

**Life On Welfare: Have the Hard-to-Serve Been Left Behind?
Changes in the TANF Caseload Over the Course of Welfare Reform**

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Executive Summary

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PL 104-193) radically changed American welfare policy. Among other things, adults receiving cash assistance from the new Temporary Aid to Needy Families (TANF) program are subject to strict work participation requirements and time limits and the personal entitlement to federally funded cash assistance no longer exists. Since 1996, welfare caseloads have declined precipitously across the country, leading many to hypothesize that families receiving TANF today face more personal and family challenges in leaving welfare for work, than did families who have already left the rolls. The remaining cohort is assumed to be harder to serve - that is, possessing characteristics which put them at risk for long term welfare receipt.

The present study empirically examines this hypothesis for two cross-sectional samples of the Maryland TANF caseload: 5,961 cases receiving TANF in October 1996 and 4,518 cases which were receiving TANF in October 1998. Data on variables demonstrated to increase a family's risk for long term welfare receipt, including demographic and human capital characteristics, family composition, and struggles and stressors, were drawn from four administrative data systems, including case narratives.

Descriptive and univariate statistics reveal differences in client and family characteristics between years. Specifically, statistically significant differences were found between the 1996 and 1998 cohorts for 14 of the risk factors examined: age at first adult AFDC/TCA receipt; race/ethnicity; marital status; work experience; age of youngest child in the assistance unit; single mother household; presence of another, non-disabled adult; caretaker relative; intergenerational welfare receipt; welfare history; payee health limitations/disabilities; payee

mental health problems, substance use problems; and domestic violence. No difference in years exists in the number of children in the assistance unit, the perception of child care as a barrier to work, the perception of transportation as a barrier to work, or the prevalence of health or behavioral problems among children in the assistance unit.

Some of the differences observed are consistent with the hypothesis that there is a larger proportion of at risk clients in the 1998 than in the 1996 caseload. In particular, the 1998 caseload contains a higher proportion of minority clients, never married clients, caretaker relative cases, and clients who had received welfare as a child. Fewer 1998 families include another healthy adult in the household than 1996 families. Barriers such as payee health limitations or disabilities, payee health problems, substance use problems, and domestic violence are more common among the 1998 TCA caseload than the 1996 caseload.

However, the pattern for other risk factors is contrary to the hypothesis. Compared to the 1996 caseload, the 1998 caseload has a higher proportion of clients who have worked in the past two years and a lower proportion of single mother households. Payees in the 1998 caseload were older when they began receiving cash assistance and have received assistance for fewer months in the past five years than their 1996 counterparts. The average age of the youngest child in the 1998 caseload is significantly higher than the average age of the youngest child in the 1996 caseload.

Exploratory and confirmatory factor analyses were used to reduce the number of variables to common factors. Confirmatory factor analyses with year as a covariate revealed some differences in level of risk between the two cohorts, although not always in the predicted direction. In sum, the biggest changes in the caseload appear to be an increase in the proportion of caretaker relative cases, a decrease in the proportion of single mother households and an

increase the proportion of cases headed by a disabled adult. These changes imply significant challenges for reformed welfare programs which were designed primarily to move single mother households from welfare to work. The results reported here suggest that policy makers and program managers would be ill advised to develop new policies and practices based solely on the common assumption that only the hard to serve are left on the welfare rolls. As these data illustrate, the caseload today is made up of a mix of families experiencing an array of challenges. Policy makers, program managers and researchers must continue to critically examine welfare programs and the populations they serve in order to implement policy and practices which will best serve families facing poverty.

Introduction

August 2000 marked the fourth anniversary of the federal welfare reform bill, the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA; PL 104-193), that radically changed the federal cash assistance safety net for low-income families. Among other things, the law eliminates the individual entitlement to federally-funded cash assistance and the Aid to Families with Dependent Children (AFDC) program, provides block grants to states to assist low-income families under the Temporary Assistance to Needy Families (TANF) program, and places stricter work participation requirements and time limits on adults receiving federally-funded cash assistance (for a summary of the key features of PRWORA, see Greenberg and Savner, 1996 and United States Department of Health and Human Services, 1996).

Since passage of the federal bill, welfare caseloads across the country have declined precipitously in almost every state and territory (United States Department of Health and Human Services, 1999). Many politicians, program directors, researchers and popular media reporters have hailed the declining caseload numbers as a sign of the success of welfare reform, but have also cautioned that there is more work to be done (Christenson, 1997; DeParle, 1997, 1999; Frank, 1998; Havemann, 1998; Hornbeck, 1997; Pear, 1998). That is, many familiar with the welfare literature and welfare reform efforts warn that those families who are receiving cash assistance today face more personal and family challenges in leaving welfare for work, compared to the families who have already left the rolls (Brookings Institution, 1999; Brown, 1997; Heinrich, 1999; Loprest and Zedlewski, 1999; Meckler, 1999). The popular wisdom is that those on the welfare rolls today are harder to serve than their counterparts who have already exited

the caseload. If the prediction is true, program managers may need to rely less on the program strategies they have been using, such as requiring clients to engage in immediate job search, and devote more resources to helping clients resolve barriers and prepare to enter the job market.

Despite the significant policy implications of a change in caseload population, the extent to which this prediction has come true has not been empirically examined. The present study attempts to fill a gap in the literature by critically examining whether families receiving welfare two years after reform face more challenges to leaving welfare for work than those receiving assistance when reform first began. A subsequent report, *Life On Welfare: Have the Hard to Serve Been Left Behind? Local Variations in Caseload Decline and Caseload Composition*, will examine the extent to which local jurisdictions vary in how their caseloads have changed in the same two year period.

Background

Policy Context

Before PRWORA was enacted, many states had begun reforming their own welfare programs through the waiver process, whereby states, under Section 1115 of the Social Security Act, could apply for and receive permission from the federal government to deviate from some of the requirements of the AFDC program. These waiver projects commonly featured mandatory work requirements, sanctions for non-participation in work activities, time limits on receipt of cash assistance and changes in the amount of income a family could earn and still qualify for aid. Through these waiver projects and in their public statements, many state governors expressed their belief that they could manage welfare programs better than the federal government.

PRWORA may be seen as either the cumulation of decades of reform efforts or, more radically, a complete reconfiguration of the U. S. welfare system. The largest cash assistance program to low income families, AFDC, was eliminated, along with the individual entitlement to federal aid. States receive a block grant to fund their new TANF programs after they submit a state plan to the federal Department of Health and Human Services. The amount of a state's block grant is based on historical funding for cash assistance programs and is no longer open-ended nor is program financing shared equally between the state and federal governments. The level of the block grant is determined by the federal expenditures for the AFDC, Job Opportunities and Basic Skills (JOBS) and Emergency Assistance programs in a base year from 1992 to 1995. The upper limit on each state's TANF block grant is set at this level until at least

the year 2002. Because of rapid welfare caseload decline, most states currently have a surplus of TANF money.

TANF's block grant structure transfers much of the responsibility for program design and implementation to the states. Thus, there is considerable variability in welfare programs across the country. As the present study focuses exclusively on Maryland, the next few paragraphs delineate the key features of its TANF program.

Maryland accepted its TANF block grant in October 1996 and began operating the Family Investment Program (FIP) that same month. FIP is a state-supervised, locally administered program that, within broad state-level parameters, is based on three themes: 1) local departments of social services (LDSSes) are in the best position to design and implement programs for their jurisdiction; 2) the welfare agency should move customers into unsubsidized employment as quickly as possible (i.e. a work first approach) and 3) customers with the fewest barriers to work will move off the welfare rolls first and savings from their early exits should be reinvested to help customers with more barriers.

The first theme of "locals know best" is consistent with the devolution movement sweeping through public policy today, where responsibility for public programs is shifted from centralized agencies to those more locally dispersed. In Maryland, eligibility standards and benefit levels for cash assistance, time limits and sanctioning policies are consistent across the state. However, the 24 local jurisdictions (23 counties and the independent incorporated City of Baltimore) have considerable flexibility in program administration. For example, some local departments have chosen place more emphasis on diverting cash assistance applicants from ever coming on the welfare rolls by giving them one-time grants to alleviate temporary crises. Some local agencies invest considerable departmental resources in assessing clients' needs and

resources and providing services to assist clients in moving to work. In contrast, other jurisdictions contract much of the assessment and welfare-to-work service provision out to one or more non-profit or for-profit organizations.

The second theme, that encouraging rapid entry into the labor market is best for helping families move off welfare, is also consistent with the current Zeitgeist in welfare policy, a work first philosophy. Historically, welfare programs have adopted either a work first or human capital development approach to reducing welfare reliance. The human capital development approach focuses on building the human capital of welfare recipients through basic education and skills training so that they are in a better position to obtain and maintain employment. In contrast, the work first approach emphasizes quick entry into the labor market, typically through immediate job search (Brown, 1997; Holcomb, Pavetti, Ratcliffe, and Riedinger, 1998). The work first philosophy assumes that any job is a good job and that over time an initial job will lead to career advancement and wage growth.

The final theme underlying Maryland's TANF program, that those with the fewest barriers to work will exit welfare first and provide savings to be used for the harder to serve, is particularly relevant to the present study. Maryland is somewhat unique in that the cabinet level agency responsible for administering welfare programs (Maryland Department of Human Resources) has a history of partnering with state universities (University of Maryland and Towson University) to conduct policy-relevant research. Much of the pre-TANF research conducted via these partnerships focused on profiling the welfare caseload and patterns of welfare receipt over time (see, for example, Born, 1992; Born, Caudill, and Cordero, 1998; Born, Klayman, McLaurin, Prince, and Waltson, 1983; Born and Kunz, 1990; Born, Taylor, and Osgood-Sojourner, 1989; Caudill and Born, 1997). When federal welfare reform appeared to be

imminent, Maryland policy makers drew upon this body of state-level research and, in consultation with their community and university partners, purposely designed a program where services would first be targeted to the most job ready. It was predicted that by moving families with the fewest barriers to employment off the TANF rolls first the state would save money that could be used to help those with more significant barriers to overcome.

Through legislation, excess TANF block grant funds, available because of rapid welfare caseload decline, are placed in a reinvestment fund. Maryland policy makers predict, as do many other welfare experts, that they will soon reach a point where the majority of families left in their caseload will be those with considerable barriers to moving into unsubsidized employment. The reinvestment fund can only be used to provide services for these hypothesized hard to serve clients.

Caseload Decline

The number of families across the country receiving cash assistance has declined significantly from 4.6 million in January 1996 to 2.2 million in June 2000. This decline of 52.17% continues a trend that began in 1993.

The extent of caseload decline varies significantly among the States. For example, caseloads in Idaho, Wisconsin and Wyoming decreased at extremely high rates. In contrast, Hawaii and the District of Columbia saw fewer of their families leave welfare. Maryland, the focus state for the present study, witnessed a 61.77% decline in its caseload from January 1996 through June 2000. Most of this decline occurred post-welfare reform implementation, with the

caseload declining from 68,697 families in October 1996 to 28,895 families in June 2000, a 57.94% drop during that period.

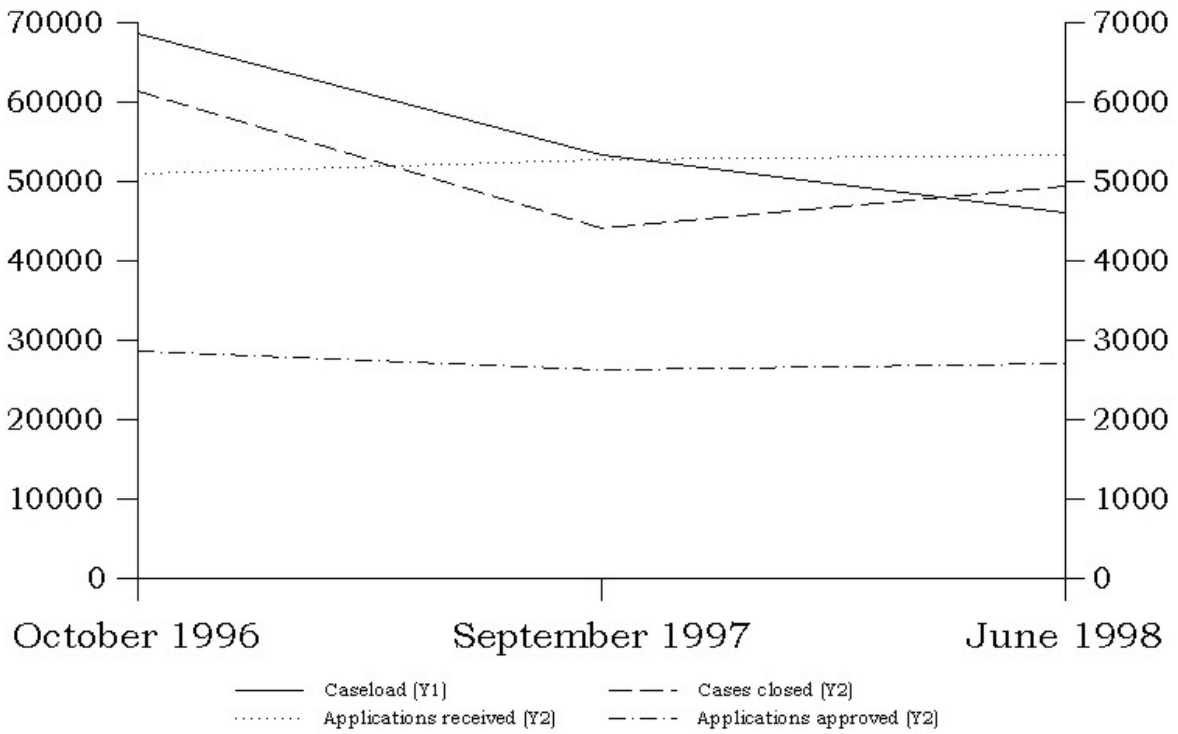
It is instructive to determine what caseload trends are driving the overall decline. Welfare rolls may shrink because fewer people are entering the system, more people are leaving, families are experiencing shorter welfare spells, or some combination of these factors. Data from the Maryland Department of Human Resources allow us to examine at least the first two factors: are the rolls declining because more people are exiting or because fewer are entering? As can be seen in Figure 1, it appears that the majority of caseload decline post-PRWORA is due to higher exit rates.¹ Cash assistance applications received and approved remained consistent over the October 1996 to October 1998 period.

To date, no published studies have examined how caseload decline affects the composition of welfare caseloads. Two studies comparing specific caseload dimensions at the beginning of welfare reform and nine to twenty-four months into reform find differences, but are limited in their explanatory power by methodological issues.

Coulton, Su and Bania (1998) compared welfare receipt patterns among Cuyahoga County, Ohio families receiving assistance in October 1997, the first month of welfare reform implementation in Ohio, to those of families receiving assistance in June 1998. They found that 61% of the October 1997 caseload received cash assistance continuously from that month to June

¹The figures displaying caseload trends only include data through October 1998 because this is the time period of interest in the present study.

Figure 1: Decomposing Maryland's Caseload Decline



1998. Among the June 1998 caseload, 71% of families had been on the welfare rolls continuously since October 1997. Methodological differences make it difficult to interpret the observed difference in welfare utilization; receipt for the October 1997 caseload was measured prospectively while receipt for the June 1998 caseload was measured retrospectively. Because long-term welfare recipients tend to accumulate on the rolls, examining the welfare history of a cross-section of the caseload identifies a higher proportion of long-term recipients than would following a cohort of families longitudinally.²

Friedman, Douglas, Hayes and Allard (1998) used administrative data for Massachusetts welfare programs to compare reasons for case closures during four time periods: pre-reform phase (October 1993 to September 1994), legislative deliberation and passage phase (October 1994 to September 1995), initial implementation phase (October 1995 to September 1996), and most recent implementation phase (October 1996 to August 1997). They found that the proportion of cases closed because of increased income from earnings (i.e. net income) did not change over the four study periods. Policy changes over the four year period that increased the amount of income families were allowed to earn and still remain eligible for cash assistance may explain the lack of differences. Case closings due to sanctions were found to increase during the reform implementation phases, possibly because case workers became more familiar with sanctioning procedures over time.

²The phenomenon of long-term recipients being over represented in cross-sections of the caseload is best illustrated by an analogy: Consider a hospital ward with ten patient beds. Nine of these beds are occupied by long-term patients who remain hospitalized for more than a year. The remaining bed is occupied by patients with hospitalizations of two weeks. Over the course of a year, 26 different patients will occupy this short-term bed. A cross-sectional survey of patients at any one point in time would indicate that nine out of ten are in the midst of a long spell of hospitalization. However, over the course of the year 26 patients would have short spells of two weeks while only nine would have long spells. (Adapted from Bane and Ellwood, 1994).

Leaving Welfare for Work: Who is At-Risk of Long-Term Welfare Receipt?

Despite the many predictions that those receiving cash assistance today will have a more difficult time transitioning off the rolls than those who left in the first years of reform, there is no clear definition of what is meant by the term *hard-to-serve client*. In many ways, the expression *hard-to-serve* is similar to the community psychology term *at-risk* in that it is used as a generic phrase for a variety of characteristics (e.g., low-income, having never married) and behaviors (e.g., early sexual activity, low labor market participation) hypothesized to increase the likelihood of a person (or community) experiencing a wide variety of negative outcomes (e.g., dropping out of high school, lengthy welfare stays). In the welfare literature, *hard-to-serve* clients can be defined as those possessing characteristics or engaging in behaviors that put them at-risk for receiving welfare for an extended period of time. To emphasize the similarity between these two terms (*hard-to-serve* and *at-risk*) and because the phrase *hard-to-serve* may be viewed by some as pejorative, the expression *at-risk for long term welfare receipt* will be used throughout the remainder of this report.

Before examining risk factors associated with long-term welfare receipt, it is important to consider how long people generally receive welfare. In fact, much of the literature on welfare programs focuses on how long people participate, and many of the calls for reform have been prompted by the (mis)perception that the majority of families receiving welfare do so for many years.

The empirical literature generally contradicts common beliefs. A number of studies analyzing single welfare spells indicate that most welfare episodes last two years or less and fewer than one-sixth last for more than eight years (Bane and Ellwood, 1983; Ellwood, 1986;

O'Neill, Wolf, Bassi, and Hannan, 1984). State level studies utilizing agency administrative data consistently find that 50% of families exit the welfare rolls within one year; 70% exit within two years and less than 15% receive assistance for more than five years (Greenberg, 1993).

Not surprisingly, estimates of long-term welfare receipt increase significantly when one considers multiple welfare episodes experienced over an individual's lifetime. Pavetti (1995), using national longitudinal survey data, found that 42% of those who ever receive cash assistance do so for two years or less; one out of three receive assistance for more than five years over a lifetime.

The extent to which the patterns of welfare receipt witnessed under the AFDC system are continuing under TANF remains an open question. The vastly different natures of the programs suggest that the patterns will indeed change. The intended effect of TANF's stricter work participation requirements and time limits is to change recipients' behavior and to reduce the amount of time families receive cash assistance. However, in the early years TANF implementation may have a different effect on the overall caseload. Under AFDC it was true that long-term recipients were over represented in the caseload at any given point in time because they tend to accumulate on the rolls. In fact, Duncan and Hoffman (1988) estimated that one half of the AFDC caseload at any given time was in the midst of a long spell. With the extensive caseload decline experienced in the past few years, it is likely that short-term recipients exited the rolls first. The current cash assistance caseload may have a larger proportion of long-term recipients than the caseload just a few years ago.

The literature on factors predicting length of welfare receipt is vast, but limited by a weak connection with theory. In general, most theories of long-term welfare receipt deal with the attitudes, feelings and behaviors of welfare recipients. In contrast, most empirical examinations

of welfare receipt patterns focus on recipients' demographic characteristics. Although there have been some attempts to incorporate extra-individual factors (e.g., local unemployment rates) in theories of welfare receipt, the literature remains largely focused on individual characteristics.

Theoretical limitations notwithstanding, the empirical literature does provide some general guidance in terms of the factors that increase a person's risk for long-term welfare receipt. In many cases, risk factors for long-term welfare receipt are synonymous with characteristics likely to decrease or limit one's ability to participate in the formal labor market. The following sections review the literature on long-term welfare risk variables, dividing them into five domains: demographic; human capital; family; welfare experiences; and struggles and stressors.

Demographic Risk Factors

Demographic characteristics of welfare recipients thought to put them at risk for long-term tenure on the rolls are probably the most frequently researched risk factors. In particular, age at entry, ethnicity, marital status, and teen childbearing have been examined in many studies. Blank (1989) and Ellwood (1986) found that the younger a woman is when she begins to receive welfare, the longer she will receive assistance. One explanation for this effect is that young people generally command lower wages in the labor market than their older counterparts.

Recipients of racial or ethnic minority backgrounds are at greater risk of long-term welfare receipt than their Caucasian peers (Bane and Ellwood, 1983; Blank, 1989; Boskin and Nold, 1975; Cao, 1996; Coe, 1981; Ellwood, 1986; Osmond and Grigg, 1978; Piskulich, 1983).

Explanations for this effect range from discrimination in the formal labor market to lower levels of personal efficacy among minority group members (Gurin and Gurin, 1976).

Women who have never married are more likely to receive welfare for a long period of time than ever married women (Bane and Ellwood, 1983; Cao, 1996; Ellwood, 1986; Sandefur and Cook, 1997). Differences between women who are currently married and those who are single can be explained by the availability of a second adult to share wage-earning and parenting responsibilities and by the AFDC program's stricter eligibility criteria for two-parent families. However, why never married women have a higher risk of long-term welfare receipt than their divorced or widowed counterparts is not as easily explained. London (1995) hypothesizes that differences in other demographic characteristics, attitudes towards welfare, and knowledge of welfare programs account for the marital status effect. Another possible explanation is that ever married women may be more likely to marry again or reconcile with a spouse. This explanation is limited by the fact that few women overall leave welfare through marriage (Rank, 1988).

Many hypothesize that teen childbearing is a risk factor for long-term welfare receipt (Klawitter, Plotnick and Edwards, 1996; Petersen, 1995). Teen mothers are more likely to form single mother households (Garfinkel and McLanahan, 1986; Wilson, 1987), to have limited education, work experience and job skills and to experience more problems with child care (Moore, Hofferth, Caldwell, and Waite, 1979) than mothers who delay childbearing until their twenties. These factors likely increase their risk of long-term welfare receipt. However, the empirical literature has yet to demonstrate a relationship. Although Duncan and Hoffman (1990) and Klawitter, et al. (1996) found that teen childbearing increases a woman's risk of ever receiving welfare, Klawitter, et al. (1996) and Petersen (1995) failed to demonstrate a relationship between teen childbearing and length of welfare receipt.

Human Capital Risk Factors

A number of studies have examined the extent to which human capital variables such as education and work experience predict length of welfare receipt. Theoretically, women with more human capital will command higher wages in the labor market and receive more benefits from working than their less advantaged counterparts. The empirical literature generally supports this theory.

Lacking a high school diploma significantly increases the likelihood that a woman will experience long welfare episodes (Bane and Ellwood, 1983; Blank, 1989; Boskin and Nold, 1975; Cao, 1996; Ellwood, 1986; Goodwin, 1983; Petersen, 1995; Sandefur and Cook, 1997). Limited basic skills (Cao, 1996; Klawitter, et al., 1996) or occupational skills (Cheng, 1995) as risk factors has received mixed support in the literature. Women with recent experience in the formal labor market receive welfare for significantly shorter periods than their counterparts with less recent experience (Petersen, 1995; Sandefur and Cook, 1997).

Family Composition Risk and Protective Factors

Research on the relationship between family composition and welfare receipt has generally focused on whether a household is headed by a single mother and the number and ages of her children. Single-mother households have been consistently shown to be at greater risk of long-term welfare receipt than other types of households (Ellwood, 1986; Furstenberg, 1976; Furstenberg, Brooks-Gunn, and Morgan, 1987; Garfinkel and McLanahan, 1986; Hofferth and Moore, 1979; Moore, et al., 1979).

Because the number and ages of one's children determine one's child care costs, those with very young or many children are thought to be at greater risk of long-term welfare receipt. This hypothesis has received some support in the literature. Sandefur and Cook (1997) found that the fewer children a woman has, the more likely she is to exit welfare. Ellwood (1986) and Petersen (1995) showed that if a woman's youngest child is over the age of six, she is more likely to leave the welfare rolls.

Two additional household composition variables likely relate to a family's chances of leaving welfare: the presence of other adults and caretaker relative households. Although there has been interest in whether the availability of welfare encourages or discourages combined households (e.g., a mother-child unit residing with the maternal grandparents), the question of a relationship between combined households and length of welfare receipt has not been addressed (Hutchens, Jakubson, and Schwartz, 1989). For single-parent households, having another adult present -- whether a relative or friend -- will likely take some of the financial and parenting responsibility off the single-parent's shoulders, if the other adult is willing and able to provide assistance. Thus, single parents sharing their households with another adult may be in a better position to leave welfare for work. Edin and Lein's (1997) qualitative comparison of the lives of mothers receiving welfare and mothers participating in low-income work suggests that working mothers were only able to survive on low wages because they had another adult, often their own mother, to provide some type of free or low cost assistance such as child care, transportation or housing.

On the other hand, if the other adult is elderly or disabled, his/her presence may hinder the parent's welfare exit. For example, parent-maintained households with grandparents present

are more likely to be poor, the grandparents are less likely to work and more likely to be ill (Casper and Bryson, 1998).

Although the majority of families receiving public assistance are composed of a single mother and her one or two children, a significant minority are caretaker relative households where adult relatives are caring for their grandchildren, nieces or nephews. Taking on the care of a child may require relatives to return to work, to quit working if child care is not available, or to begin receiving public assistance (Flint and Perez-Porter, 1997).

The Census Bureau documents that the number of grandparents caring for their grandchildren, with or without the parents present, has grown significantly in the last few decades. Using data from the March 1997 Current Population Survey, Casper and Bryson (1998) found that in 1997, 5.5% of American children lived in a grandparent-maintained household, an increase from 3.2% in 1970. Between 1970 and 1990 the majority of growth occurred among children residing with their grandparents and one parent. Since 1990 the greatest growth has occurred among children residing with their grandparents, but with no parent present. Little information is available on other types of caretaker relatives (e.g., aunts), although Bryson and Casper (1998) indicated that in 1997 almost 2 million children live with other relatives. The reasons children are placed with relatives are many and reflect the full spectrum of problems facing our society today: substance abuse; teen pregnancy; AIDS; incarceration; emotional problems; and parental death (Fuller-Thomson, Minkler and Driver, 1997). For grandparents, care giving tends to be long-term: 56% do so for at least three years, with one out of five parenting a grandchild for 10 years or more (Fuller-Thomson, et al., 1997).

To date, the published literature does not address caretaker relatives' experiences with the welfare system; it is not known if caretaker relative cases are at greater risk for long term welfare

receipt than other types of households. However, some researchers have expressed concern that TANF's time limits and work requirements may negatively affect caretaker relative households (Flint and Perez-Porter, 1997), and may even increase their prevalence (Woodworth, 1996). In Maryland, because caretaker relative cases are exempt from work participation requirements and time limits, and because parenting relative children appears to be a long-term commitment, it is quite likely that caretaker relative cases will remain on the welfare caseload longer than other types of households.³ As households subject to work requirements and time limits move off welfare, caretaker relative cases will become a more significant proportion of the caseload. In addition, if parents are not able to cope with work participation requirements and time limits, they may be more likely to leave their children with other relatives; depending on their own financial circumstances, these relatives may then enter the public assistance system.

Welfare Experiences

Some theorists hypothesize that involvement with the welfare system may in itself cause long-term welfare receipt (Moffitt, 1992; O'Neill, 1993). Having a family of origin that received welfare is thought to increase a woman's risk of long-term welfare receipt (Hill and Ponza, 1983; Levy, 1980). Evidence of intergenerational welfare receipt is mixed with some finding no effect (Hill and Ponza, 1983; Levy, 1980). Others have found that, controlling for family background and neighborhood characteristics, daughters raised in welfare homes are more likely to have teen out-of-wedlock births and to receive welfare (An, Haveman, and Wolfe, 1993; Hill, Augustyniak,

³Caretaker relative cases in Maryland are exempt from the time limit and work requirements because they are in a separate state program.

Duncan, Gurin and Gurin, 1985; Gottschalk, 1990, 1992; Zimmerman and Levine, 1993, as cited in Corcoran, 1995).

Welfare is also thought to have durational effects; that is, theorists hypothesize that the longer one spends receiving welfare, the more difficult it is to exit. Durational effects are believed to arise from women losing confidence in themselves through their often humiliating experiences with the welfare system (Benjamin and Stewart, 1989), or through employers finding prospective employees less attractive if they have been out of the labor market for a long period of time (Moffitt, 1992). The empirical evidence for durational effects is mixed. Sandefur and Cook (1997) found that length of time on assistance decreases the probability of exiting welfare. In contrast, O'Neill, Bassi and Wolf (1987) reported no relationship and Ellwood demonstrated the opposite relationship (Bane and Ellwood, 1983; Ellwood, 1986).

Struggles and Stressors

It is commonly believed that a broad array of personal and family challenges and stressors may increase a person's risk of long-term welfare receipt. Although not as well researched as demographic and human capital variables, stressors such as child care availability, transportation problems, health and mental health problems, substance use, domestic violence, and involvement with the child welfare or criminal justice systems likely influence a person's ability to leave welfare for work. Recently, Olson and Pavetti (1996) and Johnson and Meckstroth (1998) reviewed the literature on family and personal challenges to leaving welfare for work. Both reviews acknowledge the limited nature of the literature including a lack of studies linking reported stressors to welfare receipt and employment. The majority of previous

studies on length of welfare receipt relied on national longitudinal survey data sets such as the National Longitudinal Survey of Youth, the Panel Study of Income Dynamics, and the Survey of Income and Program Participation, which include limited information on issues such as mental health, domestic violence, and child welfare involvement. Estimates of the prevalence of specific barriers also range widely from study to study depending on the operational definitions used and the sample studied.

Olson and Pavetti (1996) focused on eight challenges to leaving welfare for work: physical disabilities / health limitations; mental health problems; health or behavioral problems of children; substance abuse; domestic violence; involvement with the child welfare system; housing instability; and low basic skills / learning disabilities. In their review, Johnson and Meckstroth (1998) discussed ten barriers: lack of specialized child care; disability; domestic violence; financial emergencies; housing instability; lack of health insurance; mental health issues; substance abuse; inadequate transportation; and multiple barriers. Although experts identification of the most important barriers to consider varies, the next few sections focus on the most common risk factors identified: child care availability; transportation problems; health and mental health issues; substance use; and domestic violence. Each section briefly reviews the literature on their prevalence and their likely role as risk factors.

Child Care Availability

Costs and availability of child care are two of the most frequently cited barriers to work identified by welfare recipients and case workers. For example, among a sample of women entering the welfare rolls, one out of two reported child care as a barrier to their obtaining

employment (Kunz and Born, 1996). Johnson and Meckstroth (1998) estimated that 10 to 72 percent of recipients will need child care during non-standard hours, 29 to 65% will require sick child care and 13 to 36% will need care for special needs children.

An analysis of the child care market in Maryland by the Children's Defense Fund revealed that finding and paying for child care may be especially difficult for families leaving welfare (Adams and Schulman, 1998). Full-time care for a four-year old in a Maryland child care center at that time cost on average \$4,968 a year and could range as high as \$10,660 annually. Family child care homes were only marginally less expensive, charging \$4,544 to \$10,400 to care for a four year old child. Infant care was even more costly, ranging from \$7,919 to \$13,520 a year.

Although child care is mentioned frequently in discussions of the challenges of leaving welfare for work, few studies have empirically examined the relationship between child care availability and cost and length of welfare receipt. Based on panel data, Joesch (1991) reported that a 10% increase in child care costs results in a five hour per month decrease in AFDC recipients' work activity. Using a longitudinal data set, Kunz and Born (1996) found that a perceived lack of child care significantly increases a woman's length of time receiving AFDC, even after controlling for demographic characteristics.

Transportation Problems

Transportation problems are probably second only to child care availability in terms of barriers identified by welfare recipients. Three out of ten new welfare recipients report

transportation as a barrier to employment (Kunz and Born, 1996). Many welfare recipients live in neighborhoods far removed from employment opportunities (Osterman, 1991; Rosenbaum, 1995; Rosenbaum and Popkin, 1991). In addition, those working low-wage jobs with irregular hours who have to rely on public transportation may face a formidable challenge in getting themselves to and from work and their children to and from child care.

As with child care, empirical studies of the relationship between transportation difficulties and welfare receipt are few. Kunz and Born (1996) showed that a perceived lack of transportation increases a woman's risk of long-term welfare receipt. In an interesting study that combines administrative data on welfare receipt and employment, Ong and Blumenberg (1998) demonstrated that access to local jobs in low-wage firms increases the likelihood that welfare recipients find employment. Those with longer commutes earn less than those who find work closer to home, contrary to the experiences of most other non-welfare workers. Ihlanfeldt and Sjoquist (1990, 1991) also reported a significant relationship between access to transportation and employment. More recently, Brooks, Nackerud and Risler (1999) found that TANF recipients participating in a job club who report transportation as a barrier to employment are significantly less likely to obtain employment than their counterparts without a transportation barrier.

Physical and Mental Health Issues

The physical and mental health of a welfare recipient and her family members may play a key role in her ability to leave welfare for work. As Wolfe and Hill (1995) point out, a woman's health and that of her children will influence the type of employment she can accept, the amount

of hours she can spend earning money outside the home, and the value she will place on health insurance and other benefits such as paid sick leave. The following sections examine what is known about the health and mental health of women receiving welfare and their children.

Health Limitations and Disabilities

Studies consistently show that 10 to 11 percent of welfare recipients report that they are unable to work because of a disability or serious medical condition. Professional estimates of the proportion of recipients who have a health condition that limits the amount or type of work they can do range widely from 16.6% to 30% (Acs and Loprest, 1999; Adler, 1993; Loprest and Acs, 1995; Olson and Pavetti, 1996).

The empirical literature provides some support for poor health as a risk factor for long term welfare receipt. Barr and Hall (1981) reported higher rates of welfare dependency, defined as the ratio of welfare benefits to earnings, among single mothers in poor health. In an analysis of nationally representative data from the Survey of Income and Program Participation (SIPP), Wolfe and Hill (1995) showed that self-ratings of health and reported limitations in activities of daily living are negatively related to number of hours worked outside the home. Moreover, their analysis suggests that the effects of mother's health on her potential earnings is a key mediator between health conditions and work effort. Also using SIPP data, Acs and Loprest (1999) found that health limitations lower the probability of welfare exits for work, but not other types of exits.

Mental Health Challenges

As Belle (1990) concludes, decades of psychological research have demonstrated a relationship between poverty and diagnosable mental disorder. Early research indicated that psychopathology is, on average, two and one half times more prevalent in the lowest economic class as in the highest (Neugebauer, Dohrenwend, and Dohrenwend, 1980). The literature documents higher rates of psychological distress, broadly defined (see, for example, Belle, 1990; Dohrenwend and Dohrenwend, 1981; Dooley and Catalano, 1980; McLoyd, 1990, 1998; Ritchey, Gory, Fitzpatrick, and Mullis, 1990) and depression (see, for example, Belle, 1982; Brown, Adams and Kellam, 1981; Liem and Liem, 1978, Thompson and Ensminger, 1989) among poor women than among non-poor women.

The constant stresses and strains of living in poverty may contribute to mental health problems (Dohrenwend and Dohrenwend, 1981; Pearlin and Lieberman, 1979). Women living on a low-income experience more frequent, more threatening and more uncontrollable life events than the general population (Brown, Bhrolchain, and Harris, 1975; Dohrenwend, 1973; Makosky, 1982), including crime and violence (Merry, 1981), illness and death of children, and imprisonment of husbands (Brown, et al., 1975). Chronic stressors such as inadequate housing, dangerous neighborhoods, burdensome responsibilities, financial uncertainties, and the stigma of being poor and/or receiving assistance also contribute to the psychological distress of poor women (Brown, et al., 1975; Buck, 1986; Liem and Liem, 1984; Makosky, 1982; Paltiel, 1987; Pearlin and Johnson, 1977).

A number of authors (Kalil, Born, Kunz, and Caudill, in press; Kalil, Schweingruber, and Seefeldt, 1998; Neenan and Orthner, 1996; Parker 1994) have suggested that psychological

distress, and depression in particular, may affect a woman's chances of transitioning from welfare to work, in part by limiting her ability to cope with new problems and plan future actions (Alter, 1996; Belle, 1990). Rates of psychological distress and depression tend to be higher among women receiving welfare than among women of similar income who are not receiving assistance (Krinitzsky, 1990; Zill, Moore, Nord, and Stief, 1991). Among women participating in a welfare to work training program, 42% met the criteria for clinical depression (Moore, Zaslow, Coiro, Miller, and Magenheimer, 1995). Maryland data indicate that more than one half of single mothers entering the welfare rolls are at risk for clinical depression (Kalil, et al., in press).

Despite the high prevalence of psychological distress and depression among women receiving cash assistance, the relationship of these conditions to length of welfare receipt has not been examined. Ensminger's (1995) analysis of a longitudinal data set following women who were mothers of first graders in 1966 over a ten year period suggests a reciprocal relationship between distress and welfare receipt. Women who were depressed at the first time point were likely to be welfare recipients ten years later. Welfare recipients at the second follow up point were more depressed at that time than their counterparts not participating in the welfare system.

Children's Health and Behavioral Problems

As women attempt to leave welfare for work, having a child with a disability, chronic health condition, or behavioral problems may be especially challenging. In addition to the emotional strain of caring for the child, financial costs such as special diet, clothes, transportation, medical care, and child care need to be factored into the family budget (Breslau,

Salkever, and Staruch, 1982; Salkever, 1982; Wolfe and Hill, 1995). Moreover, the child's special needs may limit the types and hours of employment feasible for the mother or caretaker (Wolfe and Hill, 1995).

National data estimate that six percent of children under the age of 18 have a disabling chronic health condition; for 0.5 to 3.0 percent, the condition is severely disabling (Newacheck and Taylor, 1992; Wenger, Kaye, and LaPlante, 1996). Children from poor families have as much as a 40% higher risk of chronic illness or disability than children from families with higher incomes (Newacheck and McManus, 1988). Their increased risk may be due in part to more toxic environmental conditions, an increased incidence of low birth weight, or poor early nutrition and health care (Meyers, Lukemeyer and Smeeding, 1998).

Among families receiving cash assistance, an estimated 13% to 20% include a child with some functional impairment (Loprest and Acs, 1995; Meyers, et al., 1998; Pavetti and Duke, 1995). One out of ten families include one child with a mild to moderate disability and a similar proportion include more than one disabled child or one child with a severe disability (Meyers, et al., 1998).

The empirical literature provides some indication that having a disabled child is a risk factor for long term welfare receipt. One third of mothers with a mild to moderately disabled child and two thirds of mothers with a severely disabled child report that finding child care makes it difficult to work. Additional research indicates that having a disabled child lowers the number of hours a mother works outside the home (Mauldon, 1992, as cited in Wolfe and Hill, 1995; Wolfe and Hill, 1995).

Direct tests of the relationship between welfare exits and the presence of a disabled child have produced mixed evidence. Acs and Loprest (1994) failed to find a relationship. However,

Brady, Meyers, and Luks (1996, as cited in Meyers, et al., 1998) showed that once transitions from AFDC to SSI are excluded, families with a disabled child are less likely to exit welfare.

Substance Use

Although the literature does not address whether alcohol and drug use increases length of welfare receipt, it does suggest that substance use problems are common among welfare recipients. In addition, research on the effects of alcohol and drug use on employment suggests that substance use may indeed limit a family's chances of leaving welfare for work. For example, in a study of five work sites, substance use predicted poor job performance, absenteeism and accidents (French, Zarkin, Hartwell, and Bray, 1995).

Estimates of substance abuse problems among welfare recipients range from 4.9% to 37% (Sisco and Pearson, 1994). Among AFDC recipients 15 years of age and older, 21.6% were found to have used illicit drugs in the past year and one in ten (10.5%) reported use in the past month (Office of the Assistant Secretary for Planning and Evaluation and National Institute on Drug Abuse, 1994a). Another study focusing on adult women receiving AFDC estimated that 4.9% have significant functional impairment related to drug and alcohol abuse and an additional 10.6% are somewhat impaired (Office of the Assistant Secretary for Planning and Evaluation and National Institute on Drug Abuse, 1994b).

To date, the published literature contains only one study examining the relationship between substance use and welfare participation. Kaestner (1998) reported a positive correlation between past year illicit drug use and future welfare participation. However, the effect is quite

small; if illicit drug use among welfare recipients were reduced to the level of non-recipients, welfare participation would only decline by three to five percent.

PRWORA addresses the issue of substance use by forbidding states from using federal funds to provide cash assistance to welfare recipients who have been convicted of a drug-related felony, unless states pass legislation to opt out of this regulation. Maryland has adopted a more comprehensive approach to substance abuse. In each Maryland welfare office, there is an additions specialist who is responsible for screening TCA applicants and customers for substance use/abuse problems, for conducting in-depth assessments or referring customers for assessment, and for referring customers for treatment. Recipients with a substance abuse problem who have not been convicted of a drug-related felony can still receive TCA, as long as they participate in a treatment program.

Given the lack of empirical evidence showing a link between substance use/abuse and length of welfare receipt, it is unclear how welfare recipients with drug and alcohol issues will fare in the new welfare world. Substance use likely interferes with a person's ability to obtain and retain employment. If this is true, a logical hypothesis would be that welfare recipients with drug and alcohol issues will remain on welfare longer. However, TANF's stricter participation requirements, time limits, and sanctions for not complying with work or treatment requirements may make it more difficult for substance using clients to maintain their cash assistance grant over time.

Domestic Violence

During the most recent round of welfare reform debates, feminist scholars and advocates repeatedly pointed out that the availability of welfare is particularly important to women and children trying to escape domestic violence. Many expressed concern that elimination of the federal entitlement to cash assistance and the imposition of work requirements and time limits would decrease the availability of welfare as a route out of abusive situations (see, for example, Feminist Majority Foundation, 1997 and Gonnerman, 1997).

Partially in response to these concerns, Congress included a Family Violence Option in PRWORA. States may adopt this option to exempt domestic violence victims from program requirements, including work participation, cooperation with child support enforcement and time limits, and to refer them to counseling and support services. As of late 1999, 36 states, including Maryland, had chosen to adopt the Family Violence Option. update

Recently the General Accounting Office (1998) reviewed the literature on the prevalence of domestic violence among welfare recipients and the effect it has on their ability to obtain and retain employment. In general, the research shows that domestic violence is more common among women receiving cash welfare than among women in general. Recent national survey data indicate that 1.5 percent of women report having been physically abused by a partner in the past 12 months and one out of four report having ever been abused by a partner (Tjaden and Thoennes, 1998). In contrast, 15% to 56% of welfare recipients report current or recent (within past 12 months) physical domestic abuse and 55% to 65% indicate they have been abused by a

partner during their life time (General Accounting Office,1998).⁴ The large range in prevalence estimates results in part from differing methodologies, including differences in the definition of domestic abuse used, survey conditions, and samples.

Although there have been no published studies of domestic violence as a predictor of long-term welfare receipt, a number of studies have examined the barriers to employment that domestic violence creates. After reviewing fourteen such studies, the General Accounting Office does not conclude that being a victim of domestic abuse changes the likelihood that a woman will work in the formal labor market. Two studies examining employment rates of abused and non-abused women found comparable rates (Allard, Albelda, Colten, and Cosenza, 1997).

A serious limitation of the two studies reviewed by the General Accounting Office is that they fail to distinguish between having ever been a victim of domestic physical abuse and being a current abuse victim. Surveys of staff who work with welfare recipients and abused women themselves indicate that current abusive relationships may limit a woman s ability to obtain and retain employment. Women commonly report that their partner discourages them from working (16% to 60%) or prevents them from working (33% to 46%; General Accounting Office, 1998). Battered women who were employed at the time the abuse occurred report that their partners engaged in a number of behaviors, including harassing them at work by phone or in person, promising and then withdrawing child care, and inflicting visible injuries, that limited their ability to work (Sheppard and Pence, 1988). Some women received reprimands at work for their partner s behavior and some even report losing jobs because of the abuse (General Accounting

⁴ Four of the six studies examined by the General Accounting Office asked specifically about a male partner. The other two did not specify the partner s gender.

Office, 1998). In sum, these studies indicate that current domestic violence may indeed present a significant barrier for women attempting to leave welfare for work.

Summary, Rationale, and Hypotheses

The previous sections on the current policy context for welfare programs and the literature on factors that may place a family at risk for long-term welfare receipt point to the need for the current study. Nationwide cash assistance caseloads have declined dramatically in recent years. The extent of decline varies considerably across states. Through the work first approach to welfare reform which most states have adopted, it is quite likely that creaming has taken place. That is, strategies focusing on quick labor force entry have probably moved the most job ready off the welfare rolls first. In fact, in Maryland quickly moving the most job ready clients into unsubsidized employment and reinvesting the savings for those facing more challenges was a deliberate welfare reform strategy. Over four years after passage of PRWORA, program managers faced with work participation requirements and time limits on welfare receipt should be concerned that their current caseload may need considerably more assistance in making the transition from welfare to work than those they served in the early years of reform. Although the entire caseload may not be at risk for long term welfare receipt, families who are will require different services from the agency to allow them to transition to financial independence from TANF.

The literature on risk factors for long term welfare receipt is rich with demographic and human capital variables, but quite limited in other areas. Table 1, following, summarizes the risk literature reviewed on demographic, human capital, family composition, and struggles and

stressors. Youth, African American heritage and having never married indicate a higher risk for long term welfare receipt. Although teen childbearing has been hypothesized as a risk factor, the empirical evidence is equivocal.

Lack of a high school diploma and limited recent work experience are associated with longer time on welfare. The evidence for limited basic or occupational skills as risk factors is mixed.

The composition of one s household may impact the ability to transition from welfare to work. Single mother households and those with young or many children are at higher risk for long term welfare receipt. The presence of another adult in the household may improve a family s probability of leaving welfare, only if the other adult is healthy willing, and able to share in parenting and earning responsibilities. Households in which the adult is a caretaker relative may be at particular risk for long-term welfare receipt, in part due to these households being exempt from welfare reform policies such as time limits and work participation requirements. In addition, if the caretaker relative is older or the children have special child care needs, working outside the home may not be a viable alternative.

Experience with the welfare system itself may increase a family s risk of long-term welfare receipt. In particular, adults who received public assistance as children and those who have been on assistance for a long time may have a more difficult time making the welfare-to-work transition.

A variety of struggles and stressors such as child care, transportation and health issues have been discussed as risk factors, but have not been examined extensively in the literature. Lack of child care or transportation, poor physical health, mental health problems such as distress

and depression, children's health and behavioral problems, or being a current or recent victim of domestic violence are all hypothesized to increase a woman's risk of long-term welfare receipt.

The role of substance use as a risk factor is less clear. Although current policy requires welfare recipients with drug and alcohol problems to participate in treatment, the extent to which recipients will participate and keep their welfare cases open is questionable. In addition, those whose substance use is undetected may have difficulty meeting work participation requirements and be at higher risk of having their cases closed for non-compliance.

Based on this literature, the present study is an attempt to answer the question of whether the post-reform welfare caseload includes more families at risk for long-term welfare receipt than the welfare caseload at the beginning of welfare reform. To answer this question, two cross-sectional samples of the Maryland cash assistance caseload, active cases in October 1996 and active cases in October 1998, were compared on characteristics which may put them at risk of long term welfare receipt.

Table 1 Summary of Risk Factors for Long Term Welfare Receipt

Risk Factor	Predicted Relationship	Empirical Evidence
Demographic Age at Entry Ethnicity Marital Status Teen Childbearing	Younger = higher risk Minority = higher risk Never married = higher risk Younger at first birth = higher risk	Consistent Consistent Consistent Mixed
Human Capital Basic Skills Occupational Skills High School Diploma Work Experience	Lower = higher risk Lower = higher risk No diploma = higher risk Lack of recent experience = higher risk	Mixed Mixed Consistent Consistent
Family Composition Number of Children Ages of Children Single Mother Household Presence of Other Adult Caretaker Relative	More children = higher risk Younger children = higher risk Single mother = higher risk Healthy adult = lower risk Caretaker relative = higher risk	Consistent Consistent Consistent Not tested Not tested
Welfare Experiences Receipt as a Child Length of Time on Assistance	Receipt as a child = higher risk Greater time on = higher risk	Mixed Mixed
Struggles & Stressors Child Care Transportation Health Limitations & Disabilities Mental Health Issues Children's Health & Behavioral Problems Substance Use Domestic Violence	Lack of child care = higher risk Lack of transportation = higher risk Poor health or disability = higher risk Distress & depression = higher risk Child with poor health, disability or behavior problem = higher risk Unclear Recent or current victim = higher risk	Some Some Some Not tested Some Not tested Mixed

Note: Empirical evidence is considered consistent if the relationship with welfare receipt has been directly tested and demonstrated in more than one study. Mixed is defined as the predictor has been directly tested in more than one study and the predicted relationship has not always been demonstrated. Some support indicates that the factor has only been examined in one study or not directly with welfare receipt.

Method

Sample

Table 2, following, presents population figures for the October 1996 and October 1998 Maryland Temporary Cash Assistance (TCA; Maryland's TANF program) caseload and the samples drawn from each population. Cases were identified from data archives of the Department of Human Resources client information systems. In October 1996, two systems were being used. The Client Automated Resources and Eligibility System (CARES) was in the process of being implemented at that point and contained data for all jurisdictions except Anne Arundel, Baltimore and Prince George's Counties and Baltimore City. These four jurisdictions were still using the old data system, Automated Information Master System/Automated Master File (AIMS/AMF). By March 1998, all jurisdictions had converted to the CARES system.

Once the universe of cases receiving assistance in each study month was identified, samples were randomly selected. Because one of the goals of the study was to examine jurisdictional differences, a stratified random sampling plan was used.⁵ Sample sizes presented in Table 2 are based on a 95% confidence level with an accepted error rate of $\pm 5\%$ and a finite sample correction for each jurisdiction (Henry, 1990). To correct for the stratification, cases were weighted in the analyses so that the jurisdictional proportions in each sample are consistent with the jurisdictional proportions in the statewide population.⁶

⁵A subsequent report, *Life On Welfare: Have the Hard to Serve Been Left Behind? Local Variations in Caseload Decline and Caseload Composition*, will present findings on jurisdictional differences.

⁶Because the populations are so small in some jurisdictions, the samples were chosen so that a case could appear in both cohorts. Of the 10,479 cases in the full sample, only 505 were included in both 1996 and 1998. This sample-based overlap figure suggests that there may have been a large population shift from 1996 to 1998.

Table 2 Population of Active Cases and Sample Sizes

Jurisdiction	Oct. 1996 Cases Paid	Oct. 1996 Sample	Oct. 1998 Case Paid	Oct. 1998 Sample
Allegany	733	252	279	162
Anne Arundel	2,884	340	1,410	302
Baltimore City	33,627	382	23,622	379
Baltimore County	6,205	363	3,842	350
Calvert	446	207	218	139
Caroline	341	181	154	110
Carroll	481	214	265	157
Cecil	692	247	254	153
Charles	1,198	291	472	212
Dorchester	501	218	271	159
Frederick	891	269	368	188
Garrett	219	140	142	104
Harford	1,287	296	605	235
Howard	883	268	327	177
Kent	134	99	45	40
Montgomery	3,470	347	1,365	300
Prince George s	10,536	371	6,234	363
Queen Anne s	199	131	93	75
St. Mary s	670	245	262	156
Somerset	420	201	121	92
Talbot	220	140	122	93
Washington	1,031	280	449	207
Wicomico	1,289	296	643	241
Worcester	352	184	183	124
State Total	68,697	5961	41,746	4518
Cases with narratives	15,457	4506	6,638	3124

Data Sources

For the present analysis, administrative data from the Maryland Department of Human Resources were used. Data on risk factors were obtained from four administrative information systems: 1) the Automated Information Management System/Automated Master File (AIMS/AMF); 2) the Client Automated Resources and Eligibility System (CARES); 3) the Maryland Automated Benefits System (MABS) and 4) the Work Opportunities Management Information System (WO MIS). The sections below describe each data set used.

AIMS/AMF

AIMS/AMF was the statewide data system for programs under the purview of the Maryland Department of Human Resources from 1987 through 1993. Beginning in late 1993, the state began converting to CARES. The final jurisdiction (Baltimore City) converted to CARES in March 1998; since that point, no new data has been added to AIMS, although the system is still accessible for program management and research purposes.

For each person who applied for cash assistance (AFDC or TCA), Food Stamps, Medical Assistance, or Social Services, AIMS contains a participation history. In addition to providing basic demographic data (name, date of birth, gender, ethnicity, etc), the history includes the type of program, application date and disposition date (denial or closure date) for each service episode, and a relationship code indicating the relationship of the individual to the head of the assistance unit. An individual may have up to 32 AIMS buckets or service episodes. AIMS also contains for each service case a summary listing of the individuals included in that case.

Financial data on benefits received are also available for the cash assistance and Food Stamp program.

CARES

As of March 1, 1998, CARES became the statewide automated data system for programs under the purview of the Maryland Department of Human Resources. Similar to AIMS, CARES provides individual and case level program participation data for cash assistance, Food Stamps, Medical Assistance and Social Services. In addition, CARES provides more extensive data on clients' circumstances including education level and disability status. Expanded program requirements associated with welfare reform have resulted in more fields being added to CARES, including indicators for substance abuse and domestic violence.

Also in CARES, caseworkers can access a free-form space in which they can narrate their interactions with case members. While some case aspects must be documented in the case narrative (e.g., verifications requested), caseworkers are free to enter any information they feel relevant. In fact, CARES case narratives can be a rich source of information about family circumstances and challenges (see, for example, Born, Caudill and Cordero, 1999).

In the present study, narratives provide data on the risk factors categorized as struggles and stressors. Based on narrative information and for some risk factors, supplementary information from other CARES tables, each struggle/stressor (e.g., child care, transportation, etc) was coded for each sample case in 20 of the 24 jurisdictions. Because the study period overlaps with the times during which Maryland was still converting from AIMS to CARES, data on the "struggles and stressors" risk factors are limited by jurisdiction. These variables come from the

CARES case narratives and thus, are only available for 20 jurisdictions and are not available for Baltimore City and the counties of Anne Arundel, Baltimore and Prince George s, which were still on the old system in 1996. As discussed in the analysis section, this problem was handled by conducting separate analyses for the state as a whole, excluding struggles and stressors and for 20 jurisdictions, including struggles and stressors.

MABS

Data on the recent work experiences of sample members were obtained from MABS, the state wages and unemployment insurance (UI) database. MABS provides for each individual the earnings for quarters worked for Maryland employers covered by the state s unemployment insurance program. MABS covers 93% of Maryland employment, but excludes federal government employees, some agricultural workers, some religious organizations, and self-employed individuals who do not employ others. MABS also does not cover employment in the four states bordering Maryland (Delaware, Pennsylvania, Virginia and West Virginia) and the District of Columbia. In a state as small as Maryland, cross-state employment is common. For example, data from the 1990 Census show that 44% of employed Prince George s County residents work outside of Maryland (Author calculations from <http://venus.census.gov/cdrom/lookup>)

WO MIS

WO MIS is the official state database for recording all work and training activities in which welfare recipients participate. The database contains demographic information about all clients, including education level, regardless of whether or not the client actually participates in an activity. For the present study, education level was collected from the WO MIS data system.

Data Collection and Measurement

Table 3, following, summarizes the data that was collected, data sources, and availability. Five types of variables were measured: demographic characteristics of the payee; human capital characteristics of the payee; family composition of the household; welfare experiences of the payee, and struggles and stressors confronting the family.

Three demographic variables were measured: age at adult welfare entry; ethnicity; and marital status. Two variables measured human capital: education level and work experience. Family composition was measured by five variables: number of children; age of youngest child; single mother household; presence of another healthy adult; and caretaker relative.⁷

Welfare experiences were measured by two variables: intergenerational welfare receipt and length of time on assistance. The first variable was only measured for cases where the payee was less than 30 years old in the study month (either October 1996 or October 1998), because the

⁷Readers should note that caretaker relative is defined in this study as any TCA case in which the adult case head is receiving assistance for children which are not his/her sons and/or daughters. This definition is broader than the caretaker relative case definition used in Maryland's TANF program, which is limited to cases in which the casehead is a caretaker relative and is included in the TCA grant. The study definition also include child only cases where the caretaker relative is not included in the TCA grant.

administrative data only go back to 1985. Thus, the maximum number of years of data for the 1996 cohort is eleven years. To keep the base number constant, the eleven year time frame (1987-1998) was also used for the 1998 cohort. A case was coded as 0 if the payee was less than 30 years old in the study month and had not received cash assistance as a minor in the previous eleven years; a case was coded as 1 if the payee was less than 30 years old in the study month and had received welfare as a minor in the previous eleven years. Length of time on assistance was measured as the number of months the payee had received cash assistance in Maryland in the five years preceding the study month.

The final set of variables, struggles and stressors, represent a variety of barriers and problems which may hinder a family's ability to leave welfare. These variables were measured and coded from the CARES case narratives, which were available for the 7,630 cases from the 20 jurisdictions which were using CARES in October 1996. Details of the narrative coding process are contained in Appendix A.

Seven struggles and stressors variables were coded: child care barrier; transportation barrier; payee health limitations/disabilities; payee mental health issues; children's health and behavioral problems; substance use; and domestic violence. For five of these variables, the case was coded as having that risk regardless of when the problem was mentioned. Any mention of a problem with payee health, payee mental health, child health or behavior, substance use, and domestic violence was coded as 1, because these problems are generally of a long-term nature. Also, the nature of the narratives did not typically allow the coder to pinpoint exactly when the problem started and how long it had lasted or would last. Depending on the case, a family may see their caseworker once or twice a year. Thus, a family may be involved with the welfare office for a long time before a problem becomes known. Substance use was considered a

problem if anyone in the household was experiencing it; in most cases, however, the payee was the person with a substance abuse problem.

Payee physical health is discussed frequently in the case narratives. As a result, it was not always clear if a health condition was a serious, long-term problem or a temporary illness or injury. For this reason, payee health limitations/disabilities were coded as `yes` for a long-term problem and `maybe` if it wasn't entirely clear that the problem was of a serious, long-term nature.

Time was not ignored for child care and transportation because the problems are not generally as long-term. Child care and transportation were coded as `yes` if the narrative mentioned the problem within the year before or the year after the study month (i.e. between October 1995 and October 1997 for the 1996 cases; between October 1997 and October 1999 for the 1998 cases). If a problem was mentioned outside of that time period, it was coded as `maybe` a problem.⁸

⁸For the factor and correlational analyses, "maybe" was coded as "no". The analyses were also run with "maybe" coded as "yes" and the results did not differ.

Table 3 Variables and Data Sources

Risk Factor	Operational Definition	Coding	Data Source	Availability
<i>Demographic</i>				
Age at Entry	Age at which the payee first began receiving AFDC/TCA as an adult	Continuous	Calculated from AFDC/TCA participation and demographic data in CARES and AIMS	Statewide
Ethnicity	Payee's racial/ethnic background as recorded by the welfare case worker	Dichotomous (1 = minority)	Obtained from demographic tables in CARES and AIMS	Statewide
Marital Status	Payee's marital status as recorded by the welfare case worker	Dichotomous (1 = never married)	Obtained from demographic tables in CARES and AIMS	Statewide
<i>Human Capital</i>				
Education	Payee's highest level of education, as recorded by the welfare case worker	Dichotomous (1 = no high school diploma)	Obtained from demographic tables in WO MIS	Statewide
Work Experience	Whether or not the payee had any UI-covered Maryland employment in the eight quarters preceding the study month (either October 1996 or October 1998).	Continuous	Calculated from MABS wage data	Statewide
<i>Family Composition</i>				
Number of children	Number of children included in the AFDC/TCA assistance unit, regardless of their relationship to the payee	Continuous	Obtained from case summary tables in CARES and AIMS	Statewide
Age of youngest child	Age of youngest child included in the AFDC/TCA assistance unit, regardless of their relationship to the payee	Continuous	Calculated from case summary tables in CARES and AIMS	Statewide
Single mother household	Assistance unit in which a single mother is the only adult present	Dichotomous (1 = single mother)	Obtained from case summary tables in CARES and AIMS	Statewide

Risk Factor	Operational Definition	Coding	Data Source	Availability
Presence of Other Adult	Presence of another adult in the household, whether or not included in the assistance unit, who is healthy	Dichotomous (1 = presence of other adult)	Obtained from case summary tables in CARES and AIMS	Statewide
Caretaker relative	Payee is not a parent to the children in the assistance unit	Dichotomous (1 = caretaker relative)	Obtained from case summary table in CARES and AIMS	Statewide
<i>Welfare Experiences</i>				
Intergenerational welfare receipt	Payee received AFDC/TCA in Maryland before the age of 18 and not in his/her own name	Dichotomous (1 = received AFDC/TCA as a child)	Calculated from AFDC/TCA participation tables in CARES and AIMS	Statewide
Length of Time on Assistance	Number of months of receipt in Maryland in the five years preceding the study month (either October 1996 or October 1998)	Continuous	Calculated from AFDC/TCA participation tables in CARES and AIMS	Statewide
<i>Struggles and Stressors</i>				
Child care	Narrative indicates payee reports child care as a barrier to employment	Dichotomous (1 = child care is problem)	Case narrative	Limited
Transportation	Narrative indicates payee reports transportation as a barrier to employment	Dichotomous (1 = transportation is problem)	Case narrative	Limited
Health limitations/disabilities	Narrative indicates payee reports health condition or disability that limits ability to work outside the home or worker determines such a health condition exists	Dichotomous (1 = disabled or health problem)	CARES demographic table and case narrative	Limited

Risk Factor	Operational Definition	Coding	Data Source	Availability
Mental health issues	Narrative indicates payee reports mental health issues (e.g., depression) that limit his/her ability to work outside the home or worker indicates such a health condition	Dichotomous (1 = mental health issue)	CARES demographic table and case narrative	Limited
Children's health and behavioral problems	Narrative indicates payee reports child's health or behavioral problems as an employment barrier or worker indicates such a problem	Dichotomous (1 = child health or behavior problem)	CARES demographic table and case narrative	Limited
Substance Use	Narrative indicates payee reports a substance use problem or worker indicates such a problem	Dichotomous (1 = substance use)	CARES demographic table, substance abuse indicator and case narrative	Limited
Domestic Violence	Narrative indicates payee reports being a current or recent (within past year) domestic abuse victim OR case narrative indicates such a problem (e.g., payee is residing in a domestic violence shelter)	Dichotomous (1 = recent or current victim)	Domestic violence indicator and case narrative in CARES	Limited

Data Analysis

Two sets of data analyses were conducted: one using the statewide sample and excluding the struggles and stressors risk factors; the second using only the 20 jurisdictions for which the struggles and stressors data are available. Each set of data analyses also consisted of two phases. In the first phase, factor analyses were conducted to create composite indices of risk. In the second phase, the effect of sample cohort (October 1996 vs. October 1998) on the composite indices of risk was examined. Each phase of the data analysis is described separately in the following paragraphs.

Phase 1: Creating Composite Risk Indices

The variables listed in Table 3 are hypothesized to measure the same construct: risk for long-term welfare receipt. Many of these variables are strongly correlated with each other. For example, women who have many children or very young children have more difficulty obtaining and paying for child care. Welfare recipients with poor health tend to be older, to have never married, and to have less education than their healthier counterparts.

These facts, in addition to the large number of risk variables measured, presented the need to create composite indices of risk. Rather than examining the relationships among sample cohort and each risk variable separately, risk indices allow us to consider the overall levels of risk in each sample cohort.

Risk indices were created from the variables obtained from the various administrative data sources by the statistical technique of factor analysis, both excluding and including the

struggles and stressors data from the case narratives. Factor analysis is defined as a method of mathematical modeling to find patterns among the variations in the values of several variables. In factor analysis, a set of highly intercorrelated variables is represented by a factor (Vogt, 1993).

One of the main criticisms of factor analytic techniques is that they are difficult to replicate. In the present study, analyses were conducted in such a way as to examine the reliability of the factor solutions. First, the sample was randomly divided in half and one half was used in the exploratory factor analysis (EFA). When the best solution for the EFA was selected, based on standard criteria, it was then tested by confirmatory factor analysis (CFA) with the other half of the sample. Readers interested in the technical details of the factor analyses are referred to Appendix B. Unlike in EFA, in CFA the researcher hypothesizes the factor model to be fitted and then mathematically tests how well the model fits the data (see Figure 2). If the model produced by the EFA is reliable, the model specified in the CFA should fit the data well and the relationships among the variables and the factors should be statistically significant and in the same direction as in the EFA (see Kim and Mueller, 1978a, 1978b and Kline, 1994, for a fuller discussion of factor analytic techniques).

Phase 2: Hypothesis Testing

In Phase 2 of the data analysis, the hypothesis which predicted that the 1998 sample would have a higher overall level of risk than the 1996 sample was tested. A confirmatory factor analysis was conducted with Year (1996 or 1998) as a covariate. Figure 3 illustrates the model tested in this analysis. If the research hypothesis is correct, year should have a statistically significant effect on the factors. That is, the 1998 cohort should have a different mean on each factor than the 1996 cohort.

Figure 2: General Confirmatory Factor Analysis Model

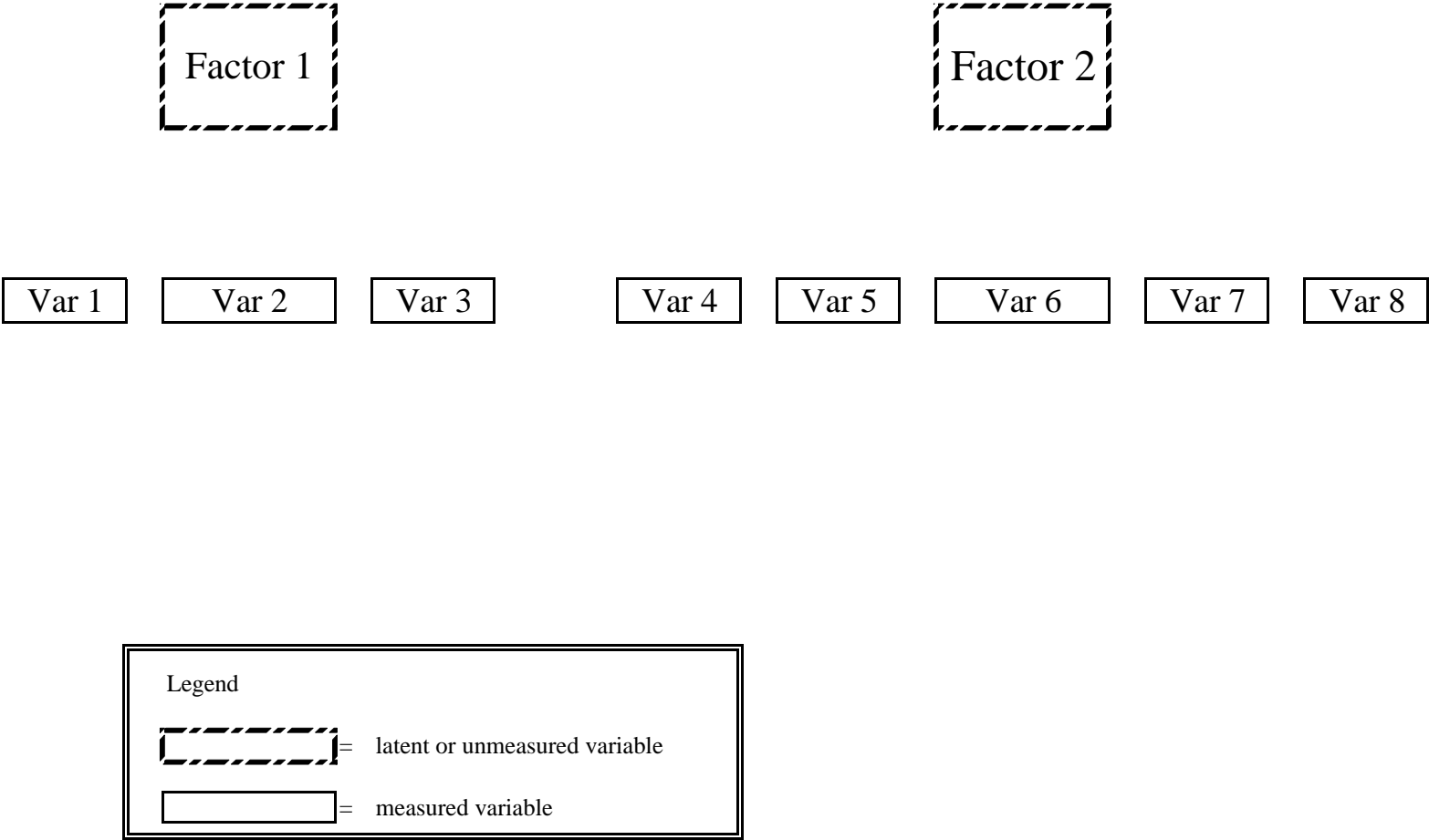
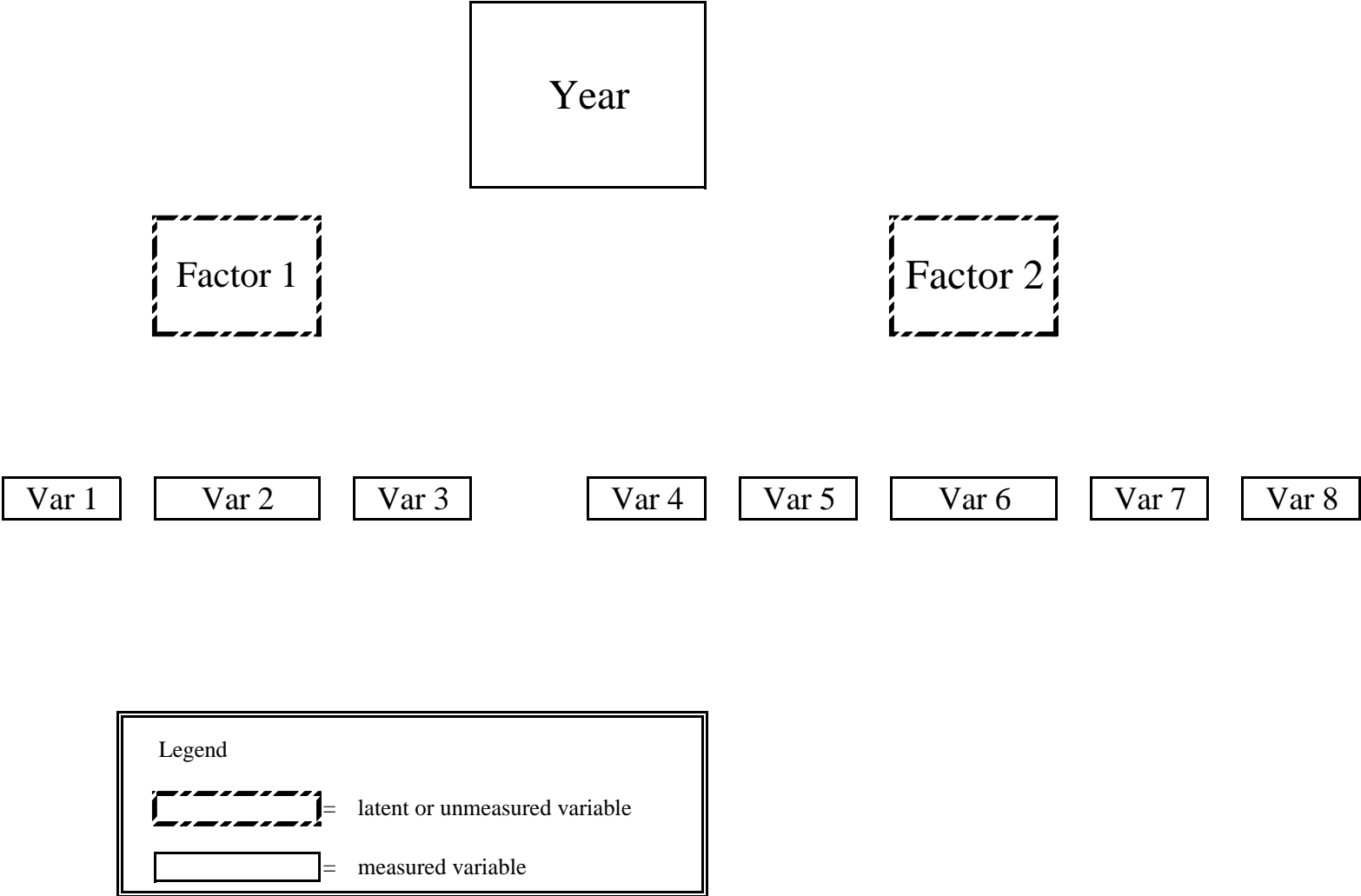


Figure 3: Confirmatory Factor Analysis with Year as a Covariate



Findings: Descriptive Statistics

This chapter presents descriptive statistics on the risk variables measured. Presentation of the results of the Phase 1 factor analyses and results of the Phase 2 hypothesis testing is found in the next chapter.

Statewide Analyses

Table 4 presents descriptive statistics on the 12 risk variables available for the entire statewide sample, as well as additional characteristics of the sample. Study month refers to the month in which the case was actively receiving TCA - either October 1996 or October 1998. Differences between years were tested by analysis of variance (continuous variables) and logistic regression (dichotomous variables).⁹ Statistically significant differences were found between the 1996 and 1998 cohorts for 10 of the risk factors examined: age at first AFDC/TCA receipt; race/ethnicity; marital status; work experience; age of youngest child; single mother household; presence of another, non-disabled adult; caretaker relative; intergenerational welfare receipt¹⁰;

⁹Logistic regression was used to test differences between years on categorical variables instead of chi square because logistic regression is less sensitive to large sample sizes (Allison, 1998). The interpretation of the logistic regression results is essentially the same in that a statistically significant regression coefficient indicates a reliable relationship between the two categorical variables.

¹⁰Intergenerational receipt was only measured for payees under the age of 30 because the administrative data only go back to 1985. Thus, the maximum number of years of data for the 1996 cohort is eleven years. To keep the base number constant, the eleven year time frame (1987-1998) was also used for the 1998 cohort.

and welfare history. No difference between years exists in the number of children. Differences in education level were not examined due to the large amount of missing data for this variable.¹¹

Some of the differences observed in Table 4 are consistent with the hypothesis that there is a larger proportion of at risk clients in the 1998 than in the 1996 caseload. In particular, the 1998 caseload contains a higher proportion of minority clients, never married clients, caretaker relative cases, and clients who had received welfare as a child. Fewer 1998 families include another healthy adult in the household than 1996 families.

However, the pattern for other risk factors is contrary to the "only at-risk clients are left on the welfare rolls" hypothesis. Compared to the 1996 caseload, the 1998 caseload has a higher proportion of clients who have worked in the past two years and a lower proportion of single mother households. Payees in the 1998 caseload were older when they began receiving cash assistance and have received assistance for fewer months in the past five years than their 1996 counterparts. The average age of the youngest child in the 1998 caseload is significantly higher than the average age of the youngest child in the 1996 caseload.

¹¹The extent to which education level is missing varies significantly with both year and jurisdiction. Also, it is suspected that education level is more likely to be missing for those with at least a high school diploma than for those who have less than a high school education. The last condition, in particular, is non-ignorable and common techniques to deal with missing data such as imputation are not appropriate (Schafer, 1997).

Table 4 Descriptive Statistics for Risk Factors - Statewide

Risk Factor	1996	1998	Total
<i>Demographic</i>			
Gender - % women	95.7%	95.4%	95.6%
Age in study month (years)***			
Mean	33.2	35.3	34.1
Median	31.0	33.0	32.0
Std dev	11.0	12.0	11.5
Range	17-87	16-87	16-87
Age at first AFDC/TCA receipt (years)***			
Mean	28.6	31.7	29.9
Median	26.0	30.0	27.0
Std dev	10.9	12.2	11.6
Range	15-84	15-81	15-84
Race/ethnicity - % of minority race/ethnicity***	76.6%	82.8%	79.3%
Marital Status - % never married**	69.5%	72.5%	70.7%
<i>Human Capital</i>			
Education			
% with less than a high school diploma	32.9%	35.2%	33.9%
% missing	27.1%	22.9%	25.3%
Work experience - % who worked at any point in 2 yrs before study month***	53.1%	60.4%	56.3%
<i>Family Composition</i>			
Number of children			
Mean	1.9	1.9	1.9
Median	2.0	2.0	2.0
Std dev	1.1	1.2	1.1
Range	0-9	0-8	0-9
Age of youngest child (years)***			
Mean	5.6	6.3	5.9
Median	4.0	5.0	5.0
Std dev	4.6	5.0	4.8
Range	0-19	0-19	0-19
Single mother household***	81.7%	77.3%	79.8%
Other non-disabled adult present***	5.4%	3.1%	4.4%
Caretaker relative***	13.9%	18.1%	15.7%
<i>Welfare Experiences</i>			
% who received AFDC as a child among those younger than 30***	42.4%	51.7%	46.0%
Number of months on assistance in the past five years**			
Mean	34.4	33.2	33.9
Median	35.0	34.0	35.0
Standard deviation	19.1	20.4	19.7
Range	1-60	1-60	1-60

Note: Data are weighted to correct for sample stratification.

* p < .05 ** p < .01 ***p < .001

Twenty Counties Analysis

The second set of analyses include the risk factors examined in the statewide analysis as well as the set of risk factors called struggles and stressors, which were coded from case narratives. Four jurisdictions (Baltimore City and the counties of Anne Arundel, Baltimore and Prince George s) are excluded from these analyses because they did not have electronically accessible case narratives during the entire study period.

Table 5 displays descriptive statistics for the 20 jurisdictions on the seven struggles and stressors risk variables. Few cases in either year indicated child care or transportation as a barrier to employment. Payee health limitation is the second most common stressor when both cohorts are considered together, affecting 13.1% to 22.4% of the population. The proportion of cases with this risk factor increased significantly from 1996 to 1998.

Mental health problems were rarely found among sample cases; however, the proportion of cases with a mental health problem increased significantly from 1996 to 1998. Children s health or behavior problems are the most common stressors, affecting about one out of five families. Not surprisingly, substance abuse and domestic violence are also rarely noted among sample cases. However, the proportion for both increased significantly in 1998.

Table 5 Descriptive Statistics for Struggles & Stressors - 20 Counties

Risk Factor	1996	1998	Total
Child care is a barrier			
Yes	5.2%	6.1%	5.8%
Maybe	3.3%	1.8%	2.7%
Transportation is a barrier			
Yes	7.6%	7.7%	7.7%
Maybe	4.9%	2.8%	4.0%
Payee has health limitations or a disability***			
Yes	13.1%	22.4%	16.9%
Maybe	5.1%	5.3%	5.2%
Payee has a mental health problem***	4.5%	6.8%	5.4%
A child in the household has a health or behavioral problem	17.9%	19.5%	18.5%
Someone in the household has a substance use problem***	4.8%	7.1%	5.8%
Family has experienced or is experiencing domestic violence***	5.7%	8.1%	6.7%

Note: These analyses include 20 of the 24 jurisdictions. Baltimore City and the counties of Anne Arundel, Baltimore and Prince Georges are excluded because they did not have electronically accessible case narratives during the study period. Data are weighted to correct for sample stratification. Differences between years were tested by logistic regression.

* p < .05 ** p < .01 *** p < .001

Findings: Composite Risk Indices and Changes over Time

Statewide Analyses

Exploratory Factor Analysis

An exploratory factor analysis was conducted with the ten risk variables to determine if a smaller set of risk indices could be established. The sample, which includes all 24 Maryland jurisdictions, was randomly split in half so that one half could be used to identify the factors which account for the relationships among the variables with exploratory analysis; the second half was used to assess the reliability of the factors with a confirmatory analysis. Table 6 presents the results of the exploratory factor analysis.

The relationships among the ten risk variables are best explained by two factors. Factor 1 has seven variables highly correlated with or loading on it: age at first receipt; recent work experience; age of youngest child; single mother household; marital status; caretaker relative; and another available, healthy adult. Higher scores on Factor 1 are associated with older age at first receipt, older age of youngest child, a higher probability of being a caretaker relative, a higher probability of having another healthy adult present, and a lower probability of having recent work experience, being a single mother household, and having never married. Because single mother household and caretaker relative have the highest loadings on this factor, it is named Family Structure.

Three variables load on Factor 2: number of children; minority race/ethnicity; and welfare receipt. Higher scores on Factor 2 are associated with more children, a higher probability of

having a minority racial/ethnic background and more months of welfare receipt in the past five years. On the surface, it does not appear that these variables would have anything in common. However, they are the ones most often associated with the stereotype of "a welfare mother." It is suspected that this factor results from the large number of Baltimore City cases in the sample, which on average have longer welfare histories and are more likely to include a minority payee (see Table 9).¹² Because welfare history loads very highly on this factor, it is termed Welfare History.

¹²Further analyses including city residence show that city residence does load significantly on Factor 2 and Baltimore City has a higher mean on both factors than the other jurisdictions.

Table 6 Results of Statewide Exploratory Factor Analysis

Risk Variable	Factor 1: Family Structure	Factor 2: Welfare History
Age at first AFDC/TCA receipt	.77	-.14
Having never married	-.63	.19
Worked in the last 2 yrs	-.27	-.14
Age of youngest child	.50	.15
Single mother household	-.92	.28
Other non-disabled adult present	.32	-.11
Caretaker relative case	.91	-.23
Minority race/ethnicity	-.04	.14
Number of children	-.06	.22
Number of years received AFDC/TCA in the past 5	.14	.99
Eigenvalues	3.56	1.43
RMSR		.09

Confirmatory Factor Analysis

Confirmatory factor analysis was conducted with the other half of the sample to test the reliability of the two factor model identified in the exploratory factor analysis. The results of this analysis are presented in Table 7. It is encouraging that all of the factor loadings in the model are statistically significant and consistent with the loadings from the exploratory analysis.¹³

¹³The chi square test of model fit is statistically significant, indicating that the model tested is different from a perfect model. However, readers are cautioned that this test is highly sensitive to large sample sizes. Other measures of model fit such as RMSE are not available for confirmatory factor analysis with continuous and categorical indicators.

Table 7 Results of Statewide Confirmatory Factor Analysis

Risk Variable	Coefficient	<i>t</i>
Factor 1: Family Structure		
Age at first AFDC/TCA receipt***	10.51	144.46
Having never married***	-0.56	-68.85
Worked in the last 2 yrs***	-0.14	-13.46
Age of youngest child***	2.39	80.32
Single mother household***	-0.74	-110.58
Other non-disabled adult present***	0.26	16.04
Caretaker relative case***	0.74	111.17
Factor 2: Welfare History		
Minority race/ethnicity***	0.32	18.25
Number of children***	0.67	24.61
Number of years received AFDC/TCA in the past 5***	0.72	26.76
Model ²		3342.78
Degrees of freedom		21

***p < .001

Effect of Year on Risk Factors

With the factors identified, we now turn to answering the research question: Does the 1998 cohort have a higher level of risk for long-term welfare receipt than the 1996 cohort? To test if the means of the risk factors (Family Structure and Welfare History) are significantly different between the 1996 and 1998 cohorts, a confirmatory factor analysis was conducted on data for the entire sample with year entered as a covariate. Results from this analysis are presented in Table 8 and are somewhat contrary to the hypothesis that the most at risk have been

left behind. Year has a significant effect on Factor 1 (Family Structure), but not Factor 2 (Welfare History). The coefficient for Year on Factor 1 is positive, indicating that the 1998 cohort has a significantly higher mean on the family structure factor than the 1996 cohort. Given that the majority of the loadings of risk variables on Factor 1 are opposite of what previous research has shown in terms of risk of long-term welfare receipt, these results suggest that, at least in terms of family structure, the 1998 cohort is not at greater risk of long term welfare receipt than the 1996 cohort. In fact, the 1998 cohort may have a lower risk, based on family structure.

The effect of year on Factor 2 is not statistically significant. That is, the 1998 cohort does not differ from the 1996 cohort in terms of risk, based on the welfare history factor.¹⁴

¹⁴It is interesting to note that when year is entered as a covariate, the loadings for Factor 1 remain the same, but the signs change for all the Factor 2 loadings. This suggests that the Factor 2 indicators are not measurement invariant with respect to year. That is, the relationship between the latent variable (i.e. factor) and the variables loading on Factor 2 is different in 1998 than it was in 1996. Further analyses are needed to determine how the relationship is different.

Table 8 Statewide Confirmatory Factor Analysis with Year as Covariate

Risk Variable	Coefficient	<i>t</i>
Factor 1: Family Structure		
Age at first AFDC/TCA receipt***	10.19	240.69
Having never married***	-0.19	-27.24
Worked in the last 2 yrs***	2.36	111.43
Age of youngest child***	-0.77	-166.39
Single mother household***	-0.61	-109.88
Other non-disabled adult present***	0.79	175.42
Caretaker relative case***	0.30	26.79
Year on Factor 1***	0.19	15.57
Factor 2: Stereotyped Risk		
Minority race/ethnicity***	-.70	-31.08
Number of children***	-.30	-24.10
Number of years received AFDC/TCA in the past 5***	-.63	-31.85
Year on Factor 2	-0.02	-1.45
Model ²		8302.49
Degrees of freedom		27

***p < .001

Twenty Counties Analysis

The next set of analyses focus on the twenty jurisdictions for which the struggles and stressors data are available. The four largest jurisdictions (Baltimore City and Anne Arundel, Baltimore and Prince George s Counties) are excluded because they had not converted to the new system, CARES, by October 1996.

Exploratory Factor Analysis

The seven struggle and stressor variables were combined with the 10 demographic, family structure, human capital and welfare experience variables examined earlier in the statewide analysis.¹⁵ The sample was randomly split in half so that one half could be used for the exploratory analysis and confirmatory analysis could be conducted with the second half.

Results of the exploratory factor analysis are presented in Table 9. Nine variables loaded on Factor 1: age at first AFDC/TCA receipt; marital status; employment history; age of youngest child; single mother household; presence of another non-disabled adult; welfare history; child care barrier; and payee health limitation/disability. Higher factor values are associated with older age at first AFDC/TCA receipt, a lower probability of having never married, a lower probability of having worked in the past two years, older age of youngest child, a lower probability of being a single mother household, a higher probability of having another non-disabled adult present, a longer welfare history, a lower probability of having child care as a barrier and a higher probability of the payee having a health limitation or disability. This factor appears to describe families which have been receiving assistance for a long time, possibly because of the payee's health limitation. Although they are more likely to have another adult present, this adult may not be available for employment and child care because he or she must provide care for the payee. Because of the combination of demographic variables which load highly on this factor, along with payee health, it is named Demographic-Health.

¹⁵For the factor and correlational analyses, the "maybe" categories for child care, transportation and payee health were combined with the "no" categories. The analyses were also run with "maybe" coded as "yes"; the results did not differ.

The second factor includes seven variables: number of children; caretaker relative case; transportation as a barrier; payee mental health problem; child health or behavior problem; substance abuse issue and domestic violence issue. Higher scores on Factor 2 are associated with fewer children, a higher probability of being a caretaker relative case, and a lower probability of having one of these barriers: transportation; mental health; child health or behavior; substance abuse; or domestic violence. This factor appears to describe families where there are few children being cared for by a caretaker relative and where there are few serious problems with mental health, substance use and domestic violence. Because caretaker relative is the highest loading variable on this factor, it is named Relative Caretaker.

Table 9 Results of Exploratory Factor Analysis - 20 Counties

Risk Variable	Factor 1: Demographic-Health	Factor 2: Relative Caretaker
Age at first AFDC/TCA receipt	.74	.26
Having never married	-.70	.07
Worked in the last 2 yrs	-.38	.18
Age of youngest child	.55	.04
Single mother household	-.76	-.48
Other non-disabled adult present	.33	.03
Child care barrier	-.43	-.24
Payee health limitation/disability	.47	-.19
Number of years received AFDC/TCA in the past 5	.19	-.09
Minority race/ethnicity	-.21	.30
Number of children	-.06	-.14
Caretaker relative case	.66	.82
Transportation as a barrier	-.22	-.43
Payee has a mental health problem	.13	-.54
A child in household has a health or behavior problem	.20	-.32
Someone in the household has a substance use problem	.06	-.43
Family has experienced/is experiencing domestic violence	-.02	-.59
Eigenvalues	4.14	2.46
RMSR		.09

Confirmatory Factor Analysis

The two factor model established in the exploratory factor analysis was tested with a confirmatory factor analysis using the other half of the sample. The results of this analysis are presented in Table 10. It is encouraging that all variables except two load significantly on the

factors they were associated with in the exploratory analysis. Payee mental health problem and substance abuse do not load significantly on the second factor.¹⁶

Effect of Year on Risk Factors

A confirmatory factor analysis with year as a covariate was conducted with the full twenty counties sample to test the hypothesis that the 1998 caseload has a significantly higher level of risk than the 1996 sample. Table 11 presents the results of this analysis. In this analysis all factor loadings are statistically significant. Year has a significant effect on both factors. Both coefficients for year are positive indicating that the 1998 sample has a significantly higher mean on both factors than the 1996 sample. This appears to indicate that families with an older, ever married payee who likely has a health problem are more common in 1998 as are families where the adult is a caretaker relative and where there are few documented serious mental health, substance use and domestic violence stressors.

¹⁶Again, the model chi square is statistically significant, but is not a good test of model fit in this case because of the large sample size.

Table 10 Results of Confirmatory Factor Analysis - 20 Counties

Risk Variable	Coefficient	t
Factor 1: Demographic-Health		
Age at first AFDC/TCA receipt***	10.55	102.55
Having never married***	-0.60	-38.52
Worked in the last 2 yrs***	-0.30	-15.37
Age of youngest child***	2.86	46.89
Single mother household***	-0.78	-61.48
Other non-disabled adult present***	0.30	10.70
Number of years of welfare receipt in the past 5***	0.25	9.48
Child care barrier***	-0.40	-11.16
Payee health limitation/disability***	0.41	19.81
Factor 2: Non-Parental Relationship		
Minority race/ethnicity***	-0.11	-5.10
Number of children***	-0.08	-4.27
Caretaker relative case***	0.79	18.21
Transportation as a barrier***	-0.30	-8.31
Payee has a mental health problem	0.01	0.16
A child in the household has a health or behavior problem***	0.18	7.19
Someone in the household has a substance use problem	-0.06	-1.77
Family has experienced/is experiencing domestic violence***	-0.19	-5.36
Model ²		2598.76
Degrees of freedom		82

***p < .001

Table 11 Confirmatory Factor Analysis with Year as Covariate - 20 Counties

Risk Variable	Coefficient	<i>t</i>
Factor 1: Demographic-Health		
Age at first AFDC/TCA receipt***	10.08	135.21
Having never married***	-0.60	-54.58
Worked in the last 2 yrs***	-0.31	-22.22
Age of youngest child***	2.78	64.89
Single mother household***	-0.77	-82.38
Other non-disabled adult present***	0.31	15.08
Number of years of welfare receipt in the past 5***	0.28	14.59
Child care barrier***	-0.45	-17.42
Payee health limitation/disability***	0.39	26.31
Year on Factor 1***	0.32	13.02
Factor 2: Relative Caretaker		
Minority race/ethnicity***	-0.07	-4.15
Number of children***	-0.12	-7.84
Caretaker relative case***	1.18	29.81
Transportation as a barrier***	-0.40	-14.01
Payee has a mental health problem**	-0.09	-2.95
A child in the household has a health or behavior problem***	0.12	6.33
Someone in the household has a substance use problem***	-0.15	-4.90
Family has experienced/is experiencing domestic violence***	-0.29	-10.32
Year on Factor 2***	0.30	10.31
Model ²		5839.55
Degrees of freedom		100

***p < .001

Discussion

The present analysis addresses a significant public policy question: Has the unprecedented welfare caseload decline experienced over the past few years resulted in a higher proportion of at risk families being on the rolls? Results reported here indicate that the global statement that only the hard to serve are left on welfare is not unequivocally true. Yes, the population has changed in many places - but not necessarily in ways that most people presume.

The descriptive statistics presented here show that relative to the 1996 caseload, the 1998 caseload has a higher proportion of caretaker relative cases, payees who have worked in the past two years, payees who received welfare as a child, payees from a minority racial or ethnic group, and payees who have never been married and a lower proportion of single mother households and households with another, non-disabled adult present. On average, payees in the 1998 caseload are older, began receiving welfare at a later age, have older children in their assistance units, and have been receiving welfare for fewer months than their 1996 counterparts. The struggles and stressors variables also showed some differences between the year cohorts. Specifically, payee health problems, payee mental health problems, substance use/abuse and domestic violence were more common in 1998 than in 1996.¹⁷

While many of these results are statistically significant, they may not all be practically meaningful. For example, in the statewide analysis the 1998 cohort was found to have a lower proportion of single mother households than the 1996 cohort. However, at the State level, this difference is less than 5%. Considering the vast differences among jurisdictions and the fact that

¹⁷Readers are reminded that the four largest jurisdictions (Baltimore City and Anne Arundel, Baltimore and Prince George's Counties) are not included in the analyses of struggles and stressors.

including Baltimore City, with over 50% of the welfare caseload, masks much of this variability, differences which are not practically meaningful for the state as a whole may be very important for particular jurisdictions. Moreover, depending on the size of the jurisdiction, a 3% change may mean 10 cases or 1000 cases.¹⁸

The results found here regarding the prevalence of some of the struggles and stressors are inconsistent with previous studies. Previous studies have found higher rates of child care, transportation, mental health and domestic violence problems than were found here in both the 1996 and the 1998 sample (General Accounting Office, 1998; Johnson and Meckstroth, 1998; Kalil, et al., in press; Kunz and Born, 1996; Moore, et al., 1995). Some of these differences may be due to methodology while others may result from changes in the welfare program itself. Most earlier studies relied on client self-report for measures of these barriers. In contrast, this study used the case narratives written by welfare workers. There is a long history of tension between the welfare office and program participants which may limit the extent to which clients will share problems with their case worker. Also, recent changes in the welfare program may have affected the extent to which workers document problems, such as child care and transportation barriers. With states now receiving block grants, there is more money available to provide support services such as child care and transportation. It could be that workers did not see child care and transportation as problems in the majority of cases because they believed the new resources for transportation services and child care subsidies would eliminate these barriers. While for auditing purposes, workers would need to document the provision of subsidies, the documentation may not be in the case narrative, especially if another worker or office provided

¹⁸For a more in-depth discussion of jurisdictional variations, see our forthcoming report, *Life On Welfare: Have the Hard to Serve Been Left Behind? Local Variations in Caseload Decline and Caseload Composition*.

the service. A final explanation of these differences may be the exclusion of Maryland's four largest jurisdictions.

The rates of payee health limitations and child health and/or behavior problems found are quite similar to previous studies (Acs and Loprest, 1999; Adler, 1993; Loprest and Acs, 1995; Olson and Pavetti, 1996). These variables are probably less affected by recording and reporting bias because they are not as stigmatizing for the client to report and they are not as easily solved by agency resources.

The prevalence of substance use found in this study is at the low end of the wide range of estimates found in previous studies. Although similar to recent results reported by Danziger and colleagues (2000), the rate is most likely underestimated given the great social stigma attached to substance abuse.

Results from the statewide and sub state factor analyses suggest some interesting relationships among the variables. The statewide analysis produced a family structure factor and a welfare history factor. Age at first welfare receipt, marital status, employment history, age of youngest child, single mother household, presence of another non-disabled adult, and caretaker relative status load on the first factor. The 1998 caseload has a significantly higher mean on this factor than the 1996 one, most likely indicating the greater prevalence of older caretaker relatives in 1998 than in 1996.

The second factor, "welfare history", includes number of children, racial/ethnic background, and welfare history and appears to be largely a proxy for Baltimore City residence. That is, Baltimore City cases are more likely than county cases to be headed by a minority woman and to have been receiving assistance for a longer period. However, this does not mean that the stereotype of a minority woman with many children receiving welfare for a long time is

true. In fact, most women in the sample in both Baltimore City and the 23 counties have only one or two children and have not been on welfare continuously for the past five years. Baltimore City faces considerably more economic problems than its surrounding counties including a higher unemployment rate and greater spatial mismatch between residents and employers. Moreover, minority women with long welfare histories may experience more workplace discrimination because they are women, minorities, and welfare recipients (Bobo, 1995; Kirschenman and Neckerman, 1991; Turner, Fix, and Struyk, 1991).¹⁹ There is no difference between years on this second factor; this result is not too surprising given the slower rate of caseload decline and generally slower pace of welfare reform in Baltimore City.

The second set of analyses focusing on the 20 smaller jurisdictions provides somewhat different results. Again, two factors were found. The first factor includes age at first receipt, marital status, work experience, age of youngest child, single mother household, presence of another non-disabled adult, child care barrier, payee health limitation and welfare history. This factor appears to represent cases where the payee is older, has an older child, has received welfare for a relatively long time and has a health limitation that limits her ability to work outside the home. While another, non-disabled adult is in the household to share child care and financial responsibilities, he or she may need to devote time to caring for the ill or disabled payee. Consistent with the hypothesis of increased risk among the current welfare caseload, the 1998 cohort has a significantly higher factor mean than the 1996 cohort.

The second factor consists of racial/ethnic background, number of children, caretaker relative case, transportation barrier, mental health problem, child health or behavior problem,

¹⁹Danziger (2000) found that 13% of Caucasian and 15% of African American women receiving welfare report experiencing discrimination from employers or potential employers.

substance use and domestic violence. Caretaker relative cases with few children and few struggles or stressors are represented by this factor. Relative to the 1996 cohort, the 1998 cohort has a higher mean on this factor. While these cases may be at risk for long term welfare receipt because the living arrangements tend to be long lasting and welfare programs typically exempt caretaker relatives from time limits and work requirements (Flint and Perez-Porter, 1997; Fuller-Thomson, et al., 1997), they do not fit the traditional definition of "hard to serve" clients.

There are some differences in factors and loadings between the two sets of factor analyses. Welfare history loaded on the second factor in the first analysis and on the first factor in the second analysis. Similarly, caretaker relative loaded on the first factor in the first analysis and on the second in the second factor analysis. These differences could result from the addition of the struggles and stressors variables in the second analysis or the exclusion of the four largest jurisdictions. Subsequent analyses excluding the struggles and stressors variables and using only the 20 counties suggest that both possibilities are valid ones.

The present analysis is in fact only one of a myriad of ways in which the research hypotheses could have been tested and is limited in a number of ways. First, all data were collected from administrative data systems. This approach has the advantage of allowing larger sample sizes than would be possible with more intensive survey-based data collection methods and the advantage of allowing the examination of historical trends. However, it has the disadvantage of limiting the analysis to only those variables recorded by the administrative data systems. In addition, even if variables are recorded in the administrative data systems they may not be in the form the researcher would prefer and/or may not be complete. For example, education level is a key predictor of employment success. Although education is one of the variables caseworkers may record in the administrative data system, many do not. The extent to

which these data are missing varies systematically over time and across jurisdictions. Thus, this variable could not be included in the present analysis.

The large number of dichotomous variables included in the study also limited the data analysis. Latent variable modeling techniques are just now advancing to the stage where they can be applied to both continuous and categorical indicators. In addition, for many of the risk factors examined (e.g., children's health and behavioral problems, domestic violence history), dichotomous variables are likely crude measures of the underlying construct. For these variables, future studies should attempt to include continuous measures. However, for other variables (e.g., caretaker relative case), dichotomous measures are probably adequate.

An additional limitation is that the 1998 sample is not solely composed of clients "left on the rolls." That is, because the 1998 sample is cross-sectional it includes both cases which had been open since reform began in 1996 and newly-opened cases.²⁰ Many alternative approaches could have been taken, such as selecting cases opened in 1996 and following them through 1998 to see which remained on the rolls or examining only the 1998 cases which have been opened continuously since the beginning of welfare reform. The cross-sectional approach used here resulted in both long-term and short-term cases being included in both cohorts. As policy makers and program managers have to deal with their entire caseload at any given point, and not just those who have remained on the rolls for a couple of years, the cross-sectional approach is probably the most policy relevant.

The use of case narratives in this study is unique. In general the narratives are a rich source of data about the life circumstances of families. However, because they are free form and

²⁰In fact, both the 1996 and the 1998 samples are cross-sectional. As noted in the introduction, long term welfare recipients are over-represented and short term welfare recipients are under-represented in cross-sectional samples.

dependent on what the case worker decides is important, their breadth and quality is not consistent. For example, all three coders noted that narratives from some jurisdictions were not as rich as others. While it is feasible that prevalence of some risk factors, such as transportation barriers, varies across jurisdictions, other measured differences may simply be an artifact of case worker preference. In general, it is likely that the rates of family problems recorded here are underestimated due to the fact that families do not reveal all of their concerns to their caseworkers and caseworkers do not record everything. It is also likely that the rate at which families revealed concerns to their caseworker and at which case workers documented these issues changed over time, as jurisdictions became more involved with implementing new policies and practices. The usefulness of the narrative data was also limited by the fact that it was not available for the four largest jurisdictions.

Despite these limitations, this study makes a significant contribution to the literature by addressing a critical policy question. For policy makers these results suggest that the task ahead may be a different one, although perhaps no less difficult, than they expected. Rather than now having a smaller caseload of families facing multiple problems, it appears the smaller caseload is composed of a number of sub populations, most notably: families who have been receiving assistance for a number of years because of the payee s health problems; and caretaker relative cases. The caseload today may not be harder to serve just different to serve. The question should also be raised to whether TANF, as it is currently constructed, is the right program for many of these families. Originally AFDC and TANF were designed to support children deprived of parental support because of death, absence or disability. When policy makers crafted PRWORA and the subsequent state plans, they focused primarily on strategies to make welfare less attractive than work and to move single mothers into unsubsidized employment. The work

first and time limit policies they adopted are not likely to be helpful to the families with long-term health problems and to caretaker relative families. While agencies have acknowledged the disconnect between the situations of these families and the agencies' policies by exempting them from work requirements and state time limits, they are often still subject to the federal five year time limit. States are allowed to exempt 20% of their caseload from this time limit, but the large caseload decline experienced by most states raises the question of the adequacy of the 20% exemption.

Policy makers may want to now consider other alternatives for caretaker relative cases and families where the primary potential wage earner is disabled. For the first group, child support from the absent parents and/or kinship care payments are alternatives which could improve the family's financial circumstances and keep them from reaching the federal time limit. More research into the circumstances and long-term outcomes of caretaker relative families would aid policy makers in developing new policies and programs.²¹ Also, policies which are adopted, especially encouraging caretakers to move into kinship care, may have program and cost implications for other agencies, such as the child welfare system.

For disabled payees, SSI is an additional income source which many receive. The Department of Human Resources is also making efforts to assist disabled TCA clients in obtaining SSI benefits. While SSI benefits are typically larger than cash assistance payments, they are not adequate to lift a family out of poverty. Other strategies such as increased child support collections from absent parents and vocational rehabilitation services to help those who

²¹Readers are reminded that caretaker relative families were defined more broadly in this study than is the case in most TANF programs.

can obtain employment could significantly improve the circumstances of these families and help them avoid the five year limit.

In addition to these two groups, policy makers and researchers should keep in mind that there are also young families entering the rolls for the first time and families with some welfare experience who return because of a temporary crisis. In both years, two out of ten payees had received cash assistance for less than one year out of the past five. Current policies focusing on work first combined with better access to support services such as child care and transportation will likely be adequate for helping these families transition back to unsubsidized employment. However, more efforts could also be directed towards preventing the crises that cause families to need welfare. These strategies will likely overlap with efforts by other agencies and advocacy organizations to improve the lives of poor families in general including raising the wages of low income workers, providing more affordable and safe housing and making family and medical leave more accessible.

Prior to welfare reform, questions such as what brought families to the welfare office, what helped them leave the rolls and what enabled them to move out of poverty were only of interest to a small group of academic researchers. In the present policy environment, these questions are critical for families, policy makers and society in general. Most states have large budget surpluses at the moment which they can use to support families. More efforts should be directed towards understanding the best way to use these dollars. In particular, Baltimore City and other urban areas warrant special consideration. A number of studies have documented that welfare caseloads have declined at a much slower pace in large cities. These urban centers face economic, geographic and demographic circumstances which may be addressed through sound

policies and programs with adequate funding to ensure full implementation and long-term sustainability.

The case narratives used in the present analysis also suggest a number of other struggles and stressors which were not included in this model, but which may impact the well-being of families receiving welfare as well as those who have moved into the low wage job market. Specifically, housing instability appeared to be a common crisis which limited the payee's ability to comply with agency requirements, her ability to seek or maintain employment, and her children's ability to attend school regularly. Moreover, without adequate, affordable, safe housing, families are not in a position to access resources which can help them attain long term financial stability. Literacy and immigration issues also appeared from the narratives to be significant barriers in some families.

The case narratives also bear witness to the resilience and strength of families experiencing financial hardship. Despite the major crises many are facing as well as the daily stress of poverty and its associated hassles, the majority of families remained intact and kept trying to improve their circumstances. The narratives also point out that, although they may be receiving welfare, the welfare office is only a small part of families' lives. More research needs to be done to understand the role resilience plays in helping families achieve long term financial stability and to develop policies which foster family resilience and strength. This strengths-based research can begin by looking at those families who have left the rolls and improved their financial situations, despite the factors which research predicts would have kept them on the welfare rolls. Qualitative research techniques such as those utilized by Edin and Lein (1997) may be particularly useful in this endeavor.

In sum, this study sheds empirical light on a critical policy question. The results reported here suggest that policy makers and program managers would be ill advised to develop new policies and practices based solely on the common myth that "only the hard to serve are left on the rolls." As these data illustrate, the caseload today is made up of a mix of families experiencing an array of challenges. Policy makers, program managers and researchers must continue to critically examine welfare programs and the populations they serve in order to implement policy and practices which will best serve families facing poverty.

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Appendix A: Narrative Coding Procedure

CARES narrative data were coded for content by the first author and two research assistants. Given the large volume of cases included in the sample ($n = 7,630$), it was not feasible to read and code each narrative separately. The coding scheme used began with the random selection of two hundred case narratives. These narratives were read in their entirety by the first author and a research assistant. From the sub sample of 200 cases, a list of key words for each risk factor (e.g., child care, transportation, health limitations/disabilities, mental health issues, children s health and behavior problems, substance use, and domestic violence) was developed. The list was developed to be as broad as possible and was only considered complete when it contained all of the phrases that indicated all of the risk factors in all of the 200 narratives.

In a word processing program, a macro was written which searched each case narrative in the full sample for each keyword and highlighted the keyword in red font. Because the narratives are in free form and often contain typographical errors such as misspelled words and no spacing between words, the macro was written so it matched partial words, rather than only full words. The coder then scanned through the document until she reached a word in red font. When a keyword was located, the surrounding text was read to verify that the keyword indicated that the family was experiencing that risk factor. That case was then coded dichotomously in the database as having that risk factor or not, as appropriate. All non-flagged cases were coded as non-events. Using this process, the narratives for all 7,630 cases in the 20 jurisdictions were coded.

There was no difference in the average length of narratives between the two year cohorts (M = 14.66 pages, SD = 9.72 pages for 1996 and M = 14.52 pages, SD = 10.86 pages for 1998). Inter-rater reliability was computed for each pair of coders for each variable using the 534 cases in the sub sample which were in both the 1996 and the 1998 cohorts; reliability among coders ranged from 0.84 to 0.98.

Appendix B: Methodological Details of Factor Analyses

Because many of the risk variables are categorical, the factor analytic procedures available in common statistical software packages such as SPSS or SAS were not adequate as they are based on the assumption that all variables are continuous (see, for example, Comrey, 1978; Mislavy, 1986; Muthen, 1978; Muthen and Christoffersson, 1981; Parry and McArdle, 1991). Muthen and Muthen (1998) have developed a software package, M-Plus, which conducts factor analysis with both categorical and continuous data; after consultation with its authors, M-Plus was used for this portion of the data analysis.

Although all variables are assumed to relate to risk of long-term welfare receipt, it was expected that the factor analyses would yield more than one factor. The standard criteria of eigenvalues larger than one, in addition to interpretability, were used to select factors.

Confirmatory Factor Analysis (CFA) is similar to path analysis in that the researcher hypothesizes a model where the measured (or observed) variables are produced by one or more latent (or unmeasured) variables. Through simultaneous equation modeling, coefficients relating the latent variables to the measured variables are estimated.²² The estimation process is iterative, with the coefficient estimates being adjusted based on the discrepancy between the estimated correlation matrix among the measured variables (calculated from the estimated coefficients) and the observed correlation matrix. The estimation process stops when the model "converges" --

²²Because the latent variables or, in the CFA case, factors can not be measured, the coefficients relating the observed variables to the factor can not be estimated with multiple regression. Instead, the simultaneous equations computing the coefficient for each of the observed variables must be estimated using an iterative process (Kline, 1994; for a fuller discussion of latent variable modeling, see Loehlin, 1987).

that is, when changes in the estimated coefficients no longer improve the goodness of fit between the estimated correlation matrix and the observed one (see Kim and Mueller, 1978a, for a discussion of the algebraic computations involved with CFA). If the model produced by the exploratory factor analysis (EFA) is reliable, the model specified in the CFA should fit the data well and the loadings or coefficients for the variables should be statistically significant and in the same direction as the loadings in the EFA (see Kim and Mueller, 1978a, 1978b and Kline, 1994, for a fuller discussion of factor analytic techniques).

For the statewide EFA, the eigenvalues suggested that up to four factors could be extracted from the data. However, the root mean square residual (RMSE) value for the four factor solution was less than .05, indicating that a four factor model fits the data poorly. The three factor solution had an RMSE that is greater than .05; however, the model was not easily interpreted with several variables having cross-loadings. The two factor solution also fits the data well and, in addition, does not have problems with cross loadings. For these reasons, the two factor solution was selected as the most appropriate for the data.

For the twenty counties EFA, the eigenvalues indicated that up to six factors could be extracted. However, the RMSE values for the five factor and six factor solutions were less than .05, indicating that these models did not fit the data well. The four factor solution had an acceptable RMSE value, but includes one factor with only one variable loading on it and five variables with cross loadings. The three factor solution also had cross loading problems with six variables. The two factor solution was chosen as the best fitting based on the eigenvalues, RMSE and the lack of cross loadings.