

# **Income, Co-payment and Child Care Choice in Maryland**

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**R E S I**  
RESEARCH & CONSULTING

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## **Preface**

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## Introduction

One of the advantages of living in the years of late Welfare Reform, as we might now begin to call the late nineties and the first years of the 21<sup>st</sup> century, is the availability of good data. The research conferences are stocked with relevant studies on poverty and welfare populations, the fruits of long-term and well-planned research begun in the early years of Welfare Reform.

This is also true, on a smaller scale, for the state of Maryland in the area of subsidized childcare. There, the efforts of the early years of Welfare Reform to increase the availability of operational data on incomes, type of care and subsidy receipt have borne real fruit. The story we have to tell you today comes directly from this data and, while not a funded study, does bear on questions of public child care subsidy study and care choice.

Beginning in late 1998, RESI of Towson University began receiving downloads from Maryland's childcare mainframe operational system (the Child Care Administration Management Information System, or CCAMIS), and began to use it for analysis to aid the policy-making process. Through the course of 1999 we achieved regular downloads, and by late that year, we had a solid basis for research—research for the analysis of co-payment burdens, subsidy levels, income eligibility alternatives, etc. By early 2002, we were accumulating a largely continuous series of data on the characteristics of the state's purchase of care (POC) customer base.

One of the most valuable aspects of this data is the testimony it bears on economic matters. Everyone in the state who seeks subsidized childcare must submit records of income. Non-TANF customers who receive subsidized care must pay a co-payment, which grows proportionally larger via sliding scale as income increases. Equally, the care type choices of everyone whose vouchers arrive from providers demanding payment are on record. These income, co-payment and care type records, multiplied across the 16,000 or so families (and 28,000 children) in the POC program, continuing month after month, form a corpus of data of marvelous breadth and consistency for the period of late Welfare Reform.

We will use this data to examine what happened to these subsidized childcare consumers as the period of "Y2K" gave way to the twenty-first century—specifically between December of 1999 and March of 2002. We will see how their income grew, how their subsidies shrank, and how their choices of the type of childcare they consumed were influenced by these circumstances of income and expense. In short, we will try to answer the question, "How did subsidy customers' choice of type of childcare vary as their incomes and co-payments increased?" This question actually goes to the heart of the effectiveness of the subsidy program in addressing the broader question, "Does the co-payment structure allow a fair choice among care types," a question important enough to have been written into federal law as an underlying goal of the Child Care and Development Fund.<sup>1</sup>

## The Data

RESI receives monthly downloads from the CCAMIS mainframe system, composed of paid voucher records,<sup>2</sup> and converts them into SAS datasets. These datasets are then further analyzed on PC's using SAS Institute's JMP™ software. The information presented here is based on 10 months of data stretching from December of 1999 through March of 2002, with approximately quarterly occurrence. (The distribution is not exactly quarterly because of data quality problems in scattered months.) Exhibit 1 shows the monthly components analyzed here. The length of the series allows us to measure the longevity of customers on the system, as well as their care type choices, incomes and co-payments.

Exhibit 1: Months and Families in the MD CCAMIS Data Set

<b>Month</b>	<b>Total Families with Subsidized Children</b>
Dec-99	16,427
Mar-00	15,821
Jun-00	16,164
Sep-00	15,937
Jan-01	16,678
Apr-01	16,761
Jul-01	16,649
Sep-01	15,966
Dec-01	16,469
Mar-02	16,677
<b>Total Families Occur- ring at least Once</b>	<b>40,126</b>

We don't want to repeat the lists of advantages and disadvantages of administrative data that we have all heard since the use of this data for human services research came into vogue a few years ago. We do want to make a few points, however. "Breadth," and not "depth" is the operative term here. Administrative data is seductive for those of us with a numerical bent, because it allows us to revel in great quantities of data, and to produce the illusion of total knowledge. It is certainly true that administrative data are broad. The patterns that emerge from an analysis of the data must be considered comprehensive. We are working with (for once) what must be considered the "universe" (not any sample) since to receive whatever treatment we are considering, you must be on the system and thus in the universe.

Of course, this universe is far from universal. While the administrative data set informs us about our customers, it completely begs the question of the larger world beyond the boundaries of our program. We do truly know what we know, but we remain

profoundly ignorant of how we fit into the bigger picture. We know our customers, but we don't know how unusual they are.

A more dangerous pitfall in using these data sets is our tendency to impose our own prejudices on the data. Sketchy and skeletal as they are, these data sets provide excellent *tabula rasa* for the projection of the assumptions we cannot help but bring to the table. Unlike qualitative data, where the informants have audible voices, idiosyncratic perhaps, but also individual and appealing, quantitative data present us with an enormous game of "connect the dots." The analyst must choose the order and direction of connection, and the number of possible pictures is much larger than we think. (The great correction to this pitfall is, of course, collaboration. That is why commentary from outside parties is so crucial to such analysis.)

In saying "consistency" we are thinking especially of the gross income data. One task human services agencies do perform reasonably well is determine eligibility. This is speculation, of course, for many reasons. First, because there is great variability from one welfare office to another based on how uniformly policies are implemented. Second, because information on how well eligibility workers do their jobs is difficult to obtain. Finally, because there exists no reliable benchmark against which to measure the accuracy of the income figures in question. There are reasons to expect a certain degree of consistency, however.

First is the simple reflection that there is a positive incentive for the customer going through the eligibility determination process: the childcare subsidy itself. Unlike in surveys, where the reward for honesty is uncertain, the customer has a real reason to come clean to the eligibility worker about her (or his) income. This may not include all income, but it does include at least the easily determined (and presumably major) portion of it.

Second is a faith in the bureaucratic process. Human service bureaucracies excel at routine and repetitive tasks requiring attention to detail. They often emphasize accuracy over speed, and ensure protection against fraud reasonably well. The multiple and burdensome eligibility requirements recently described so well by The Urban Institute in its report *Getting and Retaining Child Care Assistance* do have this positive effect, that they help to ensure a greater consistency of the figures reported.<sup>3</sup> Maryland, according to our impressionistic but, we think, accurate assessment, is no different from many other states in this regard.<sup>4</sup> Maryland's eligibility determination process does achieve, if not a wholly complete report of income, at least pay stub accuracy on the major source of that income. And bureaucratic controls would seem to ensure some guarantee of overall consistency in income determination, if not from case to case, at least on average from month to month.

If this is true, the income figures in administrative data sets like Maryland's CCAMIS may provide a useful way of measuring changes in income in a sector of the population for which income figures are often scarce, under-reported or suspect.<sup>5</sup>

There is another data point of great interest in the administrative data. That is the co-payment. This figure represents the portion of the provider payment for which the customer is responsible. These co-payments are assessed on a sliding scale in Maryland, as a proportion of the relevant childcare rate (which, in turn, is set at the 75<sup>th</sup> percentile of the market as determined by survey data). It may be that these co-payments are not always collected from the most impoverished of state subsidy customers, but we assume that they are collected in the vast majority of cases; the low profitability of childcare businesses would seem to be a guarantee of that.<sup>6</sup> The co-payment calculation, then, gives us a reasonably accurate measurement of how much customer families are willing to pay for childcare. And, most importantly, we can link that information with their childcare choice, and see it over a great range of incomes, from well below to double the poverty level.

Thus, we are convinced that Maryland’s CCAMIS data sets will give us consistent and valuable insight into the relationship of income, childcare expense and the choice of type of childcare in a segment of the population that is unusually difficult to investigate.

## The Policy Environment

Maryland, like many states, forces subsidy customers with higher incomes to carry an increasing share of childcare costs. For most of the period under consideration here (up to January of 2002) this scale topped out at 43% of the state’s childcare rate for the first child in care, and at 34% for second and subsequent children. This equal to the 75<sup>th</sup> percentile of the relevant survey-determined cost of care The detail of this co-payment scale can be seen below.

Exhibit 2: Co-payment Rate by Income Level  
(in effect until Jan, 2002)

Income Level	First Child	Second Child
A	1%	1%
B	2%	2%
C	6%	5%
D	11%	8%
E	16%	13%
F	23%	17%
G	31%	23%
H	41%	31%
I	42%	32%
J	43%	33%

Late Welfare Reform did bring a large number of policy changes to the POC program in Maryland. Fortunately, most of these changes did not make any difference in the income structure or co-payment costs of the subsidy system.

No substantive structural changes affected the front line caseworkers who dealt face to face with POC customers during the period.

On the policy side, formal provider (centers and family care) subsidy rates had been updated just before the beginning of our period, in September of 1999, and were not updated again until January 1, 2002, just at the end of our period. This lends a pleasing consistency to the rates paid on the formal side of the program during our study period. Informal rates were raised in May of 2000, and again on January 1, 2002. Eligibility limits were raised twice, in May of 2000 and again on January 1, 2002, going from roughly 42% of state median income when our period began, to 50% at its end. The co-payment scale changed in May of 2000 in connection with the raising of the eligibility limits, and again in January of 2002, but hold harmless actions limited the effect on customers to extremely modest levels. (In 2002, for example, co-pay increases were limited to a maximum of \$10.00 per month per child, effectively reducing the highest co-pay rate to 34% of the total cost of care).

While these changes certainly increased the income of providers and expanded room at the top end of the eligibility scale for new customers to enter, their effect on the childcare outlays of existing subsidy customers must have been slight.<sup>7</sup> In any case, for the purposes of analysis here, we have stressed measures (such as gross family income in dollars) which remained valid over the course of our period, over those which depended on definitions in regulation (such as income levels).

This data has many uses on the state level, of course, from simple demographics to facilitating simulations of the cost of rate and eligibility policy changes. On a more macro level, however, it can weigh in on a very important set of issues, issues at the heart of the Child Care and Development Fund's view of the appropriate structure of a subsidy program. "How do subsidies work to ensure equal access to a full range of child care providers?" and "Are co-payments affordable?"

Specifically, we can examine how care choice varies across the full range of co-payment levels, from the zero co-payments of TANF customers in work programs, to the potentially multiple-hundreds of dollar co-payments of Non-TANF customers at the top of the eligibility scale. If co-payments were too high, we would see changes in the choice of care type which appear to be driven by the cost of care. If co-payments were not too high, choice of care type would appear to be independent of cost.

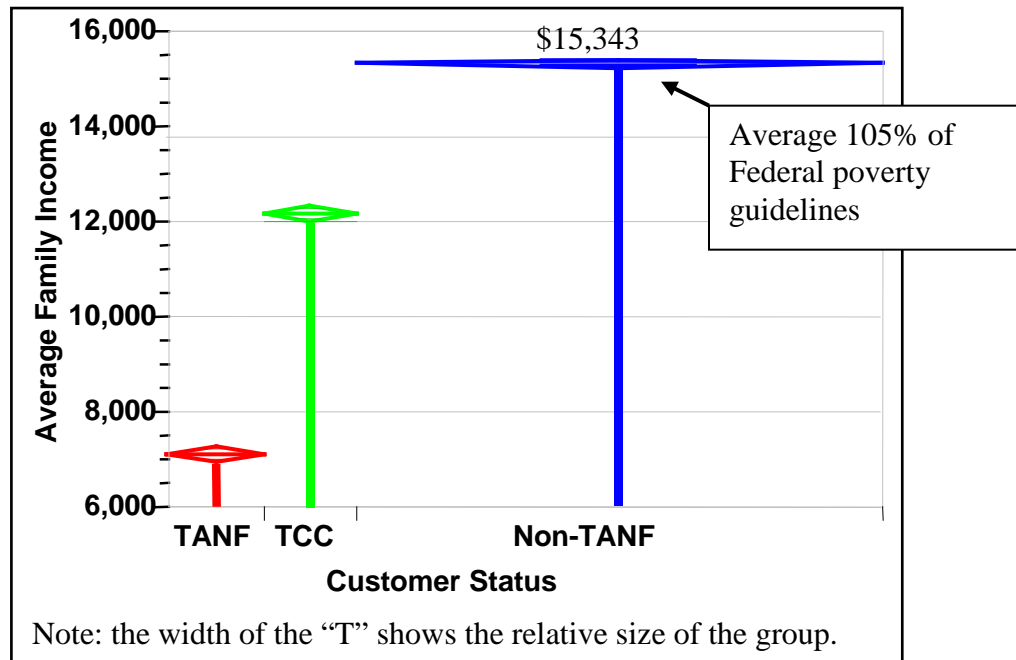
Before we address these questions, however, let's take a quick "survey of the horizon" of the Maryland data.

## Data Overview

Let's first examine the economic characteristics of our subsidy population, income and co-payment levels, and then move on to their childcare usage.

Certainly the customers of the subsidy program in Maryland were a thoroughly impoverished population, living poor in one of the richest states in the union. Exhibit 3 shows the average incomes of TANF, recent TANF recipients (or Transitional Child Care, also known as TCC) and Non-TANF subsidy customers over this late Welfare Reform time period. TANF customers averaged \$7,162, which corresponds to 12% of the (very high) state median income, and 49% of Federal Poverty guidelines. TCC customers averaged almost double that amount at \$12,202, which corresponds to 20% of state median income, and 83% of Federal Poverty guidelines, and Non-TANF customers averaged \$15,343, which corresponds to 26% of state median income, and 105% of Federal Poverty guidelines.

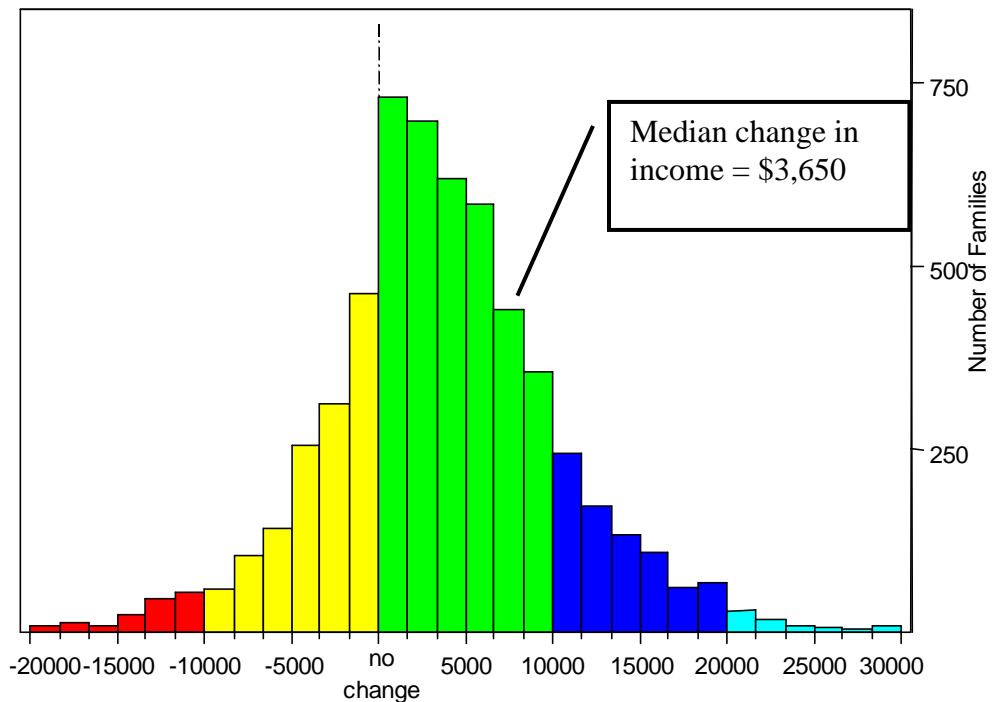
Exhibit 3: Average Income of Subsidy Customers by Customer Status



(This graph may appear odd to many, although it is really only a variant of the normal bar chart. This display style, brought over from SAS Institute's JMP™ software, shows a couple of additional data features—the relative size of the three customer groups, for example--without obscuring the simple points of the bar chart.<sup>8</sup>)

These averages disguise a real increase in incomes over this time period, however. This late Welfare Reform period in Maryland was certainly a time of prosperity. Average gross incomes reported to the subsidy program eligibility workers marched upward quarter after quarter, from just over \$13,000 in late 1999 to almost \$16,000 in March of '02, an increase of over 20%. Not all families benefited, though. The incomes of long-term customers, for example, customers who were on the rolls at 8 to 10 of the measurement points over our time period, rose by a median of \$3,650 over the period. Roughly three-quarters of these long-term customers experienced increased incomes, but the rest (shown in yellow and red in Exhibit 4) experienced decreased incomes. Of those who gained income, the average gain was a whopping \$5,786; those who lost saw an average loss of \$4,613.

Exhibit 4: Distribution of Income Gains and Losses for Long-Term Families



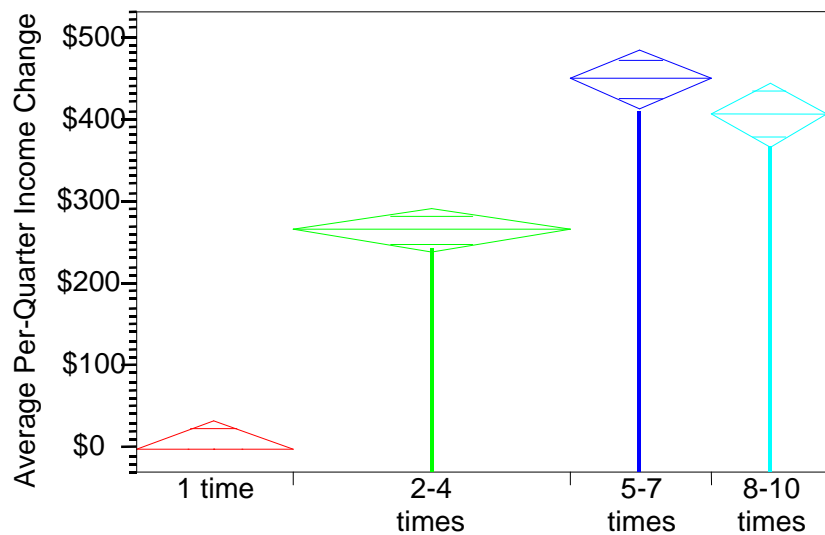
The experience of one family might help illustrate the economic prosperity of the gainers. Let's call them the Smith's (not their real name, of course), a single parent family with three children (aged 1, 6 and 8 in December of 1999) living in suburban Prince George's county outside Washington, D. C., with a preference for home-based formal care. Since the Smiths stayed on the program for all ten periods of the study, we can trace their experience in detail. They showed a \$6,000 income gain (from \$21,485-\$27,951) over the course of the two and a half year period, while moving from an income level at the middle of Maryland's scale through the very top income level, before finally ending at an income level slightly lower by the end of the period. Ms. Smith paid between \$249 and \$410 per month on childcare, which translated to between 13.9% and 22.7% of her annual income. (Her co-payment started at 13.9%, rose to 22.7% as she got a raise, but then dropped as the result of the co-payment policy changes at the end of the

period back to 14.3%.) The Smiths are also typical of Maryland’s POC population in that all three children were taken to the same provider for the entire duration of the stay.

Considering all POC customers, family income increased less for customers with higher first-observed incomes, but even those in the highest income bracket at the start of our study period saw their incomes increase by an average of \$965. Truly, this Late Welfare Reform period was a prosperous time.

It was also true that longer-term customers were more likely to have seen increases in income. This can be seen in Exhibit 5, where customers with an average of 5 to 7 appearances gained an average of \$450 per period, while those with only 2 to 4 appearances gained an average of \$265 per period. Longevity on the program, it would appear, was a good thing. One hopes, but cannot prove, that such effects followed from the advantage of the childcare subsidy.

Exhibit 5: Average Per-Quarter Income Gain of Subsidy Customers by Number of Times Present

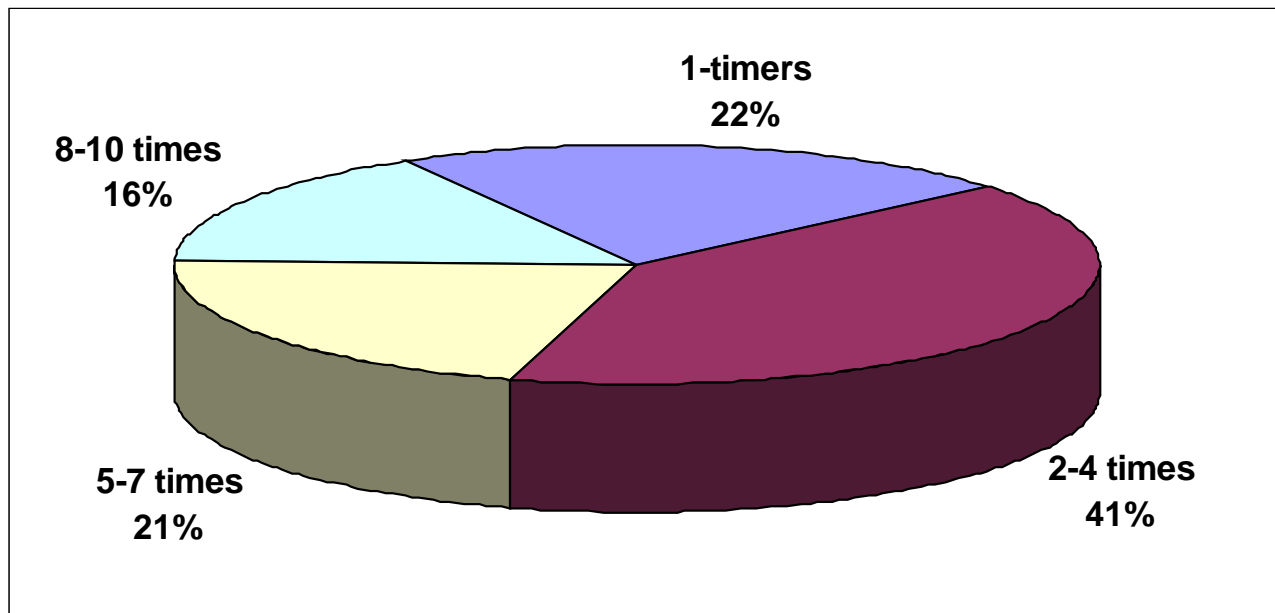


It is tempting to take a short detour into the thorny woods of longevity study here, because of our real sense that longevity on the program is a GOOD THING. The whole question of longevity is a difficult one, however, one which administrative data studies are only beginning to address.

If we divide all of the customers who showed up at any point in our ten measurement months into four groups—those who appeared only once, those who appeared two to four times, those who appeared five to seven times, and those who appeared eight to ten times—we can get an idea of the stability of the customer base. Exhibit 6 shows this data, and we can see that, while 63% of customers appeared between once and four times (this includes those who appeared only once because we may have

observed only a piece of their duration at the beginning or end of our period of study), the remainder had relatively long periods of subsidy receipt, with 16% appearing between 8 and 10 times. If we assume that the appearance of a family in consecutive quarters means that they were on the rolls without break,<sup>9</sup> then the average spell length was 3.25 quarters, or almost ten months. The average number of spells per family is 1.34, and the average length of a spell is 3.55 quarters (10.5 months) for those with only one spell, and 2.5 (7.5 months) for those with multiple spells. Seventy-two percent of families had only one spell.

Exhibit 6: Frequency of Appearance of Families



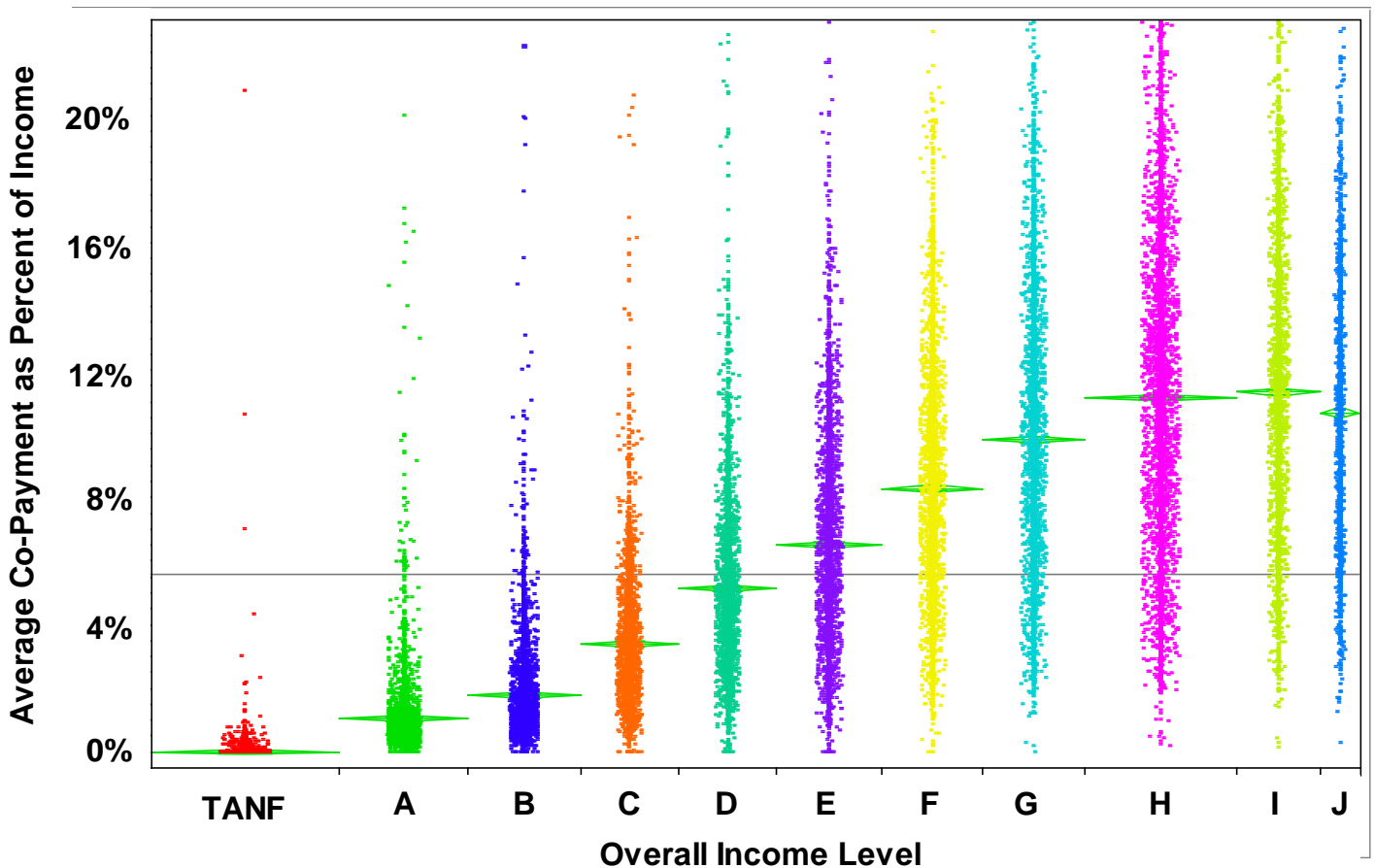
Comparing this longevity data with that of other childcare subsidy usage studies is a frustrating experience, however, because of the lack of a standard procedure for such comparisons, and the varying time periods under consideration. For example, while a major 1999 study of administrative data on childcare subsidy receipt in Texas computed spell length over a three-year period from 1994 to 1997, the spells were measured by child, not by family.<sup>10</sup> How does the spell length *per child* in Texas, averaging 7.9 months, compare to Maryland's average spell length *per family* of 10.5 months? It seems impossible to tell.

Returning to our economic focus, and moving from the income side to the expense side, co-payments can testify to childcare expense, at least in a partial way.<sup>11</sup> Customers on TANF did not pay co-payments, of course. Other customers paid co-payment amounts that varied, in Maryland, from a minimum of \$1.00 per month for the lowest income levels, to potentially hundreds of dollars a month, depending on the market rates for their regions (and some of our regions are among the wealthiest in the U. S.), their income and the type of care chosen. Informal care is the least expensive care type, where full-time care is reimbursed at low rates; formal care is, of course, anywhere

from two to over six hundred dollars a month more for a full-time child. Maryland’s sliding fee scale stretches across eleven levels, with Level J, the highest, demanding co-payments of 43% of the cost of care for the first child in care.<sup>12</sup>

The effect of this sliding fee scale is to produce average co-payments ranging from 0-12% of gross family income, depending on income level. See Exhibit 7. (This graph is similar to Exhibits 3 and 5 above, but with the added feature of a scatter plot of actual data points. This scattering gives a useful impression of the variability of the data so often obscured by the “flaw” of averages—variability that is extreme in this case.) The most important point to notice here is the stair step increase in co-payment as income increases.

Exhibit 7: Average Family Co-Payment As a Percent of Income, by Income Level



Looking at average co-payments over time gives an impressive view of the effects of the boom of this period of Late Welfare Reform in Maryland, but also of the downside of that boom. The increasing incomes of the period required much higher customer co-payments. Prospering families were asked to shoulder progressively more of the burden

of their own child care cost to make more budgetary room for lower income customers. The sliding scale policy design was working as intended. (We might also note what an important task the state accomplished in raising income limits in 1999. Without such an increase, many customers might have suffered a worse fate than rising co-payments. They might have been forced off the rolls altogether, as the redetermination process found more and more customers overscale.)

Turning from income and co-payment levels to childcare usage, the nature of our story changes dramatically. Here, TANF and Non-TANF groups hardly differ at all. In terms of part-time vs. full-time usage and the proportions using center, family and informal care, Exhibits 8 and 9 show very little difference across the various categories. Exhibit 8 shows us that all three categories of POC families show nearly identical choices of care type, with between 17 and 21% choosing informal care, 40-44% choosing family care, and 34-43% choosing center care. Only Transitional care shows a small (and statistically insignificant) deviation from the mean, with center care (the most expensive care type) used at a slightly decreased frequency, and informal care (the most flexible and inexpensive care type) used at an increased frequency.

Exhibit 8: Child Care Type by Customer Status

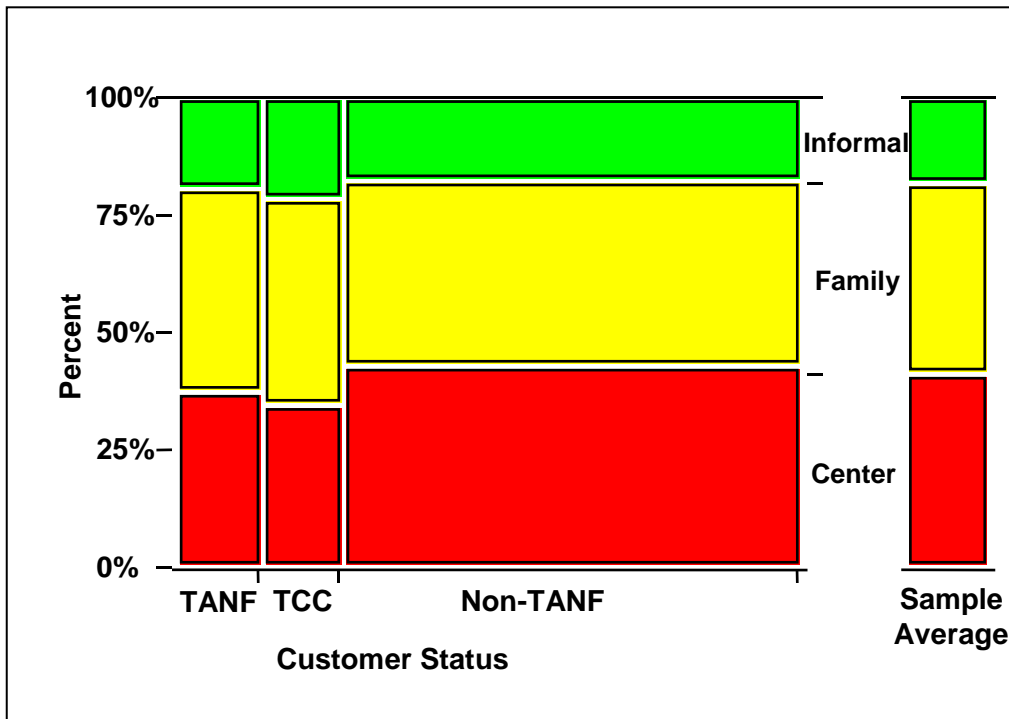
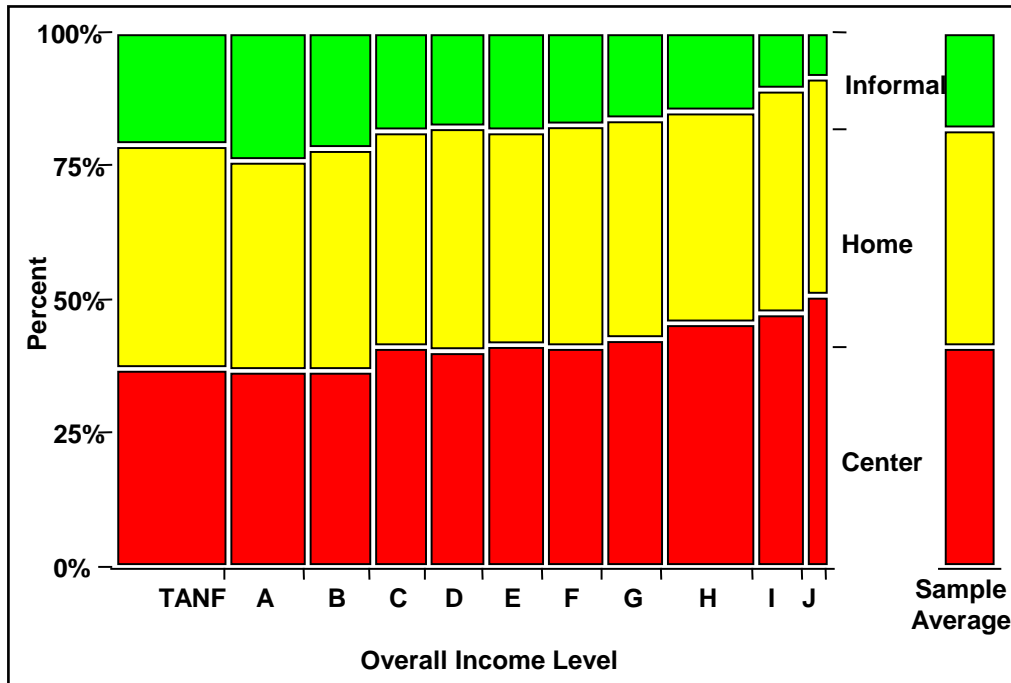


Exhibit 9 expands Exhibit 8 to see a full set of graduated usage patterns across income and co-payment levels, from the co-payment exempt group of TANF child care users through the roughly \$28,000 income and hundreds-of-dollar co-payment group of Level J. Use of center care actually rises as incomes and co-payments increase, while informal care, the least expensive care type, decreases.

Exhibit 9: Child Care Type by Income Level



## Family Co-payment Expense vs. Care Type Choice

The disjunction between the appearance of Exhibit 7 and Exhibits 8 and 9 is central to our story, because of the light it sheds on the effectiveness of the subsidy program. People want their childcare the way they want it, regardless (to some extent, at least) of the price. As their incomes increase and they can afford higher quality care, they tend to consume it to a greater extent than when their incomes were lower.

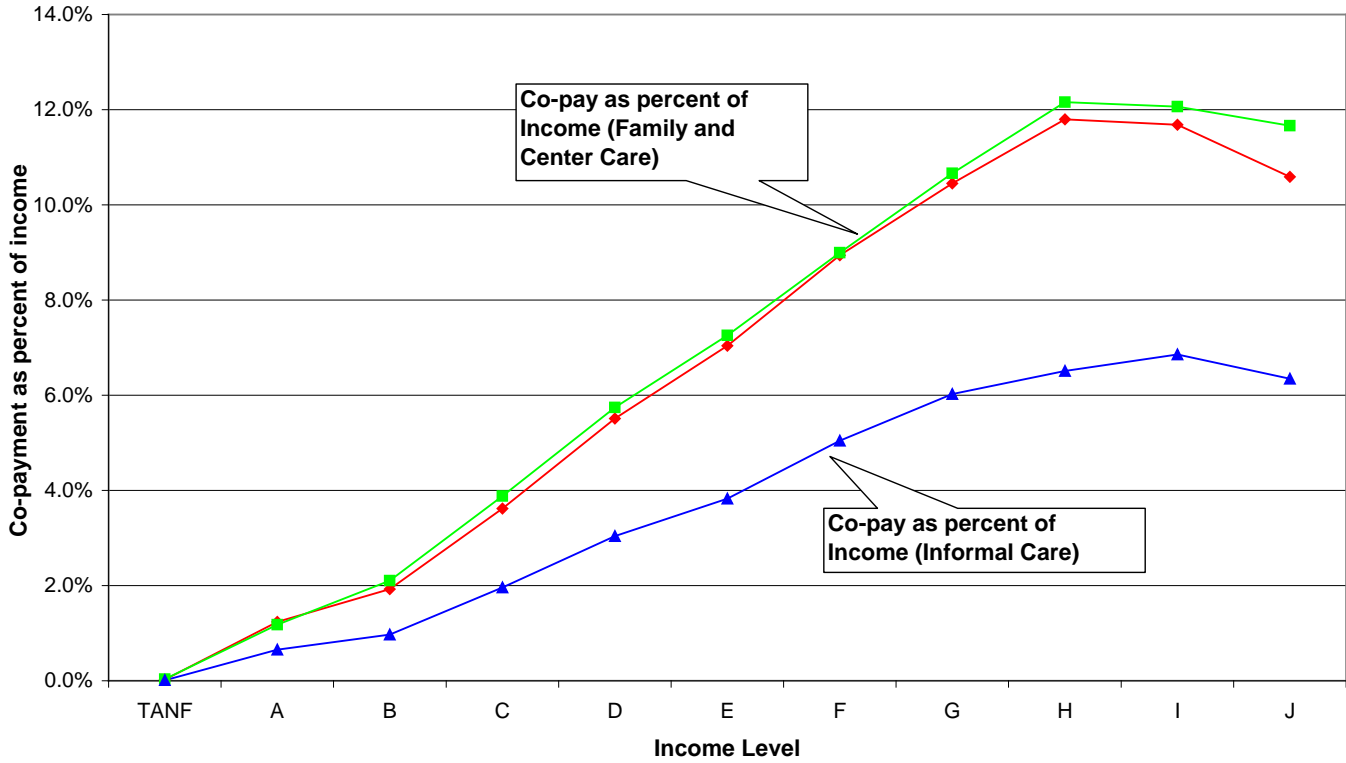
Let's develop our argument in greater detail. We can reasonably assume that if families were under significant economic pressure to choose less expensive childcare for their families, they would do so. They would choose the kind of childcare that would minimize their costs, and would do so to a greater extent as their incomes increased. They would be expected to choose informal care rather than family or center care.

How much less expensive is informal care? It is a good deal less expensive. Exhibit 10 shows the average difference between the co-payment cost of formal care, the almost overlapping higher center and family care lines, and the lower co-payment cost of informal care. In fact, informal care costs an average of roughly 36% as much as formal care to a customer family. In real terms, a 4 person family with a \$20,000 income with a child in formal care in the most expensive county in the state would expect to pay \$43.00

more than a similar family using informal care. If they made \$35,000, the difference would be \$105.00.

Exhibit 10 also shows how co-payment as a percent of income rises dramatically as income increases, as a direct function of Maryland’s sliding fee scale for co-payments.

Exhibit 10: Co-pay Expense by Care Type

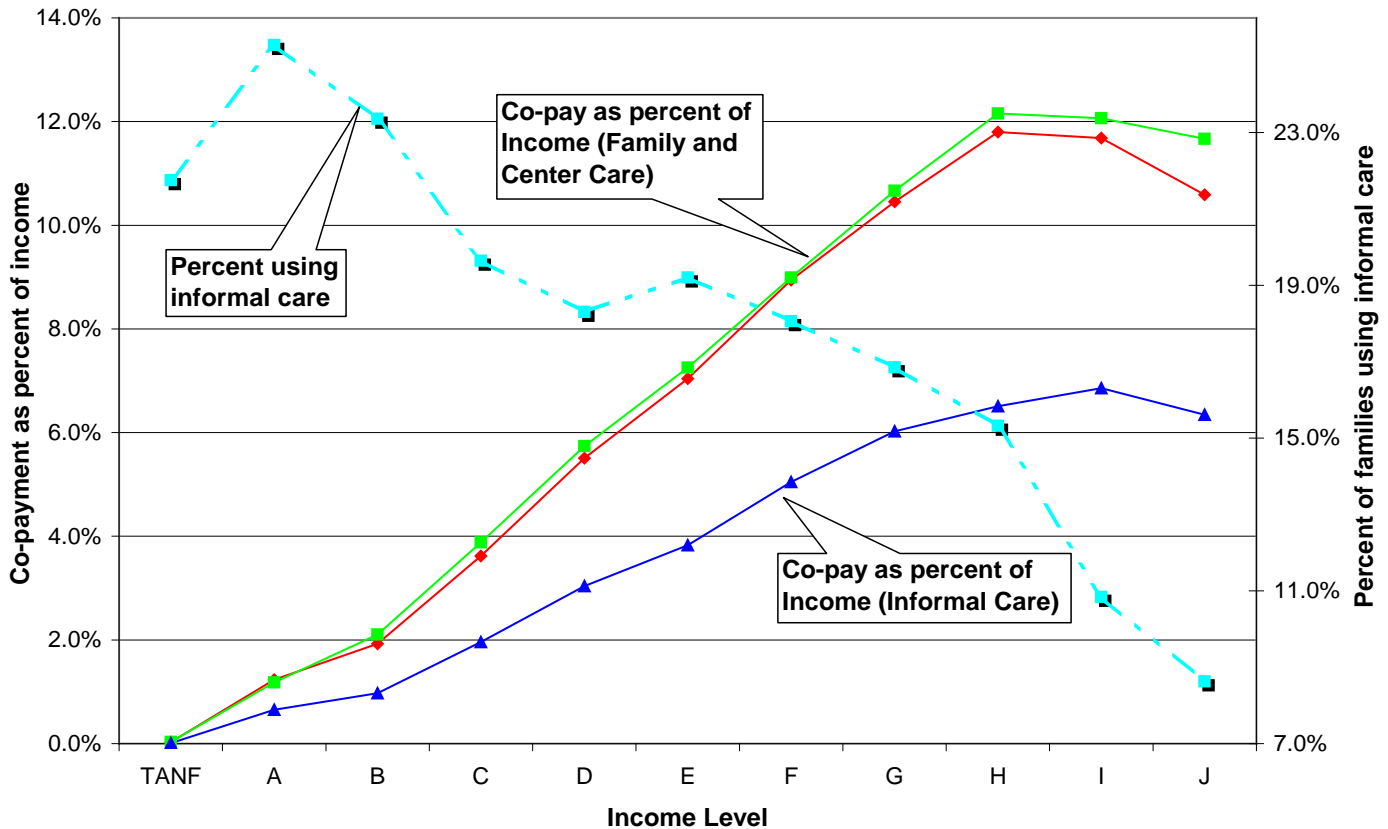


So, customers in income level “J” might be expected to choose informal care to a much greater extent than customers in income level “C,” for example.

Does this happen? No, it does not. In fact, the opposite occurs. Customers are free to choose what they feel is the appropriate type of care for their children without being constrained by their income.

If we graph the proportion of the customer base using informal care, and superimpose the results on the graph of rising co-payment levels shown in Exhibit 10, the lines cross. Exhibit 11 below shows this situation. Co-payment as a percent of income rises with income level, while the percentage of customers choosing less expensive, informal care drops.

Exhibit 11: Co-pay Expense vs. Care Type Choice



Such a statement could benefit from a statistical as well as a graphical demonstration, of course, a demonstration that would also include other factors influencing the choice of care type. In a nominal logistic regression, for example, using choice of care type as the dependent variable, co-payment as a percent of income was the strongest predictive variable, with a chi-square value of 1925 that is significant at less than 0.000 (meaning that the chances that this finding occurred by chance is less than one in a thousand). We also included in this regression model two other prediction variables: the number of children in care and the age of the oldest child in care. The overall model is significant at less than 0.000, with a chi-square statistic of 4600.<sup>13</sup> Co-pay as a percent of income was consistently the strongest and best predictor no matter which variables were included, which suggests a significant relationship regardless of any un-measurable variable interactions.

What must we conclude from this? First of all, it seems that the question we posed earlier, “Does the co-payment structure allow a fair choice among care types?” can be answered in the affirmative. The co-payment structure does allow Maryland subsidy program customers free choice among care types, free enough so that they can afford to ignore economic factors in their choice of care. Second, Maryland’s customers perceive a

higher value in formal care for their children, and are willing to purchase that higher quality care as they become able. Both of these are pretty positive conclusions.

## Conclusion

This lack of movement toward informal care has been noted before. A recent survey of Welfare Reform concludes, in its article on childcare, that

most parents have not turned to informal care in the wake of welfare reform. ... current child care subsidies are not large enough to shift underlying parental preferences.<sup>14</sup>

The same was true of the 17 states in the recent *National Study of Child Care for Low-Income Families* by Abt/NCCP.<sup>15</sup> Our evidence confirms this finding, but goes farther, however, in demonstrating gradually increasing usage of formal care as income increases—testifying very clearly about the desirability of formal care despite the rising cost of such care through rising co-payment requirements.

In fact, subsidy customers do not seem to be constrained by economic factors in their choice of type of care for their children. They choose more expensive care as their incomes and co-payments rise, despite their poverty. To this extent, the subsidy program is working in ensuring a wide range of choice among childcare providers.

## Footnotes

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<sup>1</sup> See 45 CFR Parts 98 and 99, Child Care Development Fund: Final Rule. Federal Register Vol. 63, no. 142, 98.43.

<sup>2</sup> All of Maryland's childcare providers are paid in this manner, submitting invoices based on vouchers originally issued to subsidy customers.

<sup>3</sup> Gina Adams, Kathleen Snyder and Jodi R. Sandfort, *Getting and Retaining Child Care Assistance: How Policy and Practice Influence Parents' Experiences*, Assessing the New Federalism Occasional Paper No. 55, pp. 30-2.

<sup>4</sup> Anne Webster, Maryland Child Care Administration, 6/18/02 personal interview. There is a certain degree of "enemy camp mentality" between eligibility workers and customers, with the former doing their best to ferret out potentially misleading information from the latter.

<sup>5</sup> See Kathryn Edin and Laura Lein, *Making Ends Meet*, Russell Sage Foundation, New York, 1997, 172-176. In Maryland, it appears that the state EITC, with the same eligibility criteria as Federal EITC, produces returns well in excess of levels that would be expected based on 1990 census income figures.

<sup>6</sup> RMA figures on the profitability of child care businesses; see also Ann Collins, Jean Layzer, et. al., *National Study of Child Care for Low-Income Families*, Abt Associates, November 2, 2000, p. 70, referring to a wide selection of U. S. counties (all non-Maryland): "Providers almost always collected parents' co-payments."

<sup>7</sup> One could argue that co-payments for informal care customers increased as of the Informal rate increases of May 1, 2000. Since such co-payments would, in the vast majority of cases, be paid to "kith and kin" however, it is unclear that there was much monetary impact on customers.

<sup>8</sup> The other feature is the variation at the 95% percentile confidence level of the data around the mean, shown by the height of the diamond. See the wonderful volumes of Edward Tufte, including especially his classic *The Visual Display of Quantitative Information*, for impressive arguments on the principle of more dense visual depiction of data.

<sup>9</sup> This seems a safe assumption for most of the families in question, because disappearing and reappearing only 3 months later must be, given the slow course of the normal eligibility determination, a rare occurrence.

<sup>10</sup> See Deanna Schnexnayder, et. al., *Texas Subsidized Child Care Utilization Patterns and Outcomes*, Center for the Study of Human Resources, Lyndon B. Johnson School of Public Affairs, The University of Texas at Austin, 1999,

<sup>11</sup> There is, of course, the question of "hidden" co-payment, when the subsidy amount plus official co-payment does not cover the cost of care. Because of the relatively frequent rate increases during this period, all calculated to bring rates up to the 75<sup>th</sup> percentile of the market according to rate surveys performed by Maryland Committee for Children, it is to be hoped that the hidden co-payment was relatively small over the course of our study.

<sup>12</sup> This 43% of cost of care maximum rate was reduced to 34% in January of 2002.

<sup>13</sup> The three predictors are all considered significant at an alpha level of .0001, and are ranked as follows: co-pay as % of income (chi-square=1925.8), avg. number of children in care (chi-square=529.1), and average age of oldest child (chi-square=323.26). Other variables including change in income, age of youngest child in care and average child age were tested and found to lower the overall chi-square, and thus reduce the quality of the regression.

<sup>14</sup> Douglas J. Besharov, and Nazanin Samari, "Child Care after Welfare Reform" in *The New World of Welfare*, Rebecca M. Blank and Ron Haskins, ed. Washington, D. C.: Brookings Institution Press, 2001.

<sup>15</sup> Ann Collins, Jean Layzer, et. al., *National Study of Child Care for Low-Income Families*, Abt Associates, November 2, 2000, p. 69.