated in one state and not in another. For instance, a family child care provider caring for two children will be regulated in Maryland and not regulated in Illinois or Oregon. Thus, cross-state comparisons of the amount of care that is regulated must be made with caution.

Copayment Policies

Oregon policy aims to ease families from subsidies to self-funding of child care expenses by increasing the percentage of income spent on child care as income increases. Under the copay rate schedule in place during the majority of the study period, the percentage of income a family of three has to expend in a copay increases from 3 percent at the lowest income level to 10 percent when monthly earnings reach $1,300 ($15,600 per year), and to over 20 percent when earnings reach $1,625 per month (approximately $19,500 per year). In the five states, copay rates are similar up to about $1,300 per month (see Figure 2). Copays in all state rates range between 9 percent and 11 percent below $1,300. By the time an Oregon family of three becomes ineligible for a child care subsidy due to income they are paying a copay that equals 29 percent of their household income, compared to between 11 and 14 percent in the other states.

As of January 1998, Oregon required higher copayments for families than all but one other state.[13] The copay rate was lowered in March 2000, especially for families at 150 percent of the federal poverty level, but rates remain high when compared to rates in other states. Although copay rates are high in Oregon for those who have to pay them, policy exempts from a copay families on TANF or those participating in job assessment or readiness activities. Only Illinois does not exempt TANF families from a copay. Maryland, Massachusetts, and Texas exempt TANF and other families such as protective service and disability cases.

Table 1: Financing Structures and Expenditures, by State (1997 to 1999)

	Oregon	Illinois	Maryland	Massachusetts	Texas
Additional funds pooled with CCDF to provide subsidies	TANF funds; Title XX;[c] state funds	TANF funds; TANF funds transferred to CCDF; Title XX; Title IV-E;[d] state funds	TANF funds; TANF funds transferred to CCDF	TANF funds; TANF funds transferred to CCDF; Title XX; state funds; child protective service funds; Title IV-E	TANF funds transferred to CCDF; child protective service funds
Child care expenditures (millions)[a]	FFY[e] 1997 $54.7 FFY 1999 $70.9	FFY 1997 $336.5 FFY 1999 $548.4	FFY 1997 $72.3 FFY 1999 $85.2	FFY 1997 $256.3 FFY 1999 $300.1	FFY 1997 $210.5 FFY 1999 $358.2
Increase in expenditures 1997 to 1999	30%	63%	18%	17%	70%
Subsidy expenditures per low-income child under age six (1999)[b]	$626	$1,416	$1,476	$1,527	$385
Service rationing	Waiting lists only for participants in post-secondary education	Commitment to serve all eligible families	Waiting lists until October 1997, with no waiting lists after that date	Commitment to serve all TANF families; waiting lists maintained	Varied; waiting lists maintained by some local agencies during some parts of study period

[a] Source: National Study of Child Care for Low-Income Families conducted by Abt Associates, Inc. and National Center for Children in Poverty (for Illinois, Massachusetts, and Texas); Maryland Department of Human Resources, Oregon Department of Health and Human Services, Child Care Division.

[b] Expenditures estimates from National Study of Child Care for Low-Income Families conducted by Abt Associates, Inc.; population estimates calculated by National Center for Children in Poverty from the March Current Population Surveys, 1998–2000.

[c] Title XX supports the federal Social Services Block grant.

[d] Federal Title IV-E funds support child protective services.

[e] Federal Fiscal Year, January–December.

Figure 1: Subsidy Eligibility Ceilings Relative to Monthly State Median Income (1998)

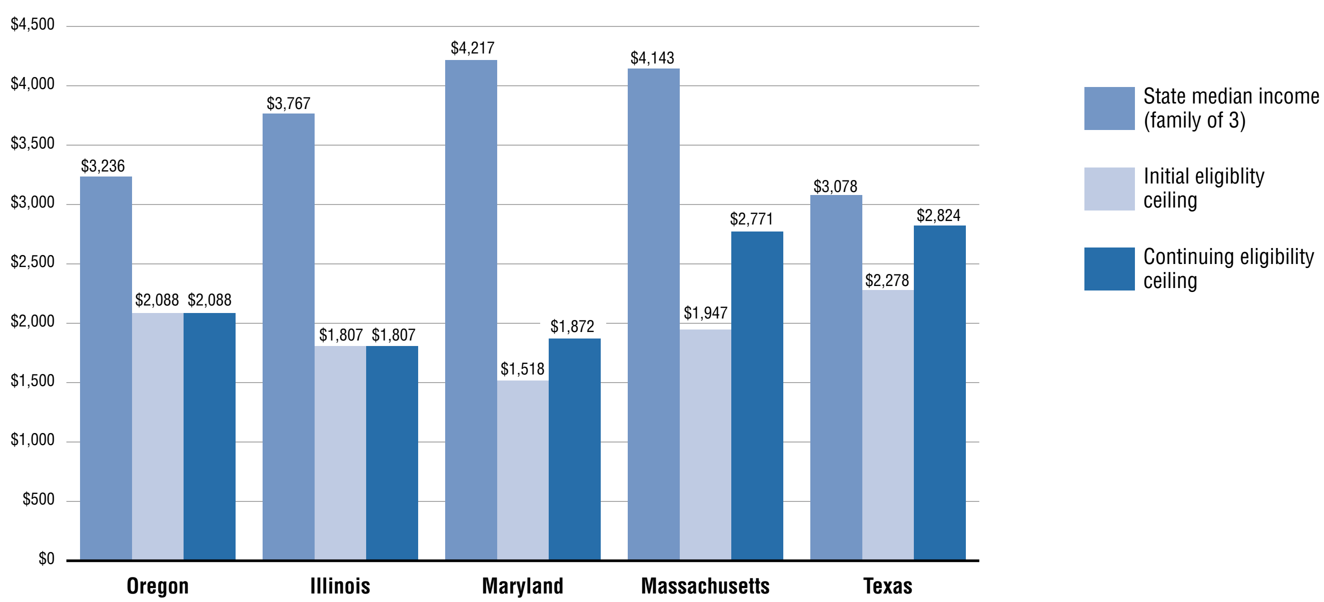
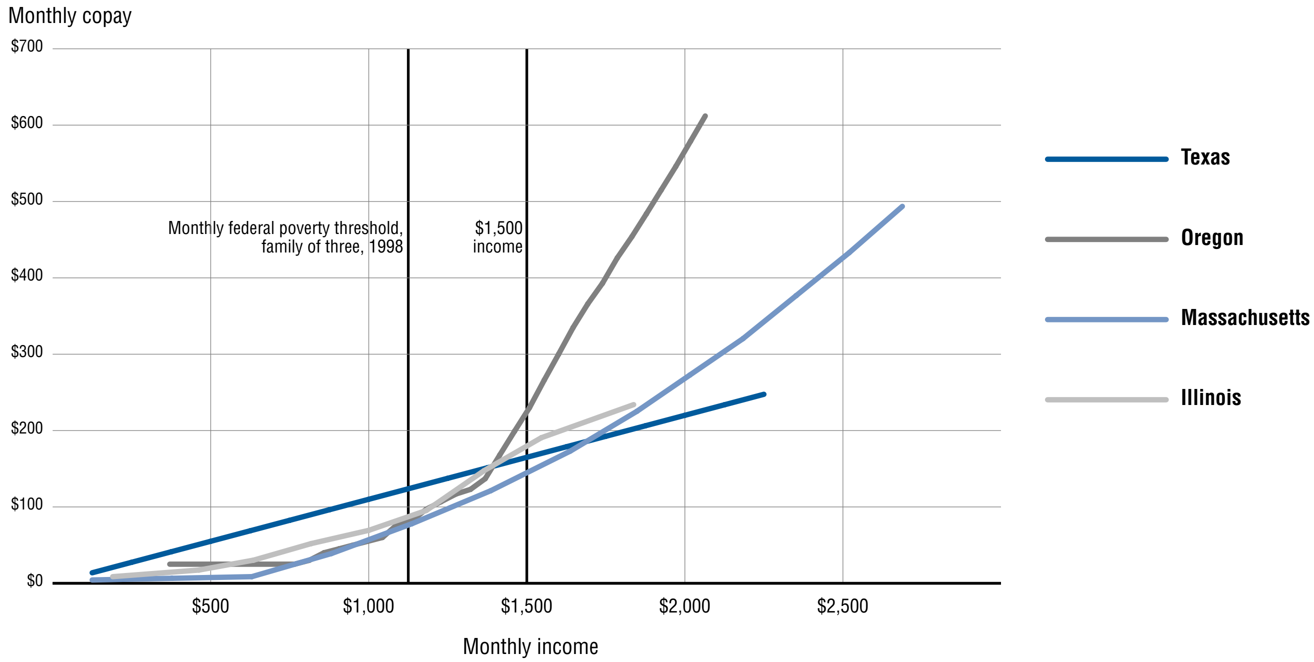


Figure 2: Copayment Rules Relative to Family Income (three-person family with one adult and two children)



Provider Payment Policies

States are required to do market rate studies and encouraged to set maximum provider payment rates near the 75th percentile, the point at which parents using subsidies would have access to about 75 percent of the care in the community. In Oregon, maximum rates cover the fees of less than half of the child care slots in the market. Illinois and Massachusetts are similar. In Maryland and Texas, the maximum rates are very close to the rates charged by providers, and thus the voucher will cover the cost of a larger percentage of the child care slots available in the communities in those states.

In Oregon, rates vary by location, age of child, and type of care. The state's three rate areas consist of zip codes clustered by child care rates charged within the zip code as determined through the market rate study. Maximum provider payment rates vary little by type of care. Relatives and in-home providers are paid at the same rate as are family child care providers and almost as much as centers. In contrast, in Illinois, Maryland, and Massachusetts, the maximum payment rates for relatives and in-home providers are approximately half the amount paid to centers (see Table 2).

In Oregon and Illinois, providers may charge families the difference between the amount paid by the voucher and their customary rate (if it is higher than the maximum rate). Thus parents may have to pay two amounts: a copayment and any difference between the provider's normal charges and the maximum rate (sometimes referred to as the differential). In Maryland, Massachusetts, and Texas providers are not allowed to charge families the differential, but in Maryland and Texas maximum rates are close to or exceed the 75th percentile of market rates. When maximum rates are well below market, issues of access and affordability are confounded. If neither provider nor parent can afford to absorb the difference between the maximum rate and the provider's normal charges, the family may not have access to an arrangement or type of arrangement. Thus, maximum payment rates may impact which types of care parents choose.

In Oregon, child care providers are paid directly, with payments being sent two to three days, on average, after receipt of billing, whereas in the other states processing averages two to three weeks.

Table 2: Provider Payment Rates, by State (1997 to 1999)

	Oregon	Illinois	Maryland	Massachusetts	Texas
Payment rates for a four-year-old child in full time care					
Maximum rate for center care	$350 (7/97) $372 (7/98)	$374 (7/97) $515 (1/99)	$369 (7/97) $565 (12/97)	$628 (10/96)	$431
75th percentile of market rate for center care	$465 (1998)	$607 (1998)	$597 (1999)	$910 (1999-2000)	$396
Maximum as % of 75th percentile of center market rate[a]	75% (7/97) 80% (7/98)	62% (7/97) 85% (1/99)	62% (7/97) 95% (12/97)	70%	109%
Estimated portion of market that the center payment rate purchased	Between 25% and 50%	Less than 25% (7/97) Between 25% and 50% (1/99)	Between 25% and 50% (7/97) Between 50% and 75% (12/97)	Less than 25%	Missing
Maximum rate for family child care	$320 (7/97) $340 (7/98)	$288 (7/97) $433 (1/99)	$349 (7/97) $539 (12/97)	$44[b] (10/96)	$362
75th percentile of market rate for family child care	$440 (1998)	$639 (1998)	$565 (1999)	$867 (1999-2000)	$476
Maximum as % of 75th percentile of family child care market rate[a]	73% (7/97) 77% (7/98)	45% (7/97) 68% (1/99)	62% (7/97) 96% (12/97	51%	76%
Estimated portion of market that the family child care payment rate purchased	Less than 25%	Less than 25% Between 25% and 50% (1/99)	Between 25% and 50% (7/97) Between 50% and 75% (12/97)	Less than 25%	Missing
Maximum rate for in-home care	$320 (7/97) $340 (7/98)	$195 (7/97) $200 (1/99)	$211 (7/97) $236 (12/97)	$325	$340
Maximum rate for relative care	$320 (7/97) $340 (7/98)	$200 (7/97) $200 (1/99)	$211 (7/97) $236 (12/97)	$325	$340
Payment rate comparisons					
Rate for in-home care as % of rate for family child care	100%	68% (7/97) 46% (1/99)	60% (7/97) 44% (12/97)	74%	94%
Rate for relative care as % of rate for family child care	100%	68% (7/97) 46% (1/99)	60% (7/97) 44% (12/97)	74%	94%
Rate for family child care as % of rate for center care	92% (7/97) 92% (7/98)	77% (7/97) 84% (1/99)	95% (7/97) 95% (12/97)	70%	84%
Providers allowed to collect additional charges from parents	Yes	Yes	Yes	No	No

[a] If market rates vary throughout the state, market rate in most expensive region is used. Based on 1998 market rate survey in Illinois, 1999 market rate survey in Maryland, 1999–2000 market rate survey in Massachusetts, 1999 market rate survey in Oregon, and 1996–97 and 1998–99 market rate surveys in Texas.

[b] This is the maximum rate for an independent family child care provider. Those in family child care systems received additional benefits.

OREGON'S CHILD CARE SUBSIDY PROGRAM: POPULATIONS SERVED AND SERVICES RECEIVED

States have considerable discretion in setting policy and program parameters related to child care subsidy, as evidenced by some of the differences across the five states noted above. The types of families served, and the services they receive, are likely to vary as a result, in part, of these policy differences. Other factors also lead to differences in families served and services delivered across states, including differences in local economic conditions and other related state policy differences, particularly TANF policy. This section describes the characteristics of families receiving child care subsidies in Oregon and the services received, and these findings are compared to those in the other study states.

Family Characteristics

Table 3 provides a comparison of key characteristics of the families and children served by the child care subsidy programs in the five states. The characteristics are measured as of the first month of the first observed spell of subsidy receipt so that the results are representative of the population of families who participate in the program.

Marital Status and Number and Age of Children

Nearly all the families served by the child care subsidy program in Oregon were headed by a single parent (86 percent). Some 36 percent of families had a child under age two, including 22 percent with an infant under one year of age. The age distribution of older children divided fairly evenly, ages two to three years (22 percent), ages four to five (17 percent) and ages six–12 years (25 percent) (see Table 3). Almost half the families had only one child for whom they received a subsidy, and about a third had two children.[14] There was little variation in age of child across the five states.

Massachusetts and Oregon families were the least likely to be employed (half or less), whereas in Illinois and Texas, three-quarters or more were employed.

Employment Status

In Oregon, about 45 percent of the parents were working and not receiving TANF in the first month of the spell. About one-third received TANF and were not working in the first month they received the child care subsidy. Only 5 percent were both working and on TANF. A fairly sizeable group, 17 percent, were neither working nor on TANF. These parents were likely to be in an assessment program, learning job skills, or conducting a job search. Massachusetts and Oregon families were the least likely to be employed (half or less), whereas in Illinois and Texas, three-quarters or more were employed (see Table 3).

Household Income

Most of the Oregon families had very low incomes in their first month on child care subsidy: median monthly income including cash assistance was $573, and 12 percent had no reported income.[15] Incomes were low in all the study states, and within this group Oregon families had relatively low incomes. In other states, median income in the first month of the first observed spell ranged from $363 in Texas to $920 in Illinois compared to $573 in Oregon.

A more complete picture of Oregon subsidy recipients' household incomes can be seen in Table 4. Families are divided into two groups: those with a copay and those without (in the first month of their subsidy spell). In Oregon, families on TANF or in other assessment or job readiness activities are not assessed a copay. Table 4 shows the distribution of

Table 3: Characteristics of Families Receiving Child Care Subsidies (First Month of First Observed Spells), by State

	Oregon	Illinois	Maryland	Massachusetts	Texas
Age of Child in Subsidy (randomly selected child)					
Infants birth to 23 months	36%	30%	30%	31%	40%
Preschool 24 to 47 months	22%	24%	27%	27%	25%
School Transition 48 to 71 months	17%	19%	18%	18%	17%
School-Age 72 months and older	25%	27%	25%	24%	18%
Activity Status of Parent with Child in Subsidy					
Working	50%	85%	66%	36%	72%
Not Receiving TANF	45%	15%	32%	10%	55%
Receiving TANF	5%	71%	34%	26%	16%
Not Working	50%	15%	34%	64%	28%
Receiving TANF	33%	14%	30%	48%	14%
Not Receiving TANF	17%	1%	4%	15%	14%
Family Income					
Recipients' Median Monthly Family Income	$573	$920	$732	$468	$363
75th Percentile of Recipients' Monthly Family Income	$1,016	$1,227	$1,130	$668	$876
1998 Monthly State Median Income (family of three)	$3,236	$3,767	$4,217	$4,143	$3,078
Recipients' Median Monthly Income as Share of State Monthly Median Income	17.7%	24.4%	17.4%	11.3%	11.8%
Initial Subsidy Ceiling, 1998	$2,088	$1,807	$1,518	$1,947	$2,278
Recipients' Monthly Median Income as Share of Initial Ceiling	27%	51%	48%	24%	16%
Continuing Eligibility Ceiling, 1998	$2,088	$1,807	$1,872	$2,771	$2,824
Recipients' Monthly Median Income as Share of Continuing Ceiling	27%	51%	39%	17%	13%

Notes: The observation period in Illinois, Maryland, and Texas is July 1997 through June 1999. The observation period in Oregon is October 1997 through September 1999, and the observation period in Massachusetts is October 1996 through September 1998. Income in Illinois and Maryland is measured as household earnings and income as well as public assistance payments. Income in Massachusetts is measured as the sum of individual earnings and an imputed public assistance payment. Income in Oregon is measured as the sum of household earnings and income and an imputed public assistance payment. Income in Texas is the sum of individual earnings and actual public assistance payment.

Table 4: Monthly Household Income of Families Receiving Subsidies in Oregon

	First month of first spell			Last month of first spell		
	Total sample	Families whose copay = 0	Families whose copay > 0	Total sample	Families whose copay = 0	Families whose copay > 0
Number of families	24,879	14,751	10,128	18,312	8,539	9,773
Mean monthly household income	$526	$235	$950	$610	$202	$967
Median monthly household income	$400	0	$960	$607	0	$962
Percentiles of income						
10%	$0	$0	$360	$0	$0	$450
25%	$0	$0	$688	$0	$0	$710
50%	$409	$0	$961	$603	$0	$969
75%	$985	$315	$1,216	$1,040	$305	$1,213
90%	$1,309	$926	$1,523	$1,343	$766	$1,515

Note: This analysis does not include an imputed amount for the TANF grant in household income. Therefore, these numbers differ slightly from those reported in Table 3 where an imputed public assistance payment is included incomes in the first and last months of their first spell of subsidy receipt for these two groups. Note that the income measure in this table does not include the imputed value of the TANF grant and that over half of the families with no copay had no reported household income. Half of the families who did have a copay had incomes of over $960 a month, but only about 10 percent had incomes over $1,500 a month.

Although Oregon families are eligible for subsidies until monthly household income is between $1,776 and $3,832, depending on family size, only 10 percent of families with a copay earned more than $1,500. Families appear to leave the subsidy program before they become ineligible due to income. There was very little difference between average monthly incomes of families in the first and last months of first subsidy spell.

As noted earlier, Oregon imposes a copayment schedule that rises rapidly with income for families earning more than about $1,300 per month. The data do not tell us the income of families the month after they leave the subsidy program, so there is no way to know if incomes increased and thus made the family ineligible or if copays rose above 10 percent of household income. More information from families is needed to determine if high copays are related to short spells.

Service Characteristics

Type of Care

As shown in Table 5, over half of Oregon children were cared for in family child care homes in the first month of subsidy use. Centers accounted for only 18 percent of the children's arrangements, and about the same percentage were cared for by relatives (in the child's home or in the relative's home). Very few (4 percent) were cared for in their own home by a nonrelative. In other states, center use varied from 31 percent in Illinois to 79 percent in Texas, while family child care use ranged from 7 percent in Texas to 32 percent in Maryland. Use of care by relatives was highest in Illinois and lowest in Massachusetts.

The majority (62 percent) of care arrangements used by families receiving child care subsidies in Oregon were unregulated in the sense of business regulation (they are subject to purchase-of-service regulation). In other states, the percent unregulated ranged from 14 percent in Texas to 58 percent in Illinois. As noted above, the types of care arrangements that are regulated varies by state.

Provider Payments

In Oregon, for the first month of subsidy use, the state paid $263 on average to a provider on behalf of the family (see Table 6). This compares with a low of $254 per month in Texas and a high of $452 per month in Massachusetts.

Copayments

Many of the families on the child care subsidy program in Oregon did not pay a copay in their first month; some were exempt because of TANF receipt, while others were exempt because of participation in job readiness activities. Families contributed a median copayment of $67 per month if they were required to pay one. In the other study states, median copays for families who paid a copay ranged from $29 to $62 per month. Although copays were higher in Oregon than in the other four states, a large percentage of enrolled Oregon families had no copay: 59 percent in Oregon compared to 55 percent in Texas, 48 percent in Maryland, and 10 percent in Illinois. Only Massachusetts had more families with no copay, 85 percent.

Families appear to leave the subsidy program before they become ineligible due to income.

Table 5: Characteristics of Services Received by Families (First Month of First Observed Spells Starting During Observation Period), by State

	Oregon	Illinois	Maryland	Massachusetts	Texas
Number of Observations	***24,879***	***101,414***	***25,734***	***15,202***	***84,987***
Care Arrangement (randomly selected child)					
Center Care	18%	31%	33%	53%	79%
Family Child Care (nonrelative)	58%	17%	32%	23%	7%
In-home Care (nonrelative)	4%	20%	7%	15%	0%
Relative Care	19%	32%	27%	10%	14%
Regulation Status of Care Arrangement					
Regulated	38%	42%	65%	90%	86%
Unregulated	62%	58%	35%	10%	14%

Notes: The observation period in Illinois, Maryland, and Texas is July 1997 through June 1999. The observation period in Oregon is October 1997 through September 1999, and the observation period in Massachusetts is October 1996 through September 1998. One percent of the care arrangements in Oregon were classified as "group homes," which are larger family child care providers. Percentages may not sum to 100 due to rounding.

Data for Massachusetts do not include contracted care arrangements (an estimated 50 percent of all subsidized arrangements in the state) and include voucher recipients for only a portion of the state (approximately 50 percent of all voucher recipients). Because working-poor families were more likely to use contracted child care arrangements, the data for this study reflect the experiences of TANF-related subsidy users.

Table 6: Value of Payments to Providers by States and Families (First Month of First Observed Spells), by State

	Oregon	Illinois	Maryland	Massachusetts	Texas
Provider Payments					
Monthly Payment to Provider, Family Level					
Mean Value ($)	$263	$311	$366	$452	$254
Median Value ($)	$195	$248	$297	$363	$190
Family Copayments					
Share of Families with No Copayment (%)	59%	10%	48%	85%	55%
Monthly Copayment, Family Level					
Among All Families					
Mean Copayment ($)	$42	$51	$34	$12	$30
Median Copayment ($)	$0	$35	$2	$0	$0
Among Families with Copayment Only					
Mean Copayment ($)	$102	$56	$64	$82	$44
Median Copayment ($)	$67	$43	$29	$62	$35
Net Monthly Subsidy Value (provider payment – family copayment)					
Among All Families					
Mean Net Value ($)	$220	$262	$336	$446	$224
Median Net Value ($)	$160	$196	$266	$358	$160
Among Families with Copayment					
Mean Net Value ($)	$196	$253	$298	$517	$154
Median Net Value ($)	$143	$189	$234	$460	$108

Notes: The observation period in Illinois, Maryland, and Texas is July 1997 through June 1999. The observation period in Oregon is October 1997 through September 1999, and the observation period in Massachusetts is October 1996 through September 1998. Income in Illinois and Maryland is measured as household earnings and income as well as public assistance payments.

Income in Massachusetts is measured as the sum of individual earnings and an imputed public assistance payment. Income in Oregon is measured as the sum of household earnings and income and an imputed public assistance payment. Income in Texas is the sum of individual earnings and actual public assistance payment.

Data for Massachusetts do not include contracted care arrangements (an estimated 50 percent of all subsidized arrangements in the state) and include voucher recipients for only a portion of the state (approximately 50 percent of all voucher recipients). Because working-poor families were more likely to use contracted child care arrangements, the data for this study reflect the experiences of TANF-related subsidy users.

DYNAMICS OF SUBSIDY USE

One of the key objectives of this study was to determine how long families receive child care subsidies and whether the length of subsidy receipt varies across the five states. This section presents the findings on length of subsidy receipt and percent of families who return for another period of participation in the subsidy program; these measures are compared both across the five states and for different subgroups of families.

The estimated median spell length is three months. One-quarter of first spells last two months or less, and 75 percent of spells end within seven months.

Length of Time Families Receive Subsidies

Based on analysis of administrative data, most families in Oregon participate in the child care subsidy program for a short period of time. Using the Kaplan-Meier analysis procedure, the estimated median spell length is three months. One-quarter of first spells last two months or less, and 75 percent of spells end within seven months (see Table 7). Almost one quarter of families participating in the subsidy program in Oregon received a subsidy for just one month (results not displayed). Nearly three-quarters of these one-month-spell families were involved in job readiness or assessment programs.

Given the short length of these spells, a reasonable question to ask is whether families return for another spell. Many families do return quickly for another spell of subsidy use. About one-quarter of the families in Oregon return within three months, and over 40 percent return within a year (see Table 8). However, these return spells are also short. The median duration for the second and third spells is also three months (see Table 9).

Although Oregon has the shortest spells, they are similar in length to those found in Maryland. Families in Texas and Illinois had median spells twice the length of those found in Oregon (see Table 7). In Texas, half the families had spells lasting seven months or longer. Rates of reentry into the subsidy program do not follow a consistent pattern across the states. Although Texas and Illinois had the longest median spells, reentry rates were lower in Texas and higher in Illinois than in Oregon (see Table 8).

Age of Child

Subsidy spells differ only slightly by the age of the child: median duration for infants and toddlers age birth to 23 months is estimated to be four months in Oregon, compared to three months for all other ages (see Table 9). Subsidy spells are shortest for school-age children, age 6 and up. There was a similar lack of variation by age groups in the other study states.

Type of Care

Some child care observers have suggested that certain types of care arrangements are more stable or last longer and in particular that informal arrangements or care by relatives may be less stable (that is, more likely to end quickly) than care in centers or other more formal settings. Based on the Kaplan-Meier analysis, median spell length is slightly longer in the child's home (four months) in Oregon. Center care does not appear to be of longer duration than other types of care.[16] No consistent pattern relating spell length and care type was found across the five states. Spell lengths in family child care were slightly longer in Illinois; center care spells were longer in Massachusetts (see Table 10).

Value of the Subsidy

The value of the subsidy to the family (that is, the amount paid to the child care provider on the family's behalf) is expected to be positively related

Table 7: Kaplan-Meier Estimates of Length of Subsidy Receipt in Months (First Observed Spell Starting During Observation Period), by State

	Oregon	Illinois	Maryland	Massachusetts	Texas
25th percentile	2	3	2	3	3
Median	3	6	4	5	7
75th percentile	7	14	8	11	14

Notes: The observation period in Illinois, Maryland, and Texas is July 1997 through June 1999. The observation period in Oregon is October 1997 through September 1999, and the observation period in Massachusetts is October 1996 through September 1998. Analyses includes all observed spells starting during observational period for Illinois and Maryland.

Table 8: Cumulative Percent of Children Exiting Subsidy Spell who Return within Three, Six, Nine, and Twelve Months, by State

Interval	Oregon	Illinois	Maryland	Massachusetts	Texas
3 months	24%	32%	46%	28%	20%
6 months	34%	43%	56%	36%	27%
9 months	39%	49%	60%	38%	32%
12 months	40%	50%	58%	40%	35%

Notes: The observation period in Illinois, Maryland, and Texas is July 1997 through June 1999. The observation period in Oregon is October 1997 through September 1999, and the observation period in Massachusetts is October 1996 through September 1998.

Data for Massachusetts do not include contracted care arrangements (an estimated 50 percent of all subsidized arrangements in the state) and include voucher recipients for only a portion of the state (approximately 50 percent of all voucher recipients). Because working-poor families were more likely to use contracted child care arrangements, the data for this study reflect the experiences of TANF-related subsidy users.

Table 9 : Length of Child Care Subsidy Spells in Oregon, 1997 to 1999

	Percentiles			Number of Observations
	25th	50th (Median)	75th	
First Observed Spell	2	3	7	24,879
Second Observed Spell	2	3	7	7,041
Third Observed Spell	2	3	8	1,912
Age Group of Child (first month of observed spell)				
Birth–23 months	2	4	8	8,879
24–47 months	2	3	7	5,456
48–71 months	2	3	7	4,016
72+ months	1	3	6	6,523
Type of Child Care arrangement				
Family Child Care (nonrelative)	2	3	7	14,608
In-home Care (nonrelative)	2	4	9	1,068
Center Care	2	3	6	4,450
Relative Care	1	3	7	4,753

Note: The analysis sample consists of the first observed nonleft-censored spells. All spells began between October 1997 and September 1999. Length of spell estimated using Kaplan-Meier procedure.

Table 10: Kaplan-Meier Estimates of Median Length of Subsidy Receipt in Months (First Observed Spell Starting During Observation Period), by State and Type of Care

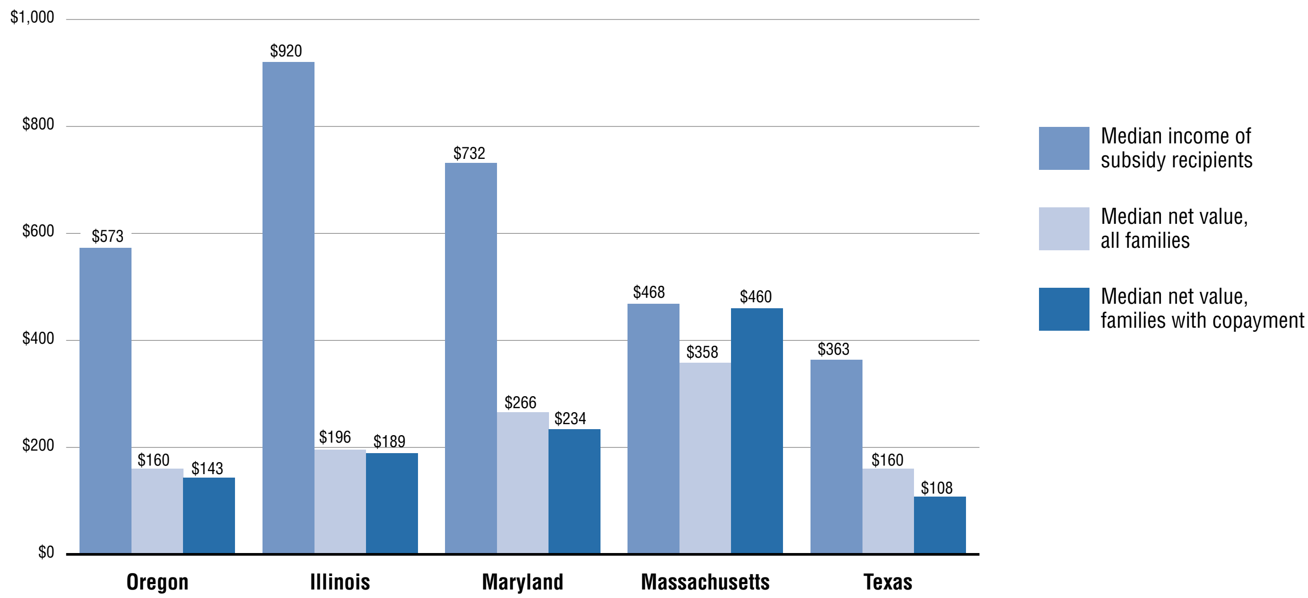
	Oregon	Illinois	Maryland	Massachusetts	Texas
Center Care	3	5	4	6	7
Family Child Care (nonrelative)	3	7	4	5	7
In-home Care (nonrelative)	4	6	3	4	NA
Relative Care	3	6	3	5	6

Notes: The observation period in Illinois, Maryland, and Texas is July 1997 through June 1999. The observation period in Oregon is October 1997 through September 1999, and the observation period in Massachusetts is October 1996 through September 1998. Analyses includes all observed spells starting during observational period for Illinois and Maryland.

The Kaplan-Meier method adjusts estimates of duration for incompletely observed or right-censored spells of subsidy receipt.

Data for Massachusetts do not include contracted care arrangements (an estimated 50 percent of all subsidized arrangements in the state) and include voucher recipients for only a portion of the state (approximately 50 percent of all voucher recipients). Because working-poor families were more likely to use contracted child care arrangements, the data for this study reflect the experiences of TANF-related subsidy users.

Figure 3: Net Value of Subsidies to Families Relative to Median Income of Subsidy Recipients, 1998



to the length of subsidy use, all else being equal. Families who receive a higher benefit should remain in the program longer. Figure 3 shows the relationship of net value (provider payment minus copayment) to the median income of subsidy recipients. Using this measure of the net value of the subsidy to the family, the study team found no pattern between net value and spell length across the five states. Families in Illinois, who had relatively long spells, had the lowest net value, whereas families in Massachusetts had relatively short spells and high net value.

Employment/TANF Status

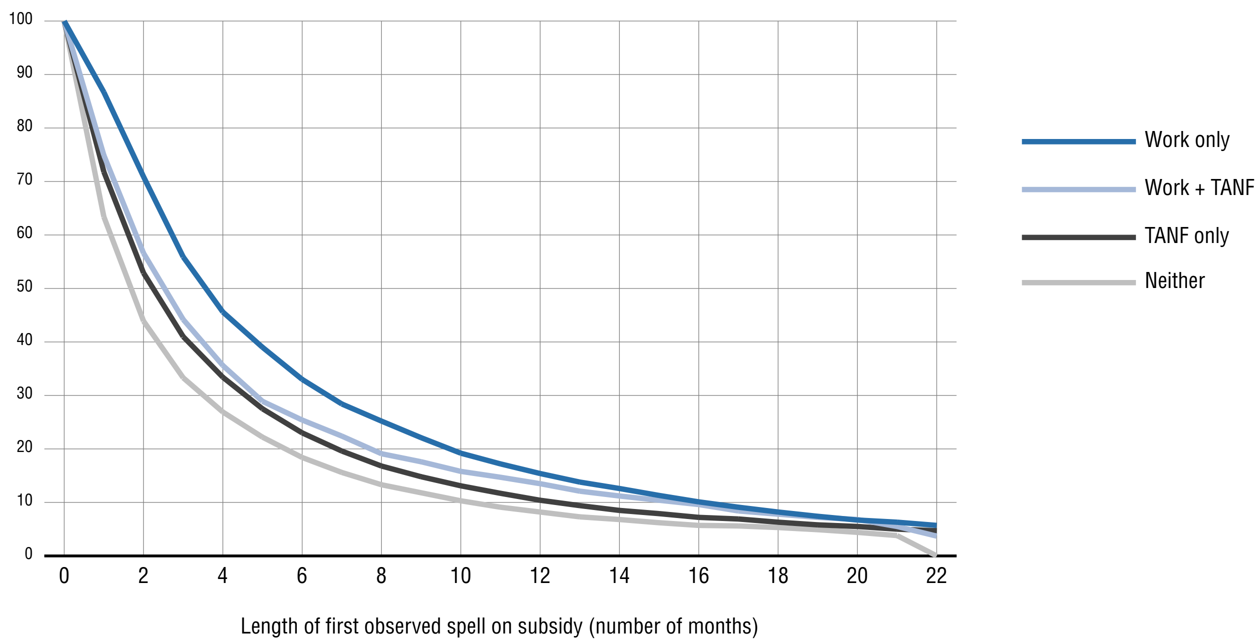
One possible explanation for differences in spell length across the five states is that the types of families served differ, and those differences are related to spell length. For example, if working families tend to use subsidies for a longer period of time than do TANF families, a state with a larger proportion of working families in its service population is likely to have longer average spells of subsidy receipt. For this reason, the study team examined the length of subsidy receipt by parent's activity, dividing families into four groups: (1) working and not on TANF; (2) working and receiving TANF; (3) receiving TANF and not working; and (4) neither working nor on

Table 11: Kaplan-Meier Estimates of Median Length of Subsidy Receipt in Months (First Observed Spell Starting During Observation Period), by State and Parent Activity

	Oregon	Illinois	Maryland	Massachusetts	Texas
Working, not receiving TANF	4	5	5	7	8
Working, receiving TANF	3	6	4	5	5
Not Working, receiving TANF	3	5	4	5	4
Not Working, not receiving TANF	2	6	3	5	6

Notes: Analyses includes all observed spells starting during observation period for Illinois and Maryland.

Figure 4: Survival Rates by Parent's Work and TANF Status (Oregon)



TANF (this, in most cases, meant the family was engaged in job readiness or assessment activities). As shown earlier (See Table 3), the percentages of families in each of these groups varied a great deal across the five states.

Length of subsidy receipt varied considerably depending on the parent's work and TANF status. In Oregon, for parents who were working and not receiving TANF, the median spell length was four months, compared to three months or shorter for the other groups (see Table 11). There were more longer spells as well for working, nonTANF families where the 75th percentile was nine months compared to seven months or less for the other groups. Parents who were neither working nor receiving TANF had the shortest spells, with a median of two months.

Length of subsidy receipt showed a similar pattern depending on the parent's work and TANF status in most of the other states. Figure 4 plots the "survival rates" by parents' work and TANF status in Oregon, showing the cumulative percentage who left the subsidy program (those leaving faster have shorter spells). The difference in spell length suggests that the length of subsidy use was driven largely by family circumstances, in particular, whether families entered the program because of employment, job readiness activities, or TANF receipt. Parents who

Table 12: Length of Time (Number of Months) on Subsidy by Reason Code (Oregon)

Reason code*	Related program	25th percentile	50th percentile (median)	75th percentile	Number of families
Cluster 1: Job readiness, assessment					
24	Jobs Plus: Employer-state work/training program	3	5	8	59
62	OFSET: Food Stamp Program Employment and Training	1	1	2	1,639
70	JOBS: Job readiness, training or job search	1	2	4	7,659
Cluster 2: Vocational training, education					
90	Employment related day care: Vocational training or education	4	7	13	165
Cluster 3: Employment					
29	Jobs Plus: Employer-state work/training program	3	6	9	329
92	Employment related day care: Employment	3	5	10	13,179
93	Pre-TANF work support	2	3	5	1,835

* Based on reason code in last month of first observed spell collected by Adult and family Services (AFS), the Oregon Agency that collects child care subsidy data. Because of very small numbers, code 89 was combined with 92 and code 94 was combined with 93. A small number of cases had reason codes that were not defined and were dropped from this analysis. Analysis sample includes families receiving subsidies between October 1997 and September 1999, excluding families who received a subsidy in October 1997.

Table 13: Reentry Rates by Reason Code (Oregon)

Reason code*	Related program	Percent returning within 3 months	Percent returning within 6 months	Percent returning within 9 months	Percent returning within 12 months	Number of families
Cluster 1: Job readiness, assessment						
24	Jobs Plus: Employer-state work/training program	24.4	36.4	46.2	57.9	59
62	OFSET: Food Stamp Program Employment and Training	5.2	6.9	7.4	8.7	1,639
70	JOBS: Job readiness, training or job search	27.4	40.3	46.2	47.9	7,659
Cluster 2: Vocational training, education						
90	Employment related day care: Vocational training or education	42.4	58.3	71.7	69.0	165
Cluster 3: Employment						
29	Jobs Plus: Employer-state work/training program	25.0	29.6	36.4	38.3	329
92	Employment related day care: Employment	20.7	29.7	34.0	36.1	13,179
93	Pre-TANF work support	26.3	39.3	45.4	48.7	1,835

* Based on reason code in last month of first observed spell collected by Adult and family Services (AFS), the Oregon Agency that collects child care subsidy data. Because of very small numbers, code 89 was combined with 92 and code 94 was combined with 93. A small number of cases had reason codes that were not defined and were dropped from this analysis. Analysis sample includes families receiving subsidies between October 1997 and September 1999, excluding families who received a subsidy in October 1997.

Table 14: Spell Length and Reentry Rates by Size of Copayment (Oregon)

	No copayment	"Low" copayment	"Middle range" copayment	"High" copayment
Number of families	***11,815***	***5,705***	***3,716***	***3,633***
Length of first spell (number of months)				
25th percentile	1	3	3	3
50th percentile (median)	2	4	6	5
75th percentile	4	9	11	11
Return rates (percent returning)				
Percent returning within 3 months	24%	26%	23%	19%
Percent returning within 6 months	34%	37%	33%	29%
Percent returning within 9 months	39%	42%	39%	32%
Percent returning within 12 months	41%	44%	42%	33%

Notes: The copayment amount in the last month of the first observed spell was used to categorize families as:
- No copayment: if the family was exempt from a copayment.
- "Low" copayment: if the family's copayment was less than the median copay amount ($67).
- "Middle range" copayment: if the family's copayment was above the median ($67) and below the 75th percentile of copayment amounts in the sample ($135).
- "High" copayment: if the family's copayment was above the 75th percentile of copayment amounts in the sample ($135).

Ten families were missing copayment information.

were employed and not on TANF were most likely to continue to receive a child care subsidy. In contrast, parents who were in a short-term training or assessment program may have used the subsidy program for a short time, but they tended to leave the subsidy program at the end of the training or assessment program.[17] A similar pattern of longer spells associated with employment was found in all states, with a slight variation in Illinois (see Table 11). In that state, 85 percent of families were employed, and researchers saw little difference in spell lengths by employment or TANF status.

Reason Codes

Given the apparent importance of family circumstances in determining spell length, researchers further investigated this relationship using variables available in the Oregon data that were not available in the other states. In particular, researchers looked in more detail at the "Reason Code," that is, the program through which the parent received a subsidy. These codes identify the parent's activity status in greater detail than the TANF/working categories used above.

Parents involved in job readiness and assessment activities tend to have the shortest spells of subsidy use in Oregon (see Table 12) although there is some variation across programs. JOBS Plus clients in training (reason code 24—a state-employer training partnership program) had a median spell length of five months, compared to two-month spells for those in "OFSET" (reason code 62—Oregon Food Stamp Employment and Training Program) or JOBS activities (reason code 70—JOBS Program activities). Students receiving child care subsidies (reason code 90—college or vocational school attendance) had the longest median spell length of seven months, possibly reflecting the stability of their circumstances. Families in programs related to employment tended to have the longest spells other than those in school; again, there is variation across programs.

The analysis of length of subsidy receipt is based on first observed spell, and families return for a later subsidy spell at different rates depending upon their initial activity status. As shown in Table 13, families who were involved in job readiness/assessment activities when they left (Reason codes 24 and 70) were more likely to return than those in some of

Having a copay was related to the family's circumstances: families who were employed were likely to have a copay, families who were in an assessment program or on TANF were not. Families without a copay had shorter spells, not because of the lack of copay but for reasons related to their circumstances.

the work-related (ERDC) programs. The most dramatic exception is parents in the OFSET program who rarely returned for another spell of subsidy receipt (only about 9 percent returned within 12 months).[18] Thus, while there are exceptions, generally parents who were involved in job readiness and assessment activities had shorter first spells of subsidy use and returned for another spell of subsidy receipt at a higher rate than did employed parents.

Copayments

It would appear that factors not captured in the data are needed to understand the effect of copay on spell length. Families who were not required to pay a copay were more likely to exit, which at first glance may seem to contradict theoretical expectations. In this case, however, having a copay was related to the family's circumstances: families who were employed were likely to have a copay, families who were in an assessment program or on TANF were not. Thus, families without a copay had shorter spells, not because of the lack of copay but for reasons related to their circumstances.

Researchers further investigated the relationship between copay and length of subsidy use by dividing the families into four groups depending on the size of their copay in the last month of their first observed spell. Using the distribution of actual copays in the sample, families with copays above the 75th percentile were classified as having a "high" copay, those between the 50th and 75th percentile were classified as "middle range," and those who had a copay below the 50th percentile (and above $0) were classified as having a "low" copay. Table 14 provides the estimated spell length and return rates for families by copay group. As noted above, families with any copay at all have longer spells than those with no copay. Yet families with the highest copays (in the sample) have spells very similar to those with middle range copays (and longer than those with low copays).[19]

There may be a relationship, however, between high copays and reentry to the subsidy program (see Table 14). Families who had the highest copays (in the sample) when they exited the subsidy program returned at a lower rate than those with lower copays. Only one-third of families with "high" copays returned within a year, while over 40 percent of other families returned.

Discussion of Findings on the Dynamics of Subsidy Use

An interesting finding from this study is that, contrary to expectations, age and type of child care arrangement do not appear to be associated with length of subsidy receipt. There was limited variation within states and no consistent pattern or relationship between either age or type of care and length of subsidy spell. The expected relationship between higher net values of the subsidy and longer subsidy spells does not appear in this data either. Across the five states, there is no consistent pattern of spell length in relation to net value as a percentage of median income of subsidy families.

Comparisons of median spell length of child care subsidy use with policy differences across the states are difficult because of the complexity of policy impacts and interactions. For example, states set their maximum subsidy rate at different levels in relation to their market rates. Texas, Massachusetts, and Maryland set their rates close to or above the 75th percentile of the market. Rates in Illinois and Oregon are only sufficient to purchase between 25 and 50 percent of slots. Maximum rate policy interacts with the state policy on whether or not a provider can charge the parents the differential (difference between maximum provider rate and provider's usual charges). In Maryland, Massachusetts, and Texas, providers may not charge parents the differential. The complexity of these policy interactions and their effects make comparisons of net subsidy value across the states challenging.

The analysis does point to a key factor associated with length of subsidy receipt in the child care program. A parent's employment and TANF status is important, suggesting that leaving the subsidy program may be due in large part to changes in the family's employment and TANF status, factors not directly related to the child care assistance program. Across the five states, employment is related to longer spells of subsidy use. Analysis of spell length by reason codes in Oregon further clarifies the relationship between parental activity and subsidy use. In Oregon, parents participating in job readiness and assessment activities have shorter spells than do employed parents. Yet approximately 50 percent of those in job readiness and assessment activities reenter the subsidy program within a year, whereas approximately 40 percent of employed parents reenter. Families participating in the Food Stamps-related OFSET Program have especially short spells (the median length was one month), and only 9 percent reenter the program—further evidence that parent activity matters.

Analysis of length of subsidy receipt by amount of copay assessed adds to our growing understanding of the importance of parental activity on subsidy usage. Parents with no copay have the shortest median spell lengths, as these are mostly families in training and assessment programs. Employed families have a copay and have longer median spells. Here, parents with a high copay stand out in terms of reentry. While on average 40 to over 50 percent of all other copay groups (zero to middle copay) reenter, only a third of the highest copay group reenters. The results suggest that high copays may deter participation, but a full analysis of this issue would require more information on families' circumstances when they are not participating in the subsidy program.

Across the five states, the study does not find a consistent pattern of association between spell length, copayment, and net subsidy value. This suggests that further investigation into the interaction between programs, particularly the diversion and assessment program, TANF, and child care subsidies, is needed.

STABILITY OF CHILD CARE ARRANGEMENTS

The length of a spell of child care subsidy receipt only tells part of the story. Provider stability, that is, the stability of child care arrangements, is important for both parents and children. For parents, reliability of care is critical to maintaining employment. In terms of impact on the child, the primary issue is the stability of the child-caregiver relationship. The study team is able to assess the stability of the child's arrangement while the cost of care is being subsidized—that is, the stability of the care that is purchased with public dollars. Disruptions may be caused by loss of a subsidy or an arrangement, or by some other factor not captured in the database. There are two major limitations to assessing the stability of the child-caregiver relationship: (1) it is impossible to observe transitions in children's care arrangements that occur outside the period of subsidy receipt and (2) if the child is in center care, nothing is known of changes of adult caregivers within the center.

Findings on Stability of Subsidized Child Care Arrangements

To compare stability of child care within spells of subsidy receipt, this study examines the proportion of the total time on subsidy that children remained with the primary provider (the most common provider during the months of subsidy receipt). Children's time on subsidy is defined as the cumulative number of months that they received subsidies during the observation period (across one or more spells). The primary provider ratio measures the number of subsidized months during which the child continued to receive care from this provider. The study team also reports the share of all children who received care from only one provider during their entire cumulative period of subsidy receipt.[20]

As shown in Table 15, most children on subsidy in these states were cared for by a primary provider during the months the family received subsidies. This may be due, in large part, to the fact that the spells of subsidy receipt were short. Not surprisingly, the primary provider ratio and percent with a single primary provider declined in all states as the number of months of subsidy receipt increased.

Provider stability was low in Oregon, where only about half of children who received subsidies for six months remained in the same arrangement, and less than 30 percent of those receiving subsidies for 18 months were in the same arrangement.

Provider stability was low in Oregon, where only about half of children who received subsidies for six months remained in the same arrangement, and less than 30 percent of those receiving subsidies for 18 months were in the same arrangement. It was only slightly higher in Maryland. In contrast, from 73 to 83 percent of children who received subsidies for six months in Texas and Illinois, respectively, stayed in the same arrangement, and over half of children receiving subsidies for as long as 18 months were in the same arrangement.

Discussion of Findings on Provider Stability

These data suggest that while care arrangements were relatively stable for children who remained in the subsidy system for a short time, the stability of providers declined sharply in all states as the number of months of subsidy receipt grew. The fact that spells were short makes the issue of provider stability more difficult to assess. What appeared as high rates of stability at first glance was more problematic when one considered that spells were short. If the end of subsidy receipt led to the end of the care arrangement, children may be experiencing more turnover in arrangements than can be observed in these data. Stability appeared to be low for the one-third to nearly one-half of children who received subsidies for a cumulative period of more than six months. There is reason to be most concerned about the small percentage of children (5 to 10 percent) who were in multiple unstable arrangements (less than half of their months were with the same provider), even during short periods of subsidy receipt. For these children, quality of care was almost certainly compromised by frequent changes of caregiver.

These data suggest that while care arrangements were relatively stable for children who remained in the subsidy system for a short time, the stability of providers declined sharply in all states as the number of months of subsidy receipt grew.

Given that the two states with the shortest subsidy spells also had the lowest provider stability, there may be an association between subsidy spell length and provider stability. Determining if short spells increase the likelihood of provider instability is an area worthy of further study.

Table 15: Stability of Provider-Child Relationships, by State

	Cumulative duration of subsidy receipt (months)	Cumulative percent of sample	Mean primary provider ratio	Percent remaining with primary provider for entire subsidy period (PPR=1)
Oregon	3	46%	0.91	76%
	6	68%	0.82	52%
	9	80%	0.79	43%
	12	88%	0.77	36%
	18	97%	0.74	29%
Illinois	3	25%	0.96	93%
	6	51%	0.91	83%
	9	67%	0.84	69%
	12	81%	0.78	60%
	18	94%	0.73	54%
Maryland	3	39%	0.95	76%
	6	62%	0.87	64%
	9	76%	0.82	62%
	12	85%	0.77	53%
	18	96%	0.75	52%
Massachusetts	3	33%	0.94	87%
	6	54%	0.85	72%
	9	70%	0.79	61%
	12	80%	0.75	57%
	18	94%	0.75	58%
Texas	3	34%	0.96	90%
	6	62%	0.91	73%
	9	74%	0.89	67%
	12	84%	0.88	57%
	18	96%	0.85	53%

Notes: The primary provider ratio is the number of months with provider wiho has cared for the child the longest divided by total observed months of subsidy receipt.

Data for Massachusetts do not include contracted care arrangements (an estimated 50 percent of all subsidized arrangements in the state) and include voucher recipients for only a portion of the state (approximately 50 percent of all voucher recipients). Because working-poor families were more likely to use contracted child care arrangements, the data for this study reflect the experiences of TANF-related subsidy users.

CONCLUSION AND IMPLICATIONS FOR POLICY

Child care subsidies are an increasingly important public policy to support low-income families as they move off welfare, find and maintain employment, and find ways to meet the developmental needs of their children. Understanding the dynamics of child care subsidy use is important. This study provides a detailed look at Oregon families receiving child care subsidies and the factors associated with length of subsidy receipt and provider stability, and compares these findings with those of four other states.

Most families in Oregon use the child care subsidy program for only a short period of time: median spell length is three months. Less than half of the families do return for a subsequent spell of subsidy use, but only for a few months. Families using the subsidy program are not a homogeneous group. The reason for using the program is one indicator of differences in family characteristics (e.g., household income) and services received (e.g., copays). Short spells of subsidy use may be related to parental and situational factors not captured in the subsidy data. These include parental education level, mental health status, parental alcohol and drug involvement, and other factors that interfere with stability in employment or training. For example, a sizeable fraction of families use the child care subsidy while in job assessment and job training programs that typically last between one and three months. Families in these programs tend to use the child care subsidy program for only a short period of time (three months or less). They are likely to reenter the subsidy program, unless they are in the Oregon Food Stamp Employment and Training Program—OFSET. Employed parents are less likely to reenter, but the data available do not tell us why. Possible reasons include job loss, difficulty getting recertified, or a high copayment.

Which families are served appears to be a result of interactions of TANF and subsidy program policies.

One of the most important study findings relates to policy interactions, both interactions between TANF and child care subsidy program policies and also interactions of policies within the subsidy program. Which families are served appears to be a result of interactions of TANF and subsidy program policies. For example, the proportion of families receiving child care subsidies who are working and the proportion who are working and on TANF varies widely across the states. The cost per employed family is higher since their spells of subsidy receipt are longer. It may be important for states to decide which families the state wants to target for the child care subsidy program and why. While subsidizing child care may be important to allow parents to participate in job readiness and assessment programs, it is not clear that support of child care for one to two months has much effect on employment or child well-being outcomes. Identifying the programs which serve families for very short spells can inform decision-making.

In terms of subsidy program policy interactions, it appears likely that copay and maximum rate policies interact with each other and with other state policies such as eligibility and eligibility redetermination policies. States would do well to look at policies holistically rather than thinking of policies independently when deciding who they want to serve, for how long, and with what services.

IMPLICATIONS FOR RESEARCH

Given the finding that most subsidy spells are short, the critical question is why. In addition to finding short spells, the study team was surprised by the large percentage of families with no copay and the relatively small percentage of families who reentered the program. Further investigation into the administration of the child care subsidy program might explain why families leave the program so quickly and why many do not return. For example, if administrative barriers make it difficult for people to remain on the subsidy program during times of transition from one program to another, or from a program into employment, administrative changes would likely increase spell length and might increase the stability of child care arrangements. To test this hypothesis, however, would require additional data on parent circumstances and care arrangements during the months that the family is not on the subsidy program.

It appears that one major source of the variance in median spell length across the states is related to differences in the characteristics of families being served by the subsidy programs in each state. Further, it appears that interactions between TANF and subsidy program policy are likely to be affecting who is and is not served. More clarity on the interactions of TANF and child care policy is essential so that states are able to make informed decisions about which families they want to target with which services and for how long. Texas policymakers made a commitment to continuity in care and they had the longest median spells of the five states. Determining if Texas policies and practices are associated with longer subsidy spells would be helpful, especially if specific policies and practices could be identified.

In all states, employed parents had spells as long as or longer than spells of parents who were not employed. While employment status appears to be a key determinant of the length of subsidy use, other family and policy characteristics also may matter. Separating out the effects of these family and policy characteristics is tricky, in part because of the limitations of the data available in administrative databases. Identification of sources of additional information on subsidy-receiving families that could be combined with subsidy data is an important next step for research. Examples of data that would be helpful include parental age, education, gender, marital status, and occupation and industrial sector in which the parents are employed.

Understanding the interactions between program participation, employment, and care arrangements is important for the development of policy as child care becomes an increasingly large portion of public spending on support for low-income families.

This study found no consistent pattern of relationships between spell length and types of care across the five states, yet there may be relationships between subsidy policies, or subsidy policy interactions, and type of care selected by parents. State provider payment policies affect care options available to families. Where states set maximum rates in relation to the market may affect which types of care families purchase with a subsidy. Linking data on the costs and availability of different types of care in different geographic areas to administrative data on subsidy-receiving families may be helpful.

More research is needed to increase understanding of the effects of policy and policy interactions on subsidy use and type of care selected. In states in which providers can charge families the difference between maximum rate and the provider's usual rate (the differential), there are additional challenges for researchers. The true value of the subsidy to the family may be less than the net value calculated in this study (provider payment minus copay), since the parent may have to pay the differential. In all states, it is unclear what percent of providers collect the copay and whether this percentage varies by type of provider. In states where parents may be charged the differential, it is also important to know what percent of providers collect that amount from the parent. Determining the true cost of care to parents and the true net value of the subsidy are areas needing further study. If researchers could more accurately estimate cost and net value from a family perspective, more consistent patterns between net value and spell length might become evident.

A related but distinct area for further research is the relationship between subsidy spell length and provider stability. In this study, the two states with the shortest spells also had the lowest levels of provider stability. Do parents with longer subsidy spells have higher primary provider ratios?

The findings of this study increase understanding of subsidy program participation and outcomes in terms of continuity of subsidy use and stability of child care arrangements supported with public child care dollars. The study also helps identify areas in which more research is needed. Understanding the interactions between program participation, employment, and care arrangements is important for the development of policy as child care becomes an increasingly large portion of public spending on support for low-income families.

Technical Appendix: Comparison of Left-Censored Cases with New Cases

Any family that received a child care subsidy in the first month of the study time frame, October 1997, was dropped from the analysis. These "left-censored" cases are excluded because the data does not include all families who started prior to October, only those who continued to receive subsidies in October. Including families who may have started prior to October would overestimate the length of subsidy receipt because the families who started at the same time as they do, but who do not continue in the subsidy program (thus having shorter spells) are not in the data. Excluding the left-censored cases raises the concern that long spells may then be undersampled and thus average spell length may be underestimated.

Given the extremely short duration of most of these spells, it is unlikely that excluding left-censored cases has biased the results. Nonetheless, researchers also compared the characteristics of left-censored cases and the analysis sample to look for systematic differences. As shown in Table A-1, at first glance there do appear to be important differences in the characteristics between left-censored cases and those which begin after October 1997. Left-censored cases tend to have older children, are more likely to be working and not on TANF, have higher incomes, and receive a higher subsidy payment. However, in comparing these cases to the characteristics of cases in the last month of their spell, one can see that some of the differences are due to changes that occurred over the course of a spell of subsidy receipt. Among cases with spells longer than one month, incomes were higher, more were working, fewer were receiving TANF, and subsidy amounts and copay amounts were higher at the end of the spell. Thus, some of the differences between left-censored cases and the analysis sample can be attributed to looking at characteristics in the first versus later months of the spell. Overall, the left-censored cases look fairly similar to cases after their first month. Another test to determine if spell lengths are underestimated is to analyze spell lengths for subsidy recipients over a longer period of time. Researchers added another year of data to the longitudinal database and found no difference in the Kaplan-Meier estimates of spell length using the three years of data.

Table A.1: Comparison of Left-Censored Cases with Noncensored Cases (Oregon)

				Cases with spells longer than one month	
	Analysis sample	October 1997 left-censored cases	Cases with one month spells	Characteristics in the first month of spell	Characteristics in the last month of spell
Number of observations	24,879	14,338	5,659	18,312	18,312
Age of children					
Birth–11 months (age 0)	22%	9%	17%	23%	15%
12–23 months (age 1 year)	14%	13%	14%	14%	16%
24–35 months (age 2 years)	12%	13%	13%	12%	12%
36–47 months (age 3 years)	10%	12%	10%	10%	11%
48–59 months (age 4 years)	9%	11%	9%	9%	9%
60–71 months (age 5 years)	8%	10%	8%	8%	8%
72–119 months (age 6–9 years)	19%	23%	21%	20%	22%
120+ months (age 10+ years)	6%	8%	8%	6%	7%
Single parent	86%	93%	82%	87%	90%
Work and TANF status (% of families)					
Working, not receiving TANF	45%	67%	26%	50%	63%
Working, receiving TANF	5%	6%	5%	5%	5%
Not working, receiving TANF	33%	20%	41%	31%	20%
Not working, not receiving TANF	16%	7%	26%	13%	11%
Family income: median	$573	$840	460	$660	$834
Percent of families with $0 income	12%	6%	19%	10%	9%
Subsidy amount: median	$195	$287	$144	$206	$242
Percent of families with no copayment	59%	65%	79%	53%	62%
Median copayment per month (for those with a copay)	$68	$87	$77	$67	$79

Note: 908 cases in September 1999 were excluded (one month long and right censored).

Endnotes

1. Abt Associates, Inc. (2000). *The National Study of Child Care for Low-Income Families, State and Community Substudy interim report*. Cambridge, MA: Abt Associates, Inc. Available at <http://www.abtassoc.com/reports/welfare-download/NSCCLIF.pdf>.

2. Ibid.

3. Blau, D. M. (2000). *Child care subsidy programs* (NBER Working Paper No. 7806). Cambridge, MA: National Bureau of Economic Research. Available at <http://papers.nber.org/papers/w7806>.

4. Piecyk, J.; Collins, A.; & Kreader, J. L. (1999). *Patterns and growth of child care voucher use by families connected to cash assistance in Illinois and Maryland.* New York, NY: National Center for Children in Poverty, Columbia University Mailman School of Public Health; Witt, R.; Queralt, M.; & Witte, A. D. (1999). *Duration of subsidized child care enrollments in the Birmingham areas of Alabama.* Wellesley, MA: Tri-State Child Care Research Partnership/Wellesley Child Care Research Partnership, c/o Wellesley College, Department of Economics; and Meyers, M. K. & Heintze, T. (1999). The child care subsidy shortfall: Is the subsidy system working for those working their way off welfare? *Social Service Review,* 73(1), pp. 37–64.

5. See Witt, Queralt, and Witte in endnote 4.

6. Witte, A. & Queralt, M. (1999). *Duration of subsidized child care arrangements in five areas of Massachusetts.* Wellesley, MA: Wellesley Child Care Research Partnership, c/o Wellesley College, Department of Economics.

7. U.S. Department of Health and Human Services, Child Care Bureau. (2001). Administration for Children and Families, Child Care Bureau vision statement. Available at <http://www.acf.dhhs.gov/programs/ccb/geninfo/vision/index.htm>.

8. U.S. General Accounting Office. (1999). *Education and care: Early childhood programs and services for low-income families* (GAO/HEHS-00-11). Washington, DC: U.S. General Accounting Office.

9. Belsky, J. (1990). Parental and nonparental child care and children's socioemotional development: A decade in review. *Journal of Marriage and Family,* 52, pp. 885–903 and Howes, C. (1991). Caregiving environments and their consequences for children: The experience in the United States. In E. Melhuish & P. Moss (Eds.), *Day care for young children*. New York, NY: Tavistock-Routledge.

10. Researchers were already using administrative data to study subsidy use in Illinois and Maryland as part of the Child Care Bureau's Child Care Research Partnership based at the National Center for Children in Poverty at Columbia University's Mailman School of Public Health. This group has published two reports about Illinois and Maryland regulated child care supply: Collins, A. & Li, J. (1997). *A study of regulated child care supply in Illinois and Maryland*; and Kreader, J. L.; Piecyk, J.; & Collins, A. (2000). *Scant increases after welfare reform: Regulated child care supply in Illinois and Maryland, 1996-1998,* and one in a series on subsidy use: Piecyk, Collins, & Kreader in endnote 4.

11. The five-state study is reported in Meyers, M. K.; Peck, L. R.; Davis, E. E.; Collins, A.; Kreader, J. L.; Georges, A.; Weber, R.; Schexnayder, D.; Schroeder, D.; & Olson, J. A. (2002). *The dynamics of child care subsidy use: A collaborative study of five states.* New York, NY: National Center for Children in Poverty, Columbia University Mailman School of Public Health.

12. In Maryland and Texas the data includes all families. Contracts are used to serve about 20 percent of families receiving assistance paying for child care in Illinois and about 50 percent of these families in Massachusetts.

13. Adams, G. & Schulman, K. (1998). *The west: Child care challenges*. Washington, DC: Children's Defense Fund.

14. The data include only the number of children in the family receiving child care subsidies, not the total number of children in the family.

15. In Oregon and Massachusetts, the size of the TANF cash grant is imputed based on TANF receipt and size of family. Data on actual grant amounts was not available in the data.

16. It is important to recognize the limitation of these data in determining the length of actual child care arrangements. Researchers track the child only while receiving subsidy. When the subsidy ends, the child may continue to receive care from that provider. However, given the sizeable costs involved, in most cases the child is not likely to continue in the same child care arrangement once the subsidy ends.

17. In theory, a family can continue to receive child care subsidies uninterrupted despite a change in status from job readiness activities to employment. Further investigation into why the subsidy is interrupted is warranted to determine, for example, whether there is a lag before employment begins or whether administrative hurdles make uninterrupted participation difficult.

18. Note that if the family returns for another spell of subsidy use under a different reason code or in a different program, they are included in the return rate.

19. It is very important to note that this does not suggest that high copays have no affect on subsidy use. The sample includes families who have chosen to participate. Families who choose to leave the subsidy program or who decide not to participate because of high copays are not represented in the sample.

20. This method is likely to overestimate stability for some children, since the provider was defined as the billing entity. Children who were in center-based arrangements may have experienced multiple individual providers while they were in one setting.

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