

Welfare Reform and Health Insurance Coverage of Low-income Families

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Robert Kaestner

Institute of Government and Public Affairs, University of Illinois at Chicago, 815 W. Van Buren Street, Suite 525, Chicago, Illinois 60607, Phone: 312.996.8227; Fax: 312.996.1404; kaestner@uic.edu

Neeraj Kaushal

School of Social Work, Columbia University, 622 West 113th Street, New York, New York, 10025

Abstract

We study whether welfare reform adversely affected the health insurance coverage of low-educated single mothers and their children. Specifically, we investigate whether changes in the welfare caseload during the 1990s were associated with changes in Medicaid participation, private insurance coverage, and the number of uninsured among single mothers and their children. Estimates suggest that welfare reform decreased Medicaid coverage, increased employer-sponsored private insurance coverage, and increased the proportion uninsured. The magnitudes of the effects were relatively small. For example, between 1996 and 1999, changes in the caseload were associated with a decrease in Medicaid coverage among single mothers of four to five percentage points; an increase in employer-sponsored, private insurance coverage of approximately two percentage points; and an increase of two to three percentage points in the proportion of low-educated, single mothers who were uninsured. Among children of low-educated, single mothers, welfare reform had smaller effects. Estimates indicate that welfare reform resulted in the following changes between 1996 and 1999: a 3.2 percentage point decrease in Medicaid coverage; between a 0.4 and 2.5 percentage point increase in private insurance coverage; and a 2.1 percentage point increase in the proportion of children uninsured.

JEL classification: I18; I38

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I. Introduction

The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) eliminated entitlement to cash assistance, required recipients to meet new work requirements, and instituted lifetime time limits on participation. One of the main goals of the program was to move recipients of cash assistance (i.e., welfare), who are mostly women with children, off public assistance and into the workforce as quickly as possible. Many state welfare reform efforts that preceded PRWORA shared this emphasis on employment as a means to leaving public assistance. Partly as a consequence of these efforts, the number of welfare recipients dropped 62 percent between January 1993 and March 2001, from about 14.1 million recipients in 1993 to 5.4 million recipients in 2001.

A decline in the welfare caseload of this magnitude has the potential to reduce significantly the prevalence of health insurance among low-income families, particularly those headed by unmarried women. Health insurance coverage of these families may be adversely affected because those who leave, or are deterred from entering, the welfare program may find it difficult to obtain Medicaid coverage due to administrative hurdles, which participation in the cash assistance program eliminated, and because many of the jobs that low-income women typically obtain after leaving welfare do not offer private health insurance. This scenario is consistent with evidence from studies of former welfare recipients, which show that many women and children who left welfare are without insurance (Guyer 2000).

If welfare reform led to loss of health insurance coverage, it would most likely reduce low-income families' health care utilization and possibly adversely affect the health of persons in these families. Knowledge of such unintended consequences would almost certainly influence the debate over the efficacy of current welfare policy. In fact, the original Congressional deliberations over welfare reform led to bipartisan support to insure, through provisions in the legislation, that welfare reform did not affect health insurance coverage.

In this paper, we study whether welfare reform adversely affected the health insurance coverage of low-educated women and their children. Specifically, we investigate whether changes in the welfare caseload during the 1990s are associated with changes in Medicaid participation, private insurance

coverage, and the number of uninsured among low-income families. To control for the influence of the economy and other measured factors on health insurance coverage, we use multivariate regression methods. In addition, to control for the influence of unmeasured factors on health insurance coverage, we implement the regression analysis in the context of a research design based on a pre- and post-test with a comparison group. We obtain regression estimates of the effect of changes in the welfare caseload on changes in insurance coverage for low-income families likely to be affected by welfare reform, and regression estimates of the effect to changes in the welfare caseload on changes in insurance coverage for low-income families unlikely to be affected by welfare reform. The difference in these estimates is the effect of changes in the welfare caseload on health insurance coverage of the affected group. Below, we describe this approach more completely.

In sum, the effect of welfare reform on health insurance coverage is an important and timely public policy issue that is under-researched. Nevertheless, it is widely believed that welfare reform has adversely affected the health insurance coverage of low-income families. However, much of the information that is available on the issue has been produced by advocacy groups and is of questionable scientific value. Moreover, the few previous studies of this problem by social scientists have not reached a consensus as to the effect of welfare reform on health insurance underscoring the need for additional research.

II. Background and Literature Review

It is a widely held belief that an unintended consequence of welfare reform was the loss of health insurance coverage among low-income families. This belief is based on several pieces of information: studies of welfare “leavers,” which find that a substantial proportion of former welfare recipients are uninsured in the year after leaving welfare (Moffitt and Slade 1997; Guyer 2000; Garrett and Holahan 2000; Garrett and Hudman 2002); studies of the effect of welfare reform on Medicaid enrollment, which find a significant decline in Medicaid enrollment among low-income women and children after the implementation of welfare reform (Families USA Foundation 1999; Kronebusch 2001; Ku and Garrett

2000); and evidence that administrative hurdles limit enrollment in Medicaid for low-income families not receiving public assistance (Ellwood 1999). We take a more critical view of this evidence and argue that the widely held view that welfare reform resulted in a loss of health insurance is not well founded.

Consider the evidence from “leaver” studies. These studies do not, and more importantly cannot, differentiate between women and children who left public assistance because of welfare reform, and those who left public assistance voluntarily—i.e., those who would have left public assistance even in the absence of reform. Thus, “leaver” studies cannot identify the effect of welfare reform on health insurance. The assumption implicit in these studies is that the health insurance coverage of those who left welfare due to welfare reform is the same as the health insurance coverage of those who left welfare for other reasons such as a strong economy. There is no reason to expect this to be true. The motivation for leaving is by definition different between the two groups—one was induced to leave by legislation and the other left voluntarily—and this strongly suggests that the circumstances surrounding, and the consequences of, leaving welfare may also be very different for these two groups. Leaver studies, however, assume that the two groups have equal experiences.

Recent evidence suggests that only one-third of the decline in welfare caseloads is a result of welfare reform (CEA 2000, Kaushal and Kaestner 2001). Thus, at most, one-third of the families in “leaver” studies is relevant to the question of the effect of welfare reform on health insurance status, and the health insurance status of these families may differ quite significantly from that of families who leave welfare for other reasons. Unfortunately, “leaver” studies cannot differentiate between the two. Moreover, most of the “leaver” studies focus on a relatively short period of time and therefore fail to consider the significant growth in wages and benefits, including health insurance, that occurs within this group over time (Gladden and Taber 2000; Guyer 2000). “Leaver” studies also ignore those who were deterred from entering welfare. In sum, while the evidence in these studies is incontrovertible for the sample of families examined, they do not provide evidence of the effect of welfare reform on health insurance coverage.

In addition to “leaver” studies, the belief that welfare reform adversely affected health insurance coverage is supported by a few studies that show a steep decline in Medicaid coverage about the same time welfare reform was implemented. Probably the most widely cited of these is a study by Families USA Foundation (1999). This study has had a particularly powerful impact on public opinion and is cited by numerous groups advocating for changes in welfare policy. The study concluded that as of 1997, an estimated 675,000 people with incomes under 200 percent of the federal poverty level were uninsured as a result of welfare reform. Similarly, Ku and Garrett (2000) and Kronebusch (2001) report that welfare reform was associated with a significant loss in Medicaid coverage among low-income families.

There are several problems with these studies. The most seriously flawed are the studies by Families USA (1999) and Kronebusch (2001). These studies do not link the implementation of welfare reform to changes in Medicaid coverage as purported. Instead, these studies measure the change in Medicaid coverage for a group of low-income families between certain years (e.g., 1995 and 1997) during which time some welfare reform took place. This strategy ignores the fact that many states implemented welfare reform at different times, some prior to the years studied and some after the years studied. For example, according to data in the Families USA Foundation (1999) report, Medicaid coverage declined in California by approximately 30 percent between 1995 and 1997. However, during this period there was no welfare reform in California. California had an AFDC waiver that was implemented prior to 1995 and California did not implement federally mandated reform until 1998. Nevertheless, the Families USA study attributes the observed decline in Medicaid to welfare reform. By failing to explicitly link the timing of welfare reform to changes in insurance, these two studies are unable to identify the effect of welfare reform on insurance coverage. Moreover, as the California example demonstrates, factors other than welfare reform such as a strong economy and changes in Medicaid eligibility were causing changes in Medicaid and other types of insurance over the period of study. Neither study addresses this problem in a credible manner, for example, by using a comparison group.

Another shortcoming of these studies, and the study by Ku and Garrett (2000), is their failure to examine changes in private insurance coverage and the number of uninsured associated with welfare

reform. This is surprising, because research has demonstrated that welfare reform significantly increased the employment rate of low-income women (Kaushal and Kaestner 2001; CEA 2000). As a result, it is possible that a greater portion of these women will be covered by private insurance and this increase in private insurance could explain part of the decline in Medicaid coverage. Perhaps this is why Chavkin et al. (2000) found that welfare reform was not associated with the number of uninsured.

In contrast to other papers, Chavkin et al. (2000) found few significant effects of federal welfare reform on Medicaid enrollment and the number of uninsured persons. Notably, unlike the Families USA Foundation (1999) and Kronebusch (2001) studies, these authors explicitly link the timing of welfare reform to changes in Medicaid coverage and the number of uninsured. However, like these other studies, this study does not adequately control for changes in Medicaid and the number of uninsured that are unrelated to welfare reform. This problem may be particularly severe in Chavkin et al. (2000) because they do not limit their sample to those most likely affected by welfare reform—i.e., low-income families.¹

Is it possible that welfare reform increased the number of low-income women and children without health insurance? The answer is clearly yes. There are a variety of ways that welfare reform may have affected health insurance coverage. Women who leave welfare are eligible for transitional Medicaid benefits, but these benefits end after one year, and administrative hurdles may cause take-up rates for transitional benefits to be low among welfare leavers. There are no transitional benefits for women who were deterred from entry into AFDC/TANF by welfare reform, and since many of these women are working, their earnings may push them over the very low Medicaid income-eligibility thresholds for adults. Children from low-income families are most likely eligible for Medicaid even if the mother is working, but administrative barriers to enrollment may keep them uninsured, particularly children of women who were diverted from cash assistance because they may have never been enrolled in Medicaid. Offsetting these adverse effects is the possibility that some low-income women induced to work by

¹ In this case, control variable used in the multivariate regression model measure the partial correlation between insurance status and the variable of interest. So, for example, the coefficient on the unemployment rate measures the effect of the economy on the health insurance for a heterogenous group of persons not the group of interest. This may bias estimates.

welfare reform will have access to employer-provided health insurance. However, the relatively low-paying jobs that these women usually obtain do not frequently provide subsidized benefits. Furthermore, even when employers offer coverage, low-income individuals have been found to be nine times more likely not to elect this insurance (Cunningham et al. 1999). As a result, we would expect the number of uninsured to rise after welfare reform.

Is there existing evidence that establishes this fact? The answer is clearly no. Leaver studies, while often presenting compelling evidence, cannot distinguish between families that leave welfare because of reform and those that leave for other reasons, and other studies that address the issue have serious flaws that raise questions as to their credibility. Thus, additional research is required to provide policymakers with evidence as to whether or not policies are needed to address a potentially important unintended consequence of welfare reform. Our study makes several contributions. First, we examine the effect of both “exit” and “entry” effects of welfare reform on health insurance coverage. Second, we explicitly link both state and federal welfare reform to changes in insurance coverage by examining the relationship between changes in the welfare caseload and changes in insurance status. Finally, we use a research design that addresses in a more complete way than past research the possibility that unmeasured trends may confound estimates of the effect of welfare reform on health insurance status.

III. Research Design and Statistical Methods

The hypothesis underlying our empirical analysis is straightforward: welfare reform reduced the number of low-income women and children on public assistance and as a result may have increased the number of uninsured persons in these groups because of declines in Medicaid coverage that were not fully offset by increases in private insurance coverage. So the most direct test of this hypothesis is to examine how changes in the welfare caseload are related to changes in the health insurance coverage of persons in low-income families at risk of welfare receipt. Accordingly, we specify a regression model that relates the welfare caseload to insurance status as follows:

$$\text{Insurance}_{ijt} = \beta_j + \delta_t + \gamma \text{Caseload}_{jt} + Z_{jt}\Delta + X_{ijt}\Gamma + u_{ijt}$$

- (1) $i = 1, \dots, N$ (persons)
 $j = 1, \dots, 51$ (states)
 $t = 1992, \dots, 1999$ (years)

In equation (1), health insurance status (e.g., Medicaid) of person i in state j and year t is a function of the welfare caseload in state j and year t ; time-varying state characteristics (Z_{jt}) such as Medicaid income eligibility threshold, the unemployment rate, lagged unemployment rate, and per-capita income; individual characteristics (X_{ijt}) such as age, race and family composition; time-invariant state characteristics—i.e., state fixed effects (β_j); and year effects (δ_t). We can estimate equation (1) using a variety of statistical methods including ordinary least squares—the method we have selected.

To a large extent, equation (1) addresses the fundamental identification problem associated with this analysis, which is to isolate the effect of changes in the welfare caseload from other determinants of women's, or children's, health insurance coverage that vary over time, across states and over time within states. Nevertheless, it may still be possible that there are omitted variables that affect health insurance coverage of persons in low-income families that are also correlated with the welfare caseload, and as a result, estimates of equation (1) will be biased.

To address this problem, we estimate equation (1) for a group of persons unlikely, or more precisely less likely, to be affected by welfare reform, but whose health insurance coverage is similar to that of low-income women, or low-income children. We will refer to this group as the comparison group and the regression model for this group is given by:

$$\text{Insurance}_{ijt} = \tilde{\beta}_j + \tilde{\delta}_t + \tilde{\gamma} \text{Caseload}_{jt} + Z_{jt}\tilde{\Delta} + X_{ijt}\tilde{\Gamma} + v_{ijt}$$

- (2) $i = 1, \dots, N$ (persons)
 $j = 1, \dots, 51$ (states)
 $t = 1992, \dots, 1999$ (years)

The key point to note about equation (2) is that the coefficient on the welfare caseload variable, $\tilde{\gamma}$, should be zero since this group is not at risk of welfare receipt and changes in the welfare caseload should not affect their insurance status. A non-zero estimate of this parameter indicates that there are omitted variables that affect health insurance that are correlated with the welfare caseload. Therefore, we can subtract this effect from the corresponding estimate (γ) in equation (1) to obtain an estimate of the effect of the caseload on health insurance that controls for these omitted variables. The assumption underlying this procedure is that in the absence of welfare reform (i.e., changes in the welfare caseload), changes in health insurance status would be similar between the target group—for example, low-educated unmarried women, and the comparison group.

This approach is commonly referred to as a difference-in-differences (DD) and it is based on a pre- and post-test with comparison group research design. DD estimates can be obtained directly by combining equations (1) and (2):

(3)

$$\begin{aligned} \text{Insurance}_{ijt} = & \tilde{\alpha} + (\alpha - \tilde{\alpha})\text{Treat}_i + \tilde{\beta}_j + (\beta_j - \tilde{\beta}_j)\text{Treat}_i + \tilde{\delta}_t + (\delta_t - \tilde{\delta}_t)\text{Treat}_i + \tilde{\gamma} \text{Caseload}_{jt} + \\ & (\gamma - \tilde{\gamma})(\text{Caseload}_{jt} \times \text{Treat}_i) + Z_{jt}\tilde{\Delta} + (Z_{jt} \times \text{Treat}_i)(\Delta - \tilde{\Delta}) + X_{ijt}\tilde{\Gamma} + \\ & (X_{ijt} \times \text{Treat}_i)(\Gamma - \tilde{\Gamma}) + v_{ijt} \end{aligned}$$

$i = 1, \dots, N$ (persons)

$j = 1, \dots, 51$ (states)

$t = 1992, \dots, 1999$ (years)

The only new variable in equation (3) is “Treat,” which is a dichotomous variable equal to one if the person is in the target group and equal to zero if the person is in the comparison group. The DD estimate of the effect of the welfare caseload is $\gamma - \tilde{\gamma}$. Equation (3) is the least restrictive specification possible. The only identifying restriction is that in the absence of welfare reform, unmeasured state-year influences on health insurance status would affect the target and comparison group equally. If this assumption is valid, then the parameter $\tilde{\gamma}$ captures the influence of these unmeasured determinants that are correlated

with the welfare caseload. It is important to note that the identification restriction is conditional on measured characteristics and that many, if not most, of the important determinants of health insurance coverage are included in the model. In other words, the DD procedure assumes that unmeasured state-year variation—i.e., variation remaining after controlling for the influence of measured variables—is the same for the target and comparison group.

Clearly, the choice of target and comparison groups is crucial to the success of the difference-in-differences design. Identifying a target group is relatively straightforward. Welfare reform was intended to decrease the welfare caseload, which consists primarily of low-educated, single mothers. For example, approximately 80 percent of the welfare caseload in 1994 consisted of unmarried mothers who had 12 or fewer years of education. Accordingly, we define our target group to be single mothers with 12 or fewer years of education, and the children of these women.² The comparison group is more difficult. Ideally, we would select a group of women and children whose health insurance coverage, and the determinants of that coverage, are similar to the target group, but who are unlikely to be affected by welfare reform. We choose two groups: low-educated (≤ 12), single women without children; and low-educated (≤ 12), married mothers. Obviously, the first comparison group is not relevant for the analysis of the effect of welfare reform on children's health insurance status.

A cursory way to assess the adequacy of the comparison groups is to compare the mean rates of insurance coverage of the target group to the mean rates of insurance coverage of the comparison groups. Means of roughly similar magnitudes suggest that the insurance status of the two groups is influenced by similar factors. These figures are shown in Table 1 for the initial year of our analysis, 1992, which predated most welfare reform legislation.

The figures in Table 1 show that the target and comparison groups have rates of employer-sponsored insurance in the respondent's own name and rates of uninsured that are quite similar, but that

² It is possible that welfare reform affected fertility and marriage, so selecting the sample on these characteristics may result in changes in sample composition. Based on existing evidence, however, we believe the bias due to sample selection will be insignificant. See Schoeni and Blank (2000), Kaushal and Kaestner (2001), and Joyce, Kaestner and Korenman (2002) for evidence on the effect of welfare reform on marriage and fertility.

the proportion of each group covered by Medicaid and private insurance is noticeably different. As expected, women and children in the target group have much higher rates of Medicaid coverage and much lower rates of private insurance coverage. These disparities reflect the higher rates of labor force participation among families (including spouse) in the comparison group and the higher rates of welfare participation among families in the target group. Welfare participation and Medicaid coverage are substitutes for employment (and marriage) and private insurance coverage. The key question for our analysis is whether the two groups would have similar insurance coverage in the absence of a cash assistance program. This is because welfare reform has effectively eliminated the cash assistance program for those who were induced to leave the program and our analysis is focused on the effect of changes in the welfare caseload on health insurance coverage.

Table 1
Health Insurance Coverage of Target and Comparison Groups in 1992

Demographic Characteristics (Group)	Medicaid	Private Insurance	Employer-Sponsored	Uninsured
Low-educated, single mothers (Target)	0.509	0.313	0.268	0.209
Low-educated, single mothers, no children (Comparison)	0.169	0.507	0.323	0.337
Low-educated, married mothers (Comparison)	0.098	0.687	0.257	0.203
Children of low-educated, single women (Target)	0.592	0.280	--	0.170
Children of low-educated, married women (Comparison)	0.130	0.667	--	0.202

The answer to the above question appears to be yes. To see why, note that approximately 50 percent of low-educated, single mothers are on public assistance.³ Thus, figures in Table 1 suggest that 31 percent of the remaining women in this group are covered by private insurance. This implies that approximately 62 percent of those women not on public assistance in this group are covered by private

health insurance. This 62 percent figure is quite similar to the percentage of women covered by private insurance in the two comparison groups. While these calculations are rough, and ignore selection effects that would likely reduce the 62 percent figure for the target group, they make the point that the comparison groups selected are reasonable in the sense that their insurance coverage appears to be similar to that of target group members who are not on public assistance. This is exactly the group that is relevant to our analysis since the purpose of our analysis is to examine what happens to insurance coverage when women leave public assistance because of welfare reform. So changes in private insurance coverage of the target group that are correlated with, but not caused by, changes in the welfare caseload, say because of changes in employer offer rates, or changes in the terms at which the employer offers insurance, will be accounted for by changes in private insurance coverage among the comparison groups.

The only insurance state for which there is not an adequate comparison group is Medicaid for adult women. Women in the comparison groups are for the most part ineligible for Medicaid and therefore there is little likelihood of observing significant changes in Medicaid coverage that are correlated with welfare reform.⁴ Thus, for Medicaid coverage of adult women, the comparison group approach is not very useful, and therefore we will not rely on it. The story is somewhat different for children of married mothers—the comparison group for children of single mothers. Expansions in Medicaid eligibility affected many children in this category, as evidenced by the significant increase in Medicaid coverage of this group between 1992 and 1996 (see Table 2). So for children’s Medicaid coverage, the comparison group approach is appropriate. One point worth mentioning is that the comparison group approach is used to control for unmeasured determinants of Medicaid coverage and that many, if not most, of the important determinants of Medicaid coverage that vary by state-year such as

³ The 50 percent figure is similar to the actual percentage of 47percent calculated from CPS.

⁴ A small portion of women in the two comparison groups may be eligible for Medicaid, or other state-funded health insurance. For example, married women will be eligible for AFDC and Medicaid through the AFDC-UP program. Similarly, some states provide cash assistance to single adults (general assistance programs) and provide public health insurance coverage. Approximately five percent of women in the comparison groups reported receiving AFDC benefits in the past year.

income eligibility level and strength of the economy (unemployment rate and per-capita income) are being held constant. The model also includes state and year effects and personal characteristics, so the omitted variable problem may not be significant.⁵ Indeed, we see evidence to support this hypothesis below.

To summarize, our plan is to estimate equations (1), (2) and (3). Equation (1) provides estimates of the correlations between the welfare caseload and health insurance statuses of the group of interest—i.e., the target group. Equation (2) provides similar estimates for the comparison group—a group unlikely to be affected by welfare reform. Therefore, a non-zero estimate for this group is evidence that there are omitted factors in equation (1) that are correlated with the welfare caseload and insurance coverage. Equation (3) provides the difference between these two sets of estimates, and under certain assumptions can be interpreted as causal estimates of the effect of changes in the welfare caseload on health insurance statuses of the target group.

IV. Data

We use March CPS for the years 1993 to 2000, which gives information on the health insurance status for the years 1992-1999. It was during this period that nearly all of the state and federal welfare reform occurred. We focus on low-educated women and their children because these are the target group of welfare reform. Therefore, we exclude those women (and their children) with more than a high school education because approximately 80 percent of welfare recipients meet this criterion. We also limit the sample to women between the ages of 18 and 44; again because approximately 80 percent of all women on welfare fall into this age group. We limit the sample of children to between the ages of 0-14 years.

The CPS contains all the necessary data to complete our analysis. Most importantly, the CPS provides information on the insurance status in the last year of all persons including whether the person

⁵ Evidence that most of the important variables are included in the model is found in Ku and Garrett (2000). In this paper, the authors use regression models similar to equation (1) and estimate these models using state-level aggregate data. The R-square statistics from these regressions were in the 0.98 range, suggesting that nearly all of the state-year variation in Medicaid participation is accounted for by the variables included in our model.

was covered by Medicaid, private insurance, employer-sponsored insurance in her own name, or some other type of public insurance.⁶ We define four categories of insurance: private insurance, which includes employer-sponsored and other group or individual private insurance plans; employer-sponsored insurance in respondent's own name; public insurance, which includes Medicaid, SCHIP and other publicly provided insurance; and uninsured.⁷ One limitation of the CPS is that Medicaid coverage is under-reported relative to administrative data. Whether or not the under-reporting is systematically related to welfare reform, however, is unknown. Many analyses have used the CPS to study the effect of public policies such as the Medicaid expansions on health insurance coverage, and some have adjusted for the under-reporting of Medicaid (e.g., Dubay and Kenney 1996). Taking account of the under-reporting does not appear to make a significant difference.

The CPS also contains basic demographic information that can be used to construct control variables and that allow us to link children to their mothers. As noted, we define our target and comparison groups on the basis of education and marital status. Other personal characteristics included in the model include: family size, other family income,⁸ mother's age, mother's race, total number of kids and number of young kids in the family.

Finally, the CPS provides respondents' state of residence, which allows us to append state-level information. We use the following: annual welfare caseload, as measured by average number of families on welfare per month, Medicaid income eligibility threshold, unemployment rate—current and a one-year lag, and real per-capita income.⁹ For women, state Medicaid eligibility variables are defined on the basis of Medicaid eligibility of pregnant women; we use the following categories: 0 to 133 percent of federal poverty line, 134 to 199 percent of federal poverty line, and above 200 percent of the federal poverty

⁶ There is some question as to whether respondents are referring to last year or the current period when providing information about health insurance coverage. We assume that it refers to the last year as specified in the question and accordingly, we match the welfare caseload information to the last calendar year.

⁷ We exclude persons covered by CHAMPUS or Indian Health Service from both the private and public insurance categories.

⁸ Other family income= Family earnings – woman's earnings + interest income + dividends + rental income. For the analysis on children, we control for family income.

⁹ Aaron Yellowitz graciously provided us with the Medicaid income eligibility data.

line.¹⁰ For children, Medicaid eligibility is specific to a child's age and is the higher of the Medicaid or SCHIP income eligibility threshold; we use the following categories: 0 to 49 percent of the federal poverty line; 50 to 100 of federal poverty line; 101 to 133 percent of the federal poverty line; 134 to 199 percent of the federal poverty line; and above 200 percent of the federal poverty line.¹¹ The annual welfare caseload data is taken from the Administration for Children and Families and refers to the average number of families receiving benefits in the year. We measure the caseload in two ways: as the natural logarithm of the caseload, and as a proportion of women age 18 to 44.¹² All state level variables are merged to the CPS in the year prior to the survey year. So the 1998 welfare caseload is merged to the 1999 CPS survey.

V. Results

Descriptive Analysis

Table 2 presents sample proportions of health insurance coverage of the various samples used in our analysis. In 1992, half of all single mothers, the group most likely to be affected by welfare reform, received Medicaid and around 30 percent of women in this group were covered by private insurance, leaving the remaining 20 percent or so uninsured.¹³ Between 1992 and 1996, during which a number of states implemented welfare reform under AFDC waivers, the proportion of single mothers covered by Medicaid fell around five percentage points and the proportion covered by private insurance increased approximately two percentage points; the proportion uninsured rose by about five percentage points. This general trend in the insurance coverage of this group became more marked after 1996, when federal welfare reform was enacted; Medicaid coverage declined, and private insurance increased, even more rapidly than in the earlier period. However, the rate of uninsured grew more slowly. These figures

¹⁰ The omitted category is states with Medicaid eligibility income for pregnant women less than 134 percent of the federal poverty line.

¹¹ The omitted category is states with Medicaid income eligibility of less than 50 percent of the federal poverty line.

¹² We use the CPS to calculate the population of women ages 18 to 44 by state and year.

¹³ Row percentages do not add to 100 because some respondents indicate coverage by more than one type of insurance.

provide the raw data for the widely held view that welfare reform caused a decrease in insurance coverage among affected women. However, most reports of this decline focus on changes in Medicaid coverage and ignore changes in private coverage.

Among the children of single mothers, a slightly different story emerges. Between 1992 and 1996 there is a slight increase in Medicaid coverage and little change in the proportion covered by private insurance and the proportion uninsured. After 1996, the trends for children of single mothers are similar to that of their mothers: Medicaid coverage declines, private insurance coverage increases, as does the proportion uninsured.

The critical question is how much of these observed changes is due to welfare reform and how much is due to other factors? Some insight into this question can be gleaned by examining changes in health insurance coverage of groups unaffected by welfare reform, or what we have referred to as comparison groups. Doing so reveals that, for women in the two comparison groups, there has been little change in insurance coverage during this period. This suggests that most of the changes in insurance coverage of the target group are due to welfare reform. Once more, a slightly different story emerges for children; between 1992 and 1996, Medicaid coverage increased, private insurance coverage decreased, and the proportion uninsured increased among children living with two parents. After 1996, there was little change in the insurance coverage of this group. This suggests that some of the changes in insurance coverage during the 1992 to 1996 period may have been due to other factors besides welfare reform. One important change during this period was the expansion of income eligibility thresholds in the Medicaid program. In general, eligibility was expanded to young children from families with incomes up to 133 percent of the federal poverty line, which may have a larger effect on children from two-parent families than on children from one-parent families because of where these families are in the income distribution.

In sum, the descriptive data in Table 2 suggests that welfare reform did affect the health insurance coverage of low-income families. These data also suggest that other factors may have influenced health insurance coverage and that in order to identify the effect of welfare reform it will be necessary to control for these influences in the statistical analysis. Moreover, the inferences derived from Table 2 are based

on simple time trends that ignore the fact that welfare reform was implemented at different times and with varying degrees of intensity, which resulted in caseload declines that differed significantly by state and year. To address these issues, we now turn to the multivariate analysis outlined above.

Multivariate Analysis-Women

To review, our research strategy involves obtaining estimates of equations (1) through (3). Estimates from equation (1) measure the effects of changes in the welfare caseload on changes in the insurance status of the target group—low-educated, single mothers and their children. Estimates from equation (2) measure the effect of changes in the welfare caseload on changes in insurance status of the comparison group. And estimates from equation (3) measure the difference between estimates in equations (1) and (2). All estimates are obtained by ordinary least squares and standard errors of the estimates are calculated under the assumption that observations from the same state are not independent (Bertrand et al. 2002).

Table 3 presents estimates of equation (1). The dependent variables are listed in the column headings. The first row contains estimates of equation (1) in which the welfare caseload is expressed as a percentage of the population of women age 18 to 44 in the state. We refer to this measure as the caseload per capita for expositional purposes. The second row contains similar estimates, but in this case, we use the natural logarithm of the welfare caseload. Estimates of the effects of Medicaid eligibility and unemployment are also presented, and these estimates come from the model that uses the natural logarithm of the welfare caseload.

Estimates in row one indicate that a one-percentage point decrease in the caseload per capita is associated with the following: a statistically significant 1.8 percentage point decrease in Medicaid coverage; 0.1 percentage point increase in private insurance; a 0.5 percentage point increase in employer-sponsored insurance in the person's own name; and a statistically significant 1.2 percentage point increase in the proportion uninsured. Between 1996 and 1999, the variable "caseload per capita" declined approximately three percentage points from seven to four, or about 42 percent, which is almost exactly

the decline in the welfare caseload reported by the Administration for Children and Families (www.acf.dhhs.gov). So during this period, estimates in row one suggest that Medicaid coverage decreased by 5.4 percentage points, which is approximately 50 percent of the decline in Medicaid observed between 1996 and 1999. Estimates in row one also imply that between 1996 and 1999, the proportion uninsured increased by 3.6 percentage points, which is significantly less than the decline in Medicaid coverage. Most of the 1.8 percentage point difference between the change in Medicaid and the change in uninsured can be explained by an increase in employer-sponsored insurance, which estimates suggest increased by 1.4 percentage points between 1996 and 1999.

Row two presents similar estimates using an alternative definition of the caseload—the natural logarithm of the caseload. Between 1996 and 2000 the natural logarithm of the caseload decreased by approximately 0.5 log points (www.acf.dhhs.gov), so the estimates in row two indicate that changes in the caseload between 1996 and 1999 resulted in the following: a 4.0 percentage point decrease in Medicaid coverage, which represents only 40 percent of the actual decline during this period; a 2.0 percentage point increase in employer-sponsored insurance; and a 1.6 percentage point increase in the proportion uninsured. These estimates are similar to those in row one, although they imply a slightly smaller decline in Medicaid coverage and the proportion uninsured than those in row one. Only the point estimate associated with Medicaid coverage is statistically significant.

With regard to Medicaid income eligibility thresholds and unemployment, there are only a few statistically significant effects. Unemployment, specifically, the one-year lag, is negatively associated with private insurance coverage; a one percentage point increase in the lagged unemployment rate is associated with a 1.4 percentage point decrease in the proportion of single mothers covered by private insurance, and a 1.2 percentage point decrease in the proportion of single mothers covered by employer-sponsored insurance. The only significant estimate associated with the Medicaid dummy variables is from the private insurance analysis; employer-sponsored insurance coverage is lower in states with Medicaid income eligibility thresholds for pregnant women of 185 percent or more of the federal poverty level. It is surprising that Medicaid income eligibility affects private insurance and not Medicaid

coverage. In fact, since there was little expansion in Medicaid eligibility for non-pregnant women during this period, we did not expect Medicaid eligibility to affect Medicaid coverage, which is the case.¹⁴ It is the effect of Medicaid income eligibility on private insurance coverage that is anomalous.

The next step in the analysis is to obtain estimates of the effect of changes in the welfare caseload on changes in the insurance status of women unlikely to be on welfare and affected by welfare reform. The logic underlying this analysis is that any non-zero effects of the caseload on the insurance status of this group represent the influence of unmeasured variables correlated with changes in the caseload. If we assume that these unmeasured variables would have the same effect on the insurance status of single mothers, we can derive the difference-in-differences (DD) estimate of the effect of changes in the caseload and welfare reform. The DD estimate is obtained by subtracting the estimates of the effect of the welfare caseload on the insurance status of the comparison group from the estimates of the effect of the welfare caseload on the insurance status of the target group. If our assumption about the influence of unmeasured variables is correct, the DD estimates may be given a causal interpretation.

Table 4 presents the estimates of the effect of changes in the welfare caseload on the insurance status of the comparison group. We show the estimates of the effect of the welfare caseload on Medicaid for the sake of completeness, but, as previously noted, the comparison groups that we use are not adequate for this outcome because most members of the comparison groups are not eligible for Medicaid and any changes in Medicaid are likely to be small and idiosyncratic. Therefore, we would not expect any variable, including the welfare caseload, to be correlated with the Medicaid coverage of this group. The only point to note about estimates in Table 4 is that none of the estimates associated with the welfare caseload variables are statistically significant, and standard errors are almost always larger than the estimates. Moreover, estimates are in most cases small in magnitude. Thus, under the assumption that the influence of unmeasured factors on the insurance status of the target and comparison groups is the

¹⁴ We also estimated models that included the Medicaid income eligibility levels for children less than six years of age to see whether there may be some spillover effects due to family coverage. None of the Medicaid eligibility levels associated for children had a significant effect on mother's insurance status.

same, the estimates in Table 4 suggest that unmeasured factors have little effect, and that the estimates in Table 3 mainly reflect the true effect of changes in the caseload.

Table 5 presents the DD estimates, which are simply the difference between estimates in Tables 3 and 4. In light of the results in Table 4, we also show the estimates from Table 3 because, in the absence of any statistically significant or practically important effects in Table 4, these may be given a causal interpretation. The estimates in Table 3 are shown in the row below the DD estimates. There is much agreement among the estimates. Regardless of how the caseload is measured, and regardless of whether we focus on DD estimates or estimates from Table 3, a similar picture emerges. Changes in the welfare caseload caused by welfare reform resulted in the following changes in the insurance status of single mothers: a significant decrease in Medicaid coverage, an increase in employer-sponsored insurance, and an increase in the proportion uninsured. In terms of magnitude, the decrease in Medicaid coverage as a result of welfare reform was smaller than the 10 percentage point decrease observed between 1996 and 1999. Estimates in Table 5 suggest that between 40 to 50 percent of this recent decline in Medicaid was due to welfare reform and changes in the welfare caseload. More importantly, there was not a one-to-one tradeoff between declines in Medicaid and increases in the proportion uninsured. The increase in the proportion of single mothers who were uninsured was smaller than the decrease in Medicaid; estimates indicate that between 1996 and 1999, the change in the proportion uninsured as a result of welfare reform was between 0.5 to 4.2 percentage points, which represents approximately 20 and 80 percent of the change in the proportion covered by Medicaid. Estimates also suggest that decreases in the welfare caseload between 1996 and 1999 were associated with a 3.2 percentage decrease in Medicaid coverage; two percentage point increase in the proportion of single mothers covered by employer-sponsored insurance, and that this increase offset some of the decrease in Medicaid coverage.

Multivariate Analysis-Children

We also investigated the effect of welfare reform and changes in the welfare caseload on the insurance status of children. The target group is children living with single mothers, and the comparison

group is children living with married mothers. Our research design is the same as for adults; we obtain estimates of the effect of changes in the caseload on the insurance status of the target and comparison groups, and then we take the difference of these estimates to identify the causal effect.

Table 6 presents estimates of the effect of changes in the welfare caseload on the target and comparison groups. Estimates obtained using the sample of children living with single mothers indicate that decreases in the welfare caseload are associated with a significant decrease in Medicaid coverage, a significant increase in private coverage, and an insignificant increase in the proportion uninsured. The estimates are not sensitive to how the welfare caseload was measured. To put these estimates in perspective, we can use the actual change in the caseload between 1996 and 1999 to predict the changes in insurance status implied by the estimates. Doing so suggests that during this period, decreases in the caseload were responsible for: a three to four percentage point decrease in Medicaid coverage, which represents approximately half of the observed decrease; a 1.4 to 3.2 percentage point increase in private insurance coverage; and a 1.2 to 1.6 percentage point increase in the proportion uninsured. Estimates of the effect of changes in the welfare caseload using children living with married mothers are not statistically significant, and except for the estimate of the effect of changes in the log caseload on private insurance small in magnitude.

Table 7 shows the difference-in-differences (DD) estimates. We also show estimates from Table 6 of the effect of changes in the caseload on the insurance status of the target group of children. These estimates mainly reflect the true impact of changes in the caseload as evidenced by the absence of a statistically significant effect of the welfare caseload on the insurance status of the comparison group. The DD estimates in Table 7 are not statistically significant, but most are approximately 1.5 times the size of their standard error and therefore the significance of these estimates approaches commonly used levels of statistical significance. The DD estimates indicate that decreases in the welfare caseload between 1996 and 1999 were associated with the following changes in insurance status of children living with single mothers: a 3.2 percentage point decrease in Medicaid coverage; between a 0.4 and 2.5 percentage point

increase in private insurance coverage; and a 2.1 percentage point increase in the proportion of children uninsured. The DD estimates are not that different from the estimates in Table 6.

VI. Conclusions

There is a widespread belief that an unintended consequence of welfare reform was the loss of health insurance coverage among low-income families. This belief is supported by findings from “leaver” studies, which show that a significant number, perhaps 40 to 50 percent, of women and children who leave welfare are uninsured in the year after leaving welfare, and descriptive statistics from national data sources that show a significant decrease in Medicaid enrollment during the period of welfare reform. Moreover, the low rates of employer-sponsored insurance on jobs typically obtained by low-educated women, and the administrative hurdles associated with Medicaid enrollment, are consistent with the belief that welfare reform and decreases in the welfare caseload would lead to an increase in the proportion of low-income women and children that were uninsured. In this study, we have directly examined this question.

Results from our study indicate that welfare reform did increase the proportion of low-educated women who are without health insurance. However, the increase in the proportion uninsured is much less than that implied by “leaver” studies and much less than the actual decrease in Medicaid coverage. Estimates from our analysis suggest that approximately 40 to 50 percent, or four to five percentage points, of the decrease in Medicaid coverage of low-educated single mothers between 1996 and 1999 is attributable to changes in the welfare caseload brought about by welfare reform. Offsetting this decrease in Medicaid coverage was an increase in employer-sponsored, private insurance coverage of approximately two percentage points, which is in accord with the significant increase in employment experienced by low-educated single mothers subsequent to welfare reform. Consistent with these figures, estimates indicate that changes in the caseload between 1996 and 1999 resulted in an increase of two to three percentage points in the in the proportion of low-educated, single mothers who were uninsured. This increase in the proportion of low-educated, single mothers without health insurance is about one-

third to one-half that implied by “leaver” studies, and much less than the actual decrease in Medicaid coverage often used as an indicator of the increase in uninsured.¹⁵

Among children of low-educated, single mothers welfare reform had even smaller effects. Our estimates indicate that changes in the welfare caseload between 1996 and 1999, which were the result of welfare reform, led to the following: a 3.2 percentage point decrease in Medicaid coverage; between a 0.4 and 2.5 percentage point increase in private insurance coverage; and a 2.1 percentage point increase in the proportion of children uninsured. Again, these estimates are significantly smaller than those implied by “leaver” studies and descriptive statistics.

What are the implications of these findings? Mostly, the significantly smaller adverse consequences found here take some of the steam out of arguments to do something about the problem simply because the effects are not as big as some would like to suggest. For example, Kronebusch (2001) states: “The evidence . . . indicates that the states have largely failed in the task of protecting Medicaid coverage of low-income children (p.110).” In light of our findings, this appears to be somewhat of an overstatement. It is true that welfare reform has adversely affected health insurance coverage of low-income children, but the effects are not large (and sometimes not statistically significant) and they do not suggest a general failure of the Medicaid program, as implied by Kronebusch (2001).

The relatively small effects also suggest that welfare reform has not led to a significant decrease in access to health care that may adversely impact the health of low-income families. Of course, some families who have become uninsured as a result of welfare reform will suffer some financial hardship and possibly some health consequences. However, the relatively small increase in the proportion of low-income families without insurance does not suggest that there was a fundamental problem with the safeguards provided in PRWORA to safeguard health insurance coverage of former welfare recipients.

¹⁵ To see why, note that between 1996 and 1999, the proportion of low-educated single mother decreased by about 16 percentage points (40%). If 40 percent of these women were uninsured, as suggested by “leaver” studies, the proportion of all low-educated, single mothers that are uninsured would have increase by 6.4 (0.4 x 16) percentage points. Our estimates suggest that it increased by between two and three percentage points.

This is particularly true since some portion of uninsured persons is eligible for Medicaid and will enroll in the program at the time medical services are required.

Similarly, the results of this study weaken the argument that cites the loss of health insurance as a consequence of welfare reform as a reason to expand Medicaid and the State Children's Health Insurance Program (SCHIP) to adults (Holahan and Weil 2001). Proponents of this argument suggest that the large number of uninsured welfare "leavers" illustrates the problem of relying on the labor market to provide health insurance coverage. But the smaller effects of welfare reform found in this study suggest that many women who leave welfare remained insured, either by using their transitional Medicaid benefits, or by obtaining employer-sponsored insurance. Indeed, some may argue that these findings show that low-income workers may have more opportunity to obtain employer-sponsored insurance than was previously thought possible. Currie and Yellowitz (2000) show that among working single mothers, over 60 percent were covered by private insurance in 1996, a figure that has undoubtedly increased because of welfare reform. Currie and Yellowitz (2000) also show that over 75 percent of low-educated workers are offered employer-sponsored health insurance. So an alternative to expanding Medicaid to near-poor adults is to help low-income workers buy into employer-sponsored insurance. This may be a much more cost effective way to increase health insurance coverage and protect health than expanding Medicaid and SCHIP, which basically provide a voucher for free and unlimited health care that results in a significant amount of over utilization (i.e., moral hazard), and which risks causing many families with employer-sponsored insurance to drop such insurance (Cutler and Gruber 1996).

References

- Bertrand, M., Duflo, E., and Mullainathan, S. 2002. "How much should we trust difference-in-differences estimates?" *NBER WP 8841*. Cambridge, MA: National Bureau of Economic Research.
- Chavkin, W., Romero, D., and Wise, P.H. "State welfare reform policies and declines in health insurance." *American Journal of Public Health* 90(6):900-908.
- Council of Economic Advisers, 1999. "Technical report: The effects of welfare policy and economic expansion on welfare caseloads: An update." Washington, D.C: Executive Office of the President of the United States.
- Cunningham, P.J., Schaefer, E., and Hogan, C. 1999. "Who declines employer-sponsored health insurance and is uninsured?" *Issue Brief 22*, Washington,DC: Center for Studying Health System Change.
- Currie, J., and Yellowitz, A. 2000. "Health insurance and less skilled workers." In *Finding Jobs: Work and Welfare Reform*, eds. Card, D., and Blank, R.M., New York: Russell Sage Foundation.
- Cutler, D., and Gruber, J. 1996. "Does public insurance crowd out private insurance?" *Quarterly Journal of Economics* 111:391-430.
- Dubay, L., and Kenney, G. 1996. "Did the Medicaid Expansions For Pregnant Women Crowd Out Private Coverage?" Washington D.C.: The Urban Institute. Unpublished Manuscript.
- Ellwood, M. 1999. "The Medicaid eligibility maze: coverage expands but enrollment problems persist." *Assessing the New Federalism Occasional Paper #30*. Washington, DC: Urban Institute.
- Families USA Foundation. 1999. "Losing Health Insurance: the Unintended Consequences of Welfare Reform." Washington, DC: The W.K. Kellogg Foundation, the George Gund Foundation and the Nathan Cummings Foundation: May 1999.
- Garrett, B. and Holohan J. "Health insurance coverage after welfare." *Health Affairs*. Jan-Feb. 2000.
- Garrett, B. and Hudman, J. 2002. "Women who left welfare: Health care coverage, access and use of health services." The Kaiser Commission on Medicaid and the Uninsured, Washington, DC.
- Gladden, T., and Taber, C. 2000. "Wage progression among less skilled workers." In *Finding Jobs: Work and Welfare Reform*, eds. Card, D., and Blank, R.M., New York: Russell Sage Foundation.
- Guyer, B. 2000. "Medicaid and Prenatal Care: Necessary but Not Sufficient." *Journal of the American Medical Association* 264:2264-2265.
- Holohan, J., and Weil, A. 2001. "Health insurance, welfare and work." *Welfare Reform and Beyond: Policy Brief*, Washington, DC: Brookings Institute.
- Joyce, T, Kaestner, R., and Korenman, S. 2002. "Welfare reform and non-marital fertility in the 1990s." unpublished manuscript, Baruch College of the City University of New York, NY.
- Kronebusch, K. 2001. "Medicaid for children: Federal mandates, welfare reform, and policy backsliding." *Health Affairs*, 20:97-111.
- Ku and Garrett. 2000. "How welfare reform and economic factors affected Medicaid participation: 1984 - 96. *Discussion Paper, Assessing the New Federalism*. Washington, DC: Urban Institute.
- Kaushal, N., and Kaestner, R. 2001. "From welfare to work: Has welfare reform worked?" *Journal of Policy Analysis and Management*, 20(4): 740-761.
- Moffitt R, and Slade, E. 1997. Healthcare coverage for children who are on and off welfare. *The Future of Children*, 7(1):87-98.
- Schoeni, R. F. and Blank, R.M. 2000. "What has welfare reform accomplished? Impacts on welfare participation, employment, income, poverty and family structure." *National Bureau of Economic Research, Working Paper No. 7627*. Cambridge, MA: National Bureau of Economic Research.

Table 2
 Health Insurance Status of Women and Children: 1992-1999
 Women Ages 18-44 Years, Education <= 12 Years; Children Ages 0-14

Sample Description	Sample Size ¹	Proportion														
		Covered by Public Insurance			Covered by Private Insurance			Employer Sponsored Insurance in Own Name			Covered by Champus ²			Uninsured		
Year		1992	1996	1999	1992	1996	1999	1992	1996	1999	1992	1996	1999	1992	1996	1999
Women																
Target Group																
Single mothers	21599	0.509	0.456	0.356	0.313	0.330	0.400	0.268	0.277	0.341	0.010	0.020	0.015	0.209	0.263	0.294
Comparison Groups																
Married mothers	45199	0.098	0.102	0.084	0.687	0.690	0.693	0.257	0.279	0.253	0.043	0.042	0.034	0.203	0.218	0.230
Single, no children	28412	0.169	0.181	0.146	0.507	0.516	0.524	0.323	0.282	0.293	0.016	0.022	0.025	0.337	0.334	0.347
Children living with																
Single Mothers	35778	0.592	0.614	0.559	0.280	0.278	0.329	--	--	--	0.011	0.024	0.021	0.170	0.173	0.179
Both Parents	80726	0.130	0.210	0.209	0.667	0.636	0.649	--	--	--	0.041	0.042	0.034	0.202	0.189	0.170

Notes: ¹ Sample size pertains to the combined total for years 1992-1999.

² Including Military Health Care, Indian Health Care, and Champus-Veteran's Affairs.

Table 3
 OLS Estimates of the Effect of AFDC/TANF Caseload, Unemployment Rates and State Medicaid Eligibility on
 the Health Insurance Status of Low-educated, Single Mothers; Ages 18-44, Education \leq 12 Years

Explanatory Variables	Medicaid Coverage	Private Insurance	Employer Sponsored Insurance in Own Name	No Insurance
Caseload /Population of Women	1.778** (0.535)	-0.141 (0.479)	-0.482 (0.381)	-1.206* (0.594)
Log AFDC/ TANF Caseload	0.081** (0.025)	-0.016 (0.030)	-0.040 (0.029)	-0.032 (0.025)
Medicaid Eligibility Income 134-184 % of Federal Poverty Line	-0.021 (0.014)	0.007 (0.013)	-0.002 (0.012)	-0.001 (0.015)
Medicaid Eligibility Income >184 % of Federal Poverty Line	0.000 (0.015)	-0.028 (0.017)	-0.034* (0.017)	0.008 (0.017)
Unemployment Rate (Contemporary)	-0.002 (0.006)	0.002 (0.007)	-0.002 (0.006)	-0.002 (0.006)
Unemployment Rate (One year lag)	0.006 (0.006)	-0.014** (0.005)	-0.012** (0.004)	0.003 (0.005)

Notes: Estimates in each cell in the first two rows are from a separate regression. Dependent variables are listed in column headings. Estimates of the effect of Medicaid eligibility and unemployment are from a regression that includes the natural logarithm of the welfare caseload. Each regression controls for family size, other family income, age, race, number of kids and number of young kids, state Medicaid eligibility, unemployment rate – current and with a lag, state and year fixed effects and real state per capita income. State Medicaid eligibility variables are defined on the basis of Medicaid eligibility for pregnant women. States with Medicaid eligibility income for pregnant women less than 134 % of the federal poverty line is the omitted category. Standard errors (assuming non-independence within states) are in parentheses.

* 0.01 < p < 0.05, ** p < 0.01

Table 4
 OLS Estimates of the Effect of AFDC/TANF Caseload, Unemployment Rates and State Medicaid Eligibility on the
 Health Insurance Status of Low-educated Women; Aged 18-44, Education <=12 Years

Insurance Status	Medicaid Coverage		Private Insurance		Employer Sponsored Insurance in Own Name		Uninsured	
	Married Mothers	Single, No Kids	Married Mothers	Single, No Kids	Married Mothers	Single, No Kids	Married Mothers	Single, No Kids
Sample								
Caseload /Population of Women	0.042 (0.205)	0.402 (0.349)	-0.139 (0.423)	-0.102 (0.553)	0.224 (0.318)	-0.319 (0.454)	0.195 (0.372)	-0.326 (0.502)
Log AFDC/ TANF Caseload	0.002 (0.012)	0.020 (0.017)	-0.003 (0.023)	-0.001 (0.023)	0.010 (0.015)	0.008 (0.018)	0.015 (0.022)	-0.022 (0.024)
Medicaid Eligibility Income 134-184 % of Federal Poverty Line	-0.004 (0.006)	0.001 (0.010)	-0.009 (0.009)	0.004 (0.016)	-0.005 (0.008)	-0.003 (0.014)	0.007 (0.007)	-0.002 (0.014)
Medicaid Eligibility Income >184 % of Federal Poverty Line	0.000 (0.006)	-0.001 (0.009)	-0.023* (0.010)	0.008 (0.011)	-0.006 (0.006)	-0.007 (0.012)	0.018* (0.009)	0.003 (0.013)
Unemployment Rate (Contemporary)	0.004 (0.003)	0.002 (0.005)	-0.004 (0.005)	0.001 (0.008)	0.002 (0.004)	-0.001 (0.007)	-0.001 (0.004)	-0.001 (0.007)
Unemployment Rate (One year lag)	-0.003 (0.003)	-0.003 (0.003)	0.001 (0.003)	-0.003 (0.004)	0.004 (0.003)	0.000 (0.004)	0.002 (0.003)	0.002 (0.005)

Notes: See Notes in Table 3

* 0.01<p<0.05, ** p<0.01

Table 5
 Difference-in-differences Estimates of the Effect of AFDC/TANF Caseload
 On the Health Insurance Status of Low-educated Unmarried Women with Children; Aged 18-44, Education <= 12 Years

Insurance Status	Medicaid Coverage		Private Insurance		Employer Sponsored Insurance in Own Name		Uninsured	
	Married Mothers	Single, No Kids	Married Mothers	Single, No Kids	Married Mothers	Single, No Kids	Married Mothers	Single, No Kids
Caseload /Population of Women (DD Estimates)	1.737** (0.510)	1.377** (0.490)	-0.002 (0.511)	-0.039 (0.650)	-0.706 (0.557)	-0.163 (0.622)	-1.400* (0.687)	-0.880 (0.783)
Caseload /Population of Women (Table 3 Estimates)	1.778** (0.535)		-0.141 (0.479)		-0.482 (0.381)		-1.206* (0.594)	
Log AFDC/ TANF Caseload (DD Estimates)	0.079** (0.020)	0.061* (0.029)	-0.013 (0.033)	-0.016 (0.038)	-0.050 (0.030)	-0.048 (0.037)	-0.047 (0.035)	-0.010 (0.030)
Log AFDC/ TANF Caseload (Table 3 Estimates)	0.081** (0.025)		-0.016 (0.030)		-0.040 (0.029)		-0.032 (0.025)	

Notes: See notes to Table 3. Estimated effects are allowed to differ for the target and comparison group for each of the controls. Standard errors (assuming non-independence within states) are in parentheses.

* 0.01 < p < 0.05, ** p < 0.01

Table 6

OLS Estimates of the Effect of AFDC/TANF Caseload, Unemployment Rates and State Medicaid Eligibility on the Health Insurance Status of Children of Low-educated Women; Mothers: Aged 18-44, Education \leq 12 Years; Children: Aged 0-14 years

Insurance Status	Medicaid Coverage		Private Insurance		Uninsured	
	Kids living with Single Mothers	Kids living with Both Parents	Kids living with Single Mothers	Kids living with Both Parents	Kids living with Single Mothers	Kids living with Both Parents
Caseload /Population of Women	1.362** (0.457)	0.290 (0.445)	-1.073* (0.417)	-0.225 (0.441)	-0.542 (0.460)	0.155 (0.444)
Log AFDC/ TANF Caseload	0.062* (0.027)	0.028 (0.022)	-0.048* (0.024)	-0.041 (0.020)	-0.024 (0.025)	0.013 (0.021)
Medicaid Eligibility Income 50-100% of Federal Poverty Line	0.016 (0.013)	-0.004 (0.008)	0.012 (0.012)	-0.000 (0.009)	-0.018 (0.011)	0.006 (0.008)
Medicaid Eligibility Income 101-133% of Federal Poverty Line	0.056** (0.014)	0.011 (0.011)	0.006 (0.015)	-0.005 (0.011)	-0.047** (0.013)	-0.000 (0.008)
Medicaid Eligibility Income 134-199% of Federal Poverty Line	0.038* (0.018)	0.007 (0.013)	0.010 (0.013)	0.010 (0.014)	-0.031 (0.017)	-0.013 (0.012)
Medicaid Eligibility Income >199% of Federal Poverty Line	0.049* (0.020)	0.010 (0.019)	0.006 (0.021)	0.026 (0.021)	-0.032* (0.016)	-0.022 (0.012)
Unemployment Rate (Contemporary)	0.002 (0.007)	-0.003 (0.005)	0.000 (0.006)	-0.008 (0.005)	0.000 (0.006)	0.001 (0.005)
Unemployment Rate (One year lag)	0.003 (0.007)	0.001 (0.004)	-0.006 (0.004)	0.003 (0.004)	-0.000 (0.006)	-0.003 (0.004)

Notes: Each column under the specified sample group is a separate regression. Each regression controls for family size, family income, age, race, number of kids and number of young kids in the family, state Medicaid eligibility, unemployment rate – current and with a lag, state and year fixed effects and real state per capita income. States providing Medicaid to children in families with incomes between 0 and 49% of FPL are the omitted category. Standard errors (assuming non-independence within states) are in parentheses.

* $0.01 < p < 0.05$, ** $p < 0.01$

Table 7
Differences-in-differences Estimates of the Effect of AFDC/TANF Caseload on the Health Insurance Status of Children
Living with Single Mothers: Aged 18-44, Education <= 12 Years; Children: Aged 0-14 years

Insurance Status	Medicaid Coverage	Private Insurance	No Insurance
Caseload /Population of Women (DD Estimates)	1.071 (0.576)	-0.848 (0.560)	-0.697 (0.538)
Caseload /Population of Women (Table 6 Estimates)	1.362** (0.457)	-1.073* (0.417)	-0.542 (0.460)
Log AFDC/ TANF Caseload (DD Estimates)	0.034 (0.029)	-0.008 (0.030)	-0.037 (0.024)
Log AFDC/ TANF Caseload (Table 6 Estimates)	0.062* (0.027)	-0.048* (0.024)	-0.024 (0.025)

Notes: Children living with both parents are the comparison group. Also see Notes in Table 6.

* 0.01<p=<0.05, ** p=<0.01