Is Welfare Reform Responsible for Low-Skilled Women's Declining Health Insurance Coverage in the 1990s?

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Abstract

We use data from the 1989-2001 March Supplements to the Current Population Survey to determine whether welfare reform contributed to the declines in health insurance coverage experienced by low-skilled women over this period. During the 1990s, women with less than a high school education experienced a 10.1 percentage point decline in the probability of having health insurance. By contrast, during the same period, women with a high school degree experienced a smaller (3.6 percentage point) decline in health insurance coverage while women with a college education experienced only a very small decline in health insurance coverage. Against this backdrop of large overall declines in health insurance coverage, welfare waivers were associated with a modest, 1.8 percentage point, increase in health insurance coverage for low-skilled women by increasing their probability of having private health insurance, while Temporary Assistance to Needy Families (TANF) itself had no statistically significant effect. Overall, welfare reform did not contribute to declines in coverage but rather offset them somewhat. Unfortunately, some groups among low-skilled women did not experience these relative gains in coverage in response to reforms including non-employed women, African-American women, unmarried women, and unmarried women with children. Neither welfare waivers nor TANF were associated with increases in insurance coverage among women with a high school or college education.

1. Introduction

The ranks of the uninsured in the U.S. are large and growing. This trend is particularly strong among the low-income, low-skilled population. There is a substantial literature on how Federal insurance programs such as Medicaid have affected coverage for this population (for example, see Blumberg et al 2000, Shore-Sheppard et al 2000, Currie and Grogger 2002)[1] though less attention has been paid to the effects of other programs not specifically designed to provide health insurance coverage. One area where this lack of attention is clearly evident is in the literature on the effects of welfare reform. Outcomes such as earnings, program participation, and marriage have received enormous attention relative to broader and alternative measures of well-being such as health insurance coverage. In this paper, we contribute to a small but growing number of papers examining how welfare reform affected health insurance coverage. We focus on a group likely affected by welfare reform – low-skilled women – and examine both trends in insurance coverage and what role, if any, welfare reform policy may have played in those trends. Finally, we ask whether welfare reform had different effects on insurance coverage for different women. Specifically, we are interested in whether effects differ by employment, race and ethnicity, and family structure.

Just over 15 percent of Americans, or 43.6 million people, were uninsured in 2002 and among individuals with less than a high school education, this percentage was even higher – 28.0 percent (Mills and Bhandari, 2003). The fraction of low-skilled women without any source of health insurance coverage has been increasing steadily during the 1990s, as we will document below, despite expansions in Medicaid eligibility.

[1] A small number of papers have also explored how tax-credits might affect coverage (e.g., Reschovsky and Hadley 2004; Gruber and Washington 2004).

While health insurance coverage rates declined for all education groups of women during the 1990s, the declines were most notable for women with less than a high school degree whose probability of having any health insurance coverage declined by 10.1 percentage points between 1988 and 2000. By contrast, health insurance coverage rates declined by only 3.6 percentage points for women with a high school education and by only 0.6 percentage points for college educated women during this period. Lack of insurance may lead low-skilled women to delay necessary medical care and exposes them to the risk of potentially catastrophic medical expenses. Several studies have documented that lack of health insurance results in worse health, particularly for vulnerable low-income populations (Currie and Gruber 1996a, Currie and Gruber 1996b, Gruber 1997, Newhouse 1993; this literature is reviewed by Levy and Meltzer 2004). One potential causal or mitigating factor for the decline in health insurance coverage among low-skilled women over the 1990s is welfare reform. The Personal Responsibility and Work Reconciliation Act of 1996 (PRWORA) was intended to increase employment, reduce welfare dependence, and encourage poor women to lift themselves out of poverty. Several reviews of the literature on the impacts of welfare reform (Blank 2003; Grogger et al 2002) show that since 1996, employment and earnings among poor women have increased (Moffitt 1999; Schoeni and Blank 2000), marriage has increased (Schoeni and Blank 2000), and welfare caseloads have dropped dramatically (Bell 2001; Blank 2000; Wallace and Blank 1999; Ziliak et al 2000).

There is less evidence, however, on the association between welfare reform and other measures of economic well-being. In particular, there has been very little research on rates of health insurance coverage among the population likely to be affected by PRWORA: low-skilled women. While decreasing insurance coverage rates predate welfare reform, several authors have suggested that welfare reform may have contributed to declining insurance coverage rates among

low-skilled women by moving former welfare recipients into "bad" jobs that do not provide insurance while increasing their income by enough to make them ineligible for public insurance. Indeed, the small literature on the effects of reform on coverage has shown that, among welfare leavers, welfare reform led to a decline in Medicaid coverage that was only partially offset by increases in private health insurance coverage (Grogger et al 2002, Loprest 1999, Acs and Loprest 2001, Ku and Garrett 2000).

Among low-skilled women more generally, however, it is less clear that welfare reform would have necessarily led to reductions in health insurance coverage rates. A reduced social safety net may have provided low-skilled women a greater incentive to seek jobs that offer health insurance. The net effect of welfare reform on low-skilled women will be a combination of the effects on former welfare recipients and on non-recipients.

According to our calculations from the March Annual Income Supplements to the Current Population Surveys (March CPS), between 10 and 12 percent of women with less than a high school degree received AFDC in the years before welfare reform. Therefore, even if we would expect large and negative effects of welfare reform on the probability that low-skilled public assistance recipients have health insurance coverage (since all of AFDC recipients were eligible for Medicaid and hence movement off the rolls into work would likely reduce, not maintain, coverage), a small positive effect of welfare reform on the coverage rates for low-skilled women not on welfare could be the dominant effect since the latter group represents roughly 90 percent of low-skilled women. Therefore, it would not be surprising to find either a positive or a negative effect of welfare reform on the insurance coverage rates for low-skilled women.

Given the potential of welfare reform to affect both recipients and similarly-skilled non-recipients, we take a different approach than "leaver" studies. Instead of following a sample of recipients as they transition off of Temporary Assistance to Needy Families (TANF), we examine coverage rates of all low-skilled women in the years both pre- and post-welfare reform (either as implemented through state waiver programs or through TANF). Thus, our findings address what effects welfare reform has had overall on all low-skilled women (i.e. both TANF recipients and potential TANF recipients) and not the effects it had on recipients alone.

Our paper also differs from many welfare reform studies in that we are interested in how effects differ across groups of women. Many studies of welfare reform focus on average effects. Recent work, however, investigates whether reform had different effects across subgroups. Much of the literature on welfare reform (summarized in Grogger et al 2002) finds little heterogeneity in its effects on mean income when looking at differences across subgroups defined by variables such as race. As an alternative approach, Bitler et al (2003b) examine the effect of welfare reform on the distributions of income, earnings, and transfers by estimating quantile treatment effects and find evidence of heterogeneity in response to welfare reform. We are sensitive to the potential for heterogeneity of effects, especially as insurance coverage has received relatively little research attention. Hence, after estimating effects on all low-skilled women, we turn our attention to effects by employment status, race and ethnicity, and family structure.

We thus make several contributions in this paper. First, we join a relatively new effort to examine the effect of welfare reform on health insurance coverage beyond looking at leavers. In doing so, we examine both trends in women's coverage by education level and effects of welfare

reform on coverage rates. Second, we investigate whether heterogeneous effects exist across sub-groups of women likely to be affected by welfare reform.

2. Background

In the 1990s, the landscape for both private and public health insurance was changing dramatically. Low-skilled women's health insurance coverage during this period may also have been changing as a result of welfare reform. For example, research shows that labor markets for low-skilled workers have been deteriorating since the late 1970s (Blank 1997) and that over the same period there have been increases in temporary and part-time work (Tilly 1995). Moreover, the characteristics of low-skilled women have been shifting (e.g., women's labor force participation and marriage rates have been changing.). Many studies have documented the gradual erosion of employer-sponsored insurance coverage (for example, Farber and Levy 2000, Cooper and Schone 1997). Each of these factors could independently have changed the health insurance coverage rates of low- skilled women. At the same time, expansions in eligibility for Medicaid and other public health insurance programs have been occurring since 1979 (see Currie and Gruber 1996a, Currie and Gruber 1996b, and Aizer and Grogger 2000 for excellent overviews of these expansions). These Medicaid expansions may themselves have contributed to declines in private coverage: the so-called "crowd out" effect (Cutler and Gruber 1996, Cutler and Gruber 1997, Ham and Shore-Sheppard 2000, Dubay and Kenney 1997). Thus, evaluating the impact of welfare reform on the problem of the uninsured requires a thorough understanding of the underlying trends in private and public coverage that were occurring during this period.

There is a large literature on the impact of welfare reform (primarily the studies cited above) and also a large literature on trends in health insurance coverage (for example, in addition

to the papers already cited, Fronstin and Snider 1996/97). The literature in the intersection of these two areas is much smaller. It has most often examined the current welfare population (in experimental studies) or welfare leavers. Both sets of studies typically find that reform is associated with declines in health insurance coverage (see Grogger et al 2002 for a review of the experimental literature and Loprest 1999 for an excellent leaver study). Neither type of study can measure the impact of reform on a broader population including those who were deterred from entering welfare and other non-recipients who may have changed their behavior in other ways in response to a smaller social safety net.

Several recent papers have used nationally representative data to examine the association between welfare reform and health insurance coverage. Borjas (2004) uses the March CPS and finds that welfare reform led to declines in public coverage among immigrants that were entirely offset by increases in their private coverage.

Kaestner and Kausal (2004) also use the March CPS and find that caseload reductions are associated with declines in public coverage among low-educated single mothers that were only partially offset by increases in private coverage. While they use national data and do not limit their investigation to only welfare recipients, Kaestner and Kausal's study differs from our in two important ways. First, they use other low-educated women as a control group for low-educated single mothers (and thus assume that only single mothers were affected by welfare reform). We chose not to make this assumption since PRWORA removed the penalty for marriage and since married non-recipients considering leaving their marriages may be affected by reform's incentives. We instead examine effects for all low-educated women and implicitly use women with higher levels of education as a control group. Second, Kaestner and Kausal assume that reform could only affect insurance status through caseload decline. Since we are

interested in other ways reform may achieve effects, such as through women's behavioral responses to their perceptions of changing policy incentives, we chose to allow for direct effects of reform in insurance coverage.

Bitler et al (2004) use data from the Behavioral Risk Factor Surveillance System (BRFSS) to examine health outcomes and health insurance coverage among Black, Hispanic, and low-educated single women. One disadvantage of the BRFSS is, unlike in the March CPS, no information on the source of insurance coverage (private versus public) is available. To proxy for private and public coverage, the authors use the probability of being employed and having health insurance coverage and the probability of being not employed and having health insurance coverage. The advantage of the BRFSS is that it has health outcomes. The authors find modest but statistically insignificant declines in insurance coverage for most groups and, for a few groups, find larger and statistically significant declines in the probability of being employed and having health insurance in response to welfare waivers. While the BRFSS contains the health status questions needed for Bitler et al's (2004) study, the March CPS is a more reliable source of information about health insurance coverage and is thus the survey most commonly used for estimates of the uninsured rate.

Few studies examine trends in health insurance specifically for the low-skilled women likely to be affected by welfare reform. Two key exceptions are Farber and Levy (2000) and Currie and Yelowitz (2000). Farber and Levy (2000) examine trends in coverage by health insurance from 1979 to 1997 using data from the Current Population Survey. They find that coverage by employer-sponsored health insurance declined over this period, and that the erosion of coverage from 1988 to 1997 was due to declines in takeup among high tenure workers and to declines in eligibility of low-tenure workers rather than to declines in employer offering.

Finally, they find as large a decline in takeup among college-educated workers as among workers with a high school diploma or less. Their analysis includes only workers, does not consider public coverage, and does not examine women's rates of coverage separately from men's.

Currie and Yelowitz (2000) find trends similar to those documented by Farber and Levy (2000). In addition, they examine trends in any health insurance coverage, coverage by a private employer, and Medicaid coverage for single mothers. They perform this analysis using both the March CPS and the Survey of Income and Program Participation (SIPP). Among all adult single mothers, they find a decline in private insurance coverage, but no decline in employer-provided coverage or increase in Medicaid coverage in the March CPS. The SIPP, however, shows declines in both private coverage and employer-provided coverage and increases in Medicaid coverage. Among single mothers who work, they find declines in private coverage in both surveys, declines in employer-provided coverage only in the CPS, and increases in Medicaid coverage in both surveys.

3. Methods

Our empirical analysis has three components: first, an analysis of long-term trends in health insurance coverage for women by levels of education between 1988 and 2000, second, an analysis of the impact of welfare reform on the coverage rates of these groups, and third, an analysis of heterogeneity in the impacts of welfare reform on insurance coverage by employment, race and ethnicity, and family structure.

We are primarily interested in trends in health insurance coverage for a group likely to have been affected by changes in the economic and policy environment in the 1990s, low-skilled

women, who we define as women with less than a high school degree. We contrast the experiences of these women with those of women with more education because the insurance coverage rates of women with more education, especially college educated women, likely are less affected by changes in the economy or by policy changes such as welfare reform.

We begin our analysis by calculating the trends in coverage between 1988 and 2000 for women with less than a high school degree and, for comparison, for women overall, for women with a high school degree, and for women with a college degree. The time frame we choose to examine – 1988 through 2000 – is of interest because it is the period in which major welfare policy changes were implemented and because it is a period in which there were dramatic changes in health insurance coverage (as we document below). While we are mainly interested in the trend in uninsurance, we also calculate the trend in private and public insurance to determine the degree to which each source of coverage is responsible for changes in uninsurance rates. We first report these unadjusted trends. We are then interested in how much of the trends in uninsurance are due simply to changes in the demographic composition of the groups we study as opposed to other structural changes in policy, the economy, or other aspects of the environment. To control for demographics, we estimate the following linear regression separately for women overall and for each of our educational groups of women:

$$UNINS_{ist} = X_{ist}\beta + STATE_s + YEAR_t + e_{ist} \quad (1)$$

where i indexes individuals, s indexes states, and t indexes years;

UNINS is a dummy variable indicating whether the individual has no source of health insurance coverage;
X is a set of individual characteristics that vary by individual, state, and year including age, age squared, marital status, employment status (full-time/full-year, full-time/part-year, part-time/full-year, and part-time/part-year), race and ethnicity (non-White/non-Hispanic and Hispanic), number of children in the household by age group (number of children ages 6 or

under, number of children ages 7-14, and number of children ages 15-17), and, when education groups are pooled, education (high school, some college, and college).[2]
STATE represents a vector of state dummy variables; and
YEAR represents a vector of year dummy variables.

The vector of coefficients on the year dummy variables represents the trend in the probability of being without health insurance coverage controlling for demographic characteristics. We next turn our attention to the question of how welfare reform policies may have affected coverage rates. In order to determine the effect of welfare reform on coverage, we estimate the following linear regression model for being uninsured:

$$UNINS_{ist} = X_{ist}\alpha + WAIVER_{st} + TANF_{st} + MEDICAID_{st} + UR_{st} + STATE_s + YEAR_t + u_{ist} \quad (2)$$

where:

WAIVER is an indicator of whether a state has in place a welfare waiver in year *t* and has not yet enacted TANF (please see Table 2 for a summary of when states first implemented TANF or welfare waivers);
TANF is an indicator of whether a state had implemented TANF as of year *t*;
X is a set of individual characteristics that vary by individual, state, and year including age, age squared, marital status (married), employment status (full-time/full-year, full-time/part-year, part-time/full-year, and part-time/part-year), race and ethnicity (non-white/non-Hispanic and Hispanic), number of children in the household by age group (number of children ages 6 or under, number of children ages 7-14, and number of children ages 15-17), and, when education groups are pooled, education (high school, some college, and college).
MEDICAID is a set of Medicaid and S-CHIP program variables (Medicaid eligibility level for infants as a percent of the federal poverty level, Medicaid eligibility level for pregnant women as a percent of the federal poverty level, and an indicator for whether the state had an S-CHIP program);
UR is the state-level unemployment rate;
STATE represents a vector of state dummy variables; and
YEAR represents a vector of year dummy variables.

The coefficients on the waiver and TANF dummy variables measure the effect of welfare reform on the probability of being uninsured. As with equation 1, we estimate equation

[2] We include an indicator for whether a woman had "some college" when we examine women with a high school degree (but no college degree).

2 for women overall and for each of our education groups of women. We also estimate equation 2 using two additional dependent variables: PRIVATE, an indicator for whether the individual had private health insurance coverage from any source (own-employer, spouse's employer, non-group market), and PUBLIC, an indicator for whether the individual had public coverage (e.g., Medicaid).

Finally, to determine how welfare differentially affected different groups, we estimate equation 2 separately for employed and non-employed women, for women of different races and ethnicities (White/ non-Hispanic, Black/non-Hispanic, and Hispanic), for married and unmarried women, by parenthood status (mothers and women without children), and by single motherhood (single mothers, unmarried women with no children, and married mothers).[3]

4. Data

The data for the analyses conducted in this paper come from the March CPS. The March CPS provides information on demographic characteristics, employment, income, and public and private health insurance coverage. Unlike the employment and earnings questions in the basic monthly CPS, which refer to employment in the week before the one in which the survey takes place and usual earnings on the job held during that week, the March supplement questions pertain to employment, earnings and income during the entire calendar year before the year in which the survey takes place. For example, the March 1992 supplement contains information on the longest job held by the respondent in 1991: the number of weeks worked, usual hours worked on this job, total earnings, and industry and occupation codes. Similarly, the health insurance questions in the March supplement ask whether the respondent had coverage from a particular

[3] Some of the economic and demographic control variables are dropped when we estimate by group. For example, when estimating separately by race and ethnicity, we no longer control for race and ethnicity. Similarly, when

source (for example, through her own employer or from Medicaid) at any time during the previous calendar year. The employment and health insurance questions in the March supplement therefore refer to the same reference period: the calendar year before the year of the survey. Having information on a full year's employment allows us to differentiate between workers with strong and weak attachments to the labor force in a way that is not possible in the basic monthly CPS. Specifically, we are able to categorize every adult in the sample as either a nonworker; a full-time, full-year worker; a part-time, full-year worker; a full-time, part-year worker, or a part-time, part-year worker. Since the strength of a worker's attachment to the labor force is such a critical determinant of insurance coverage, this detail is a great advantage of using the March supplements.

One limitation of the March CPS data for our analysis is that information on marital status, education and the presence of children in the household refer to the survey date, rather than to the prior calendar year. Therefore there will be some temporal mismatch between our information on employment and health insurance coverage and our information on (for example) marriage. There is also the possibility, as suggested by Swartz (1986), that survey respondents answer the health insurance questions as if they were asked about coverage at the time of the survey, rather than coverage in the previous calendar year. In addition to our baseline results which assume that respondents answer the health insurance questions correctly (referring to the previous calendar year), we will present a set of results as a specification check that assume respondents answer the health insurance questions as if they were asked about coverage at the time of the survey. An additional concern with the March CPS data stem from changes in the survey questions regarding health insurance that occurred in 1995 (see Swartz 1997 for a discussion). Some of the year to year changes in health insurance coverage – in particular the change from 1994 to 1995 – is partially the result of changes in the survey. However, because we include a full set of year controls in our analysis the effects of welfare reform, we are not concerned with these survey changes.

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estimating separately by single motherhood, we do not control for the presence or number of children. In addition, the sample of unmarried women includes both never married and divorced women.

5. Results

Trends in Women's Health Insurance Coverage, 1988-2000

We begin our discussion of results with a set of descriptive tables. In Table 1, we show demographic characteristics and health insurance coverage rates pooled across all years (1988-2000) for all women and for women by educational attainment (less than a high school degree, high school degree but no college degree, college degree). A large percentage (30.5) of low-skilled women (women with less than a high school education) does not have health insurance coverage. In contrast, only 16.1 percent of all women overall, 15.7 percent of women with a high school diploma, and 7.9 percent of female college graduates are without health insurance coverage.

A large fraction of low-skilled women – 25.3 percent – receive public health insurance coverage. This fraction is much lower for women with a high school degree (8.4 percent) and for women with a college degree (2.1 percent). Low-skilled women also have different demographic characteristics than women with higher levels of education. For example, women with less than a high school education are less likely to be employed and less likely to be married than are women with more education. In addition, family income for women with less than a high school education is substantially below that of any of the other groups (authors' calculations of March CPS data, not shown). These differences likely contribute to the lower rates of insurance coverage for low-skilled women.

In Table 3, we report the fraction uninsured (both unadjusted and adjusted for demographic traits) as well as the fraction with private coverage, and the fraction with public coverage for women overall and by education level in each year from 1988 to 2000. For women overall, the fraction uninsured increased from 0.146 in 1988 to a high of 0.190 in 1998 and fell to

0.173 by 2000. For women with less than a high school education, the fraction uninsured increased even more dramatically from 1988 to 1998 (increasing from 0.265 to 0.369) and barely decreased in 1999 and 2000 (to 0.366). The trends in the fraction uninsured for female high school graduates mirror the trends for women overall—increasing from 0.151 in 1988 to 0.206 in 1998 and falling to 0.187 by 2000. Relative to the large increases in the fraction uninsured for women with lower levels of education, the fraction of female college graduates uninsured changes little over this time period (rising from 0.072 in 1988 to 0.091 in 1998 and falling to 0.078 in 2000).

Most of the dramatic decline in insurance coverage for low-skilled women over this period is due to a decline in private coverage, although a small decline in public coverage also plays a role. Private coverage declined steadily between 1988 and 1992 from a fraction of 0.510 to 0.417. Between 1992 and 2000, the proportion with private coverage experienced several shifts up and down, ending at 0.418 in 2000. Thus, private coverage for low-skilled women dropped over 9 percentage points between 1988 and 2000. The fraction of low-skilled women covered by public insurance actually increased between 1988 and 1996 from 0.225 to 0.265 but then declined by 2000 to 0.216 making the overall decline in public coverage 0.9 percentage points over the entire period. For women with a high school education, the patterns are similar, but less extreme, as those for low-skilled women.

Low-skilled women, like most individuals, receive their private health insurance primarily though their employers or their spouses' employers. As a result, changes in the characteristics of low-skilled women such as marital and employment status may partially explain the decline in health insurance coverage from 1988 to 2000. To determine how much of the decline is the result of changes in the characteristics of low-skilled women as opposed to

changes in the policy or economic environment, we estimate multivariate regressions of the probability of not having health insurance for women by education level (equation 1). Each model controls for age, age squared, marital status, race and ethnicity, the presence of children of various ages, degree of labor market participation, education (when all women are pooled), a set of state dummy variables, and a set of survey year dummy variables. We estimate the model separately for women overall and for each education group and report the predicted values for being uninsured in each year as 'adjusted uninsured' in Table 3.

The actual and adjusted fractions of women without health insurance coverage are almost identical for women with a college education, but not for women with less than a high school education or a high school degree. For both of these latter education groups, controlling for changes in demographic characteristics explains roughly half of the increase in the fraction uninsured. For women with less than a high school degree, however, this leaves a 4.5 percentage point drop in insurance coverage unexplained by changes in their characteristics. For female college graduates, changes in demographic characteristics can explain almost none of the trend in the probability of being uninsured.

The Effect of Welfare Reform on Women's Health Insurance Coverage

The results of our analyses of the effects of welfare waivers and the implementation of TANF on the probability of being uninsured, having private health insurance coverage, and of having public health insurance coverage are presented in Table 4. The first two rows of the table

report the coefficients on the indicators for the individual being surveyed in a year and state with a welfare waiver in place but not TANF (first row) and with TANF (second row).[4]

For women with less than a high school education, welfare waivers are associated with a 1.8 percentage point decline in the probability of being uninsured. The majority of this decline in uninsurance appears to be due to an increase in private, rather than public, coverage. Waivers are associated with a 1.7 percentage point increase in the probability of having private insurance and with no increase in the probability of having public health insurance. There is no statistically significant relationship between TANF and health insurance coverage or source of coverage for women with less than a high school education though the direction of the effects are the same as for waivers.[5] [6]

For women with a high school degree, waivers are not associated with any statistically significant change in the probability of being uninsured. They are associated with a 0.7 percentage point increase in private coverage and with no change in public coverage. TANF is not associated with any change in coverage or the sources of coverage. For women with college

[4] Because TANF was implemented in all states in either 1997 or 1998, identifying the effects of TANF is difficult especially when year effects are included in the model. Therefore, the reader should be cautious in interpreting the TANF results. For further discussion of this issue, see Bitler et al (2003a).

[5] We have also examined whether there are different TANF effects in states that previously implemented a waiver from those in states with no waiver history. To do so, we estimate (results not shown) a variant of equation 2 in which we replace the TANF variable with two variables: one for TANF in states with a previous waiver and one for TANF in states with no previous waiver. For women with less than a high school degree, the coefficients on TANF in states which ever had a welfare waiver are similar in magnitude and sign to those for welfare waivers (but are not statistically significant) suggesting that TANF continued doing what waivers had begun. The coefficients on TANF in states that never implemented a welfare waiver are all very small and are not statistically different from zero.

[6] To further investigate the way in which uninsurance declined for low-skilled women, we investigate whether reform led to changes in the probability that employed women are offered insurance coverage by their employers. To do so, we re-estimate equation 2 for a sample of workers only using a different dependent variable: whether women are offered insurance by their employers or not. For this analysis, we use data from the February1995, 1997, 1999, and 2001 Contingent and Alternative Employment Arrangement Supplements to the CPS. We find that for employed women with less than a high school education, welfare waivers are associated with a 7.2 percentage point increase in probability of being offered health insurance at work and that much of this increase is can be explained by movements among part-time/part-year, part-time/full-time, full-time/part-year and full-time/full-year employment.

degrees, as expected, both waivers and TANF had negligible effects on insurance coverage and source of coverage.

Group Differences in Welfare Reform Effects

In Table 5, we show the results of running equation 2 separately for different groups of women defined by employment status, race and ethnicity, marital status, parenthood status, and single motherhood (a variable combining marital and parenthood status). For women with less than a high school education, we see that reform measures, especially in the form of waivers, have different effects for several different groups.

Waivers are associated with a 2.9 percentage point decline in the probability of being uninsured for employed women but with no change in coverage for non-employed women. Even more dramatically, waivers are associated with a decline in the probability of being uninsured for White and Hispanic women (3.1 and 4.0 percentage points respectively), but with an *increase* in uninsurance for African-American women (5.0 percentage points). Married women experience a decline in uninsurance in response to waivers (2.3 percentage points), but unmarried women experience no statistically significant decline. The effects of reform do not appear to differ for mothers and women without children overall, but waivers are associated with a decline in the probability of being uninsured for married mothers (3.5 percentage points) and, perhaps surprisingly, TANF with a large decline in uninsurance for unmarried women without children (9.0 percentage points). Single mothers, on the other hand, do not experience any gains in coverage due to reform.[7]

[7] The comparison of effects across single mothers, married mothers, and single women without children can help reconcile our findings with those of Kastner and Kaushal (2004). Had we used either married women or single childless women as a control group for single mothers as they did, we would conclude that waivers were associated with an increase in uninsurance among single mothers. Since this increase would have been driven by larger (and

6. Conclusion

Our results suggest that welfare waivers increased private health insurance coverage for women with less than a high school education by roughly 1.7 percentage points while having no substantial impact on public insurance coverage rates. (For these women, TANF had no statistically significant effect, although the size of the coefficient is close to that for waivers.) We are sensitive to the fact that it is difficult to isolate the effects of policy changes from other factors. Several features of our analysis, however, give us confidence that we are indeed capturing the effects of welfare reform itself. First, we include in our analyses a host of demographic variables, measures of other key policy and economic environment factors, and year and state dummy variables. Second, we compare women with less than high school degrees with other education groups. We would expect to find the strongest results for the lowest educated group of women since they are the most likely affected by welfare reform. Indeed, we find that women with less than a high school degree experience the greatest effects of reform, women with a high school degree (who still may be affected by reform) experience similar but less dramatic and statistically insignificant effects, and women with a college degree (who we would not expect to be greatly affected by welfare reform) experience almost no effects.

Unlike previous research based on leavers, our findings provide no evidence that welfare reform is responsible for (or, with the exception of African-American women, even contributed to) the decline in health insurance coverage for low-skilled women in the 1990s. To the contrary, we find that welfare reform, at least as implemented through state waivers, helped stem the decline.

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statistically significant) declines in uninsurance among the control groups than for single mothers as a result of welfare waivers, we do not believe using other low-skilled women as a control group for low-skilled single mothers is appropriate.

While we find positive effects of welfare reform on insurance coverage for low-skilled women, our findings on overall trends in coverage and group differences in welfare reform effects paint a less optimistic portrait.

The modest gains due to welfare waivers must be viewed in the context of the large declines in health insurance coverage that occurred from 1988 to 2000 among low-skilled women. The 2 percentage point increase in health insurance coverage rates associated with welfare waivers can only have marginally offset the 10 percentage point decline in coverage rates among women with less than a high school education.

While reform in the form of waivers appears to have, on average, led to a small increase in coverage, not all groups of low-skilled women experienced this gain. Neither non-employed women, unmarried women, nor single mothers shared in the benefits of reform. African-American women actually experienced losses in coverage in response to reform. One possible explanation of our results is that, in response to the dismantling of the social safety net, women who could invest further in employment as a means of meeting their needs did so. Those facing greater barriers in the labor market may have been unable to attain the potential benefits of reform despite the employment incentives. Thus, while reform may have had some positive effects on coverage, the groups that most political and popular rhetoric focused on as in need of reforming – namely single mothers and those out of the labor market – did not experience positive outcomes.

The fact that most of the association between reform and increases in coverage rates is due to waivers and not TANF itself is provocative. While we cannot make any definitive statements about the meaning behind this finding, perhaps states that implemented waivers communicated the nature of reform earlier and better to recipients and potential recipients,

resulting in greater employment and marriage incentives as a means to procure health insurance and other resources in the face of a declining social safety net. Another possibility is that the implementation of voluntary waivers may have indicated a state's ability (at a particular point in time) to better handle the potential negative impact of reform. States that were not in the business of experimenting with welfare may have experienced TANF as more of a shock and may have been less prepared to address the fallout for low-skilled women.

Further research is necessary to understand better both the effects of welfare reform and the large overall declines in health insurance coverage that affected the entire population during this period. Ultimately, we hope that this analysis will contribute both to evaluation of the effects of welfare reform and to a better understanding of the factors responsible for the declines in insurance coverage during the 1990s.

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Table 1: Means of Selected Variables

	All Women	Women with Less than a High School Education	Women with a High School Education	Women with a College Education
Basic Demographic Characteristics				
Age	38.772	40.050	38.321	39.239
Married	0.577	0.496	0.576	0.635
White, Non-Hispanic	0.738	0.513	0.762	0.818
Black, Non-Hispanice	0.129	0.181	0.133	0.080
Hispanic	0.090	0.258	0.070	0.038
Other Race	0.043	0.047	0.035	0.065
Has kids<6	0.235	0.294	0.231	0.211
Has kids<14	0.308	0.363	0.315	0.253
Has kids<18	0.139	0.176	0.144	0.103
Single Mother	0.178	0.289	0.189	0.074
Schooling				
Less than HS	0.145	1	0	0
HS diploma	0.355	0	0.557	0
Some College	0.282	0	0.443	0
College or more	0.218	0	0	1
Work Status				
Full-time, Full-year	0.426	0.225	0.433	0.540
Part-time, Full-year	0.095	0.070	0.104	0.085
Full-time, Part-year	0.122	0.116	0.120	0.134
Part-time, Part-year	0.106	0.098	0.112	0.095
Nonworker	0.250	0.491	0.231	0.145
Health Insurance				
Private Health Insurance Coverage	0.744	0.442	0.759	0.900
Public Health Insurance Coverage	0.095	0.253	0.084	0.021
Uninsured	0.161	0.305	0.157	0.079
Sample n	502,462	77,583	319,107	105,772

Note: Data pooled from 1989 through 2001 March Current Population Surveys.

Table 2

State implementation of waivers and TANF as of March 1

State	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Alabama	0	0	0	0	0	0	0	0	0	2	2	2	2
Alaska	0	0	0	0	0	0	0	0	0	0	2	2	2
Arizona	0	0	0	0	0	0	0	0	1	2	2	2	2
Arkansas	0	0	0	0	0	0	0	1	1	1	2	2	2
California	0	0	0	0	0	1	1	1	1	1	2	2	2
Colorado	0	0	0	0	0	0	0	0	0	0	2	2	2
Connecticut	0	0	0	0	0	0	0	0	1	2	2	2	2
Delaware	0	0	0	0	0	0	0	0	1	1	2	2	2
District	0	0	0	0	0	0	0	0	0	2	2	2	2
Florida	0	0	0	0	0	0	0	0	0	2	2	2	2
Georgia	0	0	0	0	0	0	1	1	1	2	2	2	2
Hawaii	0	0	0	0	0	0	0	0	0	1	2	2	2
Idaho	0	0	0	0	0	0	0	0	0	1	2	2	2
Illinois	0	0	0	0	0	0	1	1	1	1	2	2	2
Indiana	0	0	0	0	0	0	0	0	1	2	2	2	2
Iowa	0	0	0	0	0	0	1	1	1	2	2	2	2
Kansas	0	0	0	0	0	0	0	0	0	2	2	2	2
Kentucky	0	0	0	0	0	0	0	0	0	2	2	2	2
Louisiana	0	0	0	0	0	0	0	0	1	2	2	2	2
Maine	0	0	0	0	0	0	0	0	0	2	2	2	2
Maryland	0	0	0	0	0	0	0	0	1	2	2	2	2
Massachusetts	0	0	0	0	0	0	0	0	1	2	2	2	2
Michigan	0	0	0	0	0	1	1	1	1	2	2	2	2
Minnesota	0	0	0	0	0	0	0	0	0	0	2	2	2
Mississippi	0	0	0	0	0	0	0	0	1	1	2	2	2
Missouri	0	0	0	0	0	0	0	0	1	2	2	2	2
Montana	0	0	0	0	0	0	0	0	1	2	2	2	2
Nebraska	0	0	0	0	0	0	0	0	1	2	2	2	2
Nevada	0	0	0	0	0	0	0	0	0	2	2	2	2
New Hampshire	0	0	0	0	0	0	0	0	0	2	2	2	2
New Jersey	0	0	0	0	0	1	1	1	1	1	2	2	2
New Mexico	0	0	0	0	0	0	0	0	0	0	2	2	2
New York	0	0	0	0	0	0	0	0	0	0	2	2	2
North Carolina	0	0	0	0	0	0	0	0	0	2	2	2	2
North Dakota	0	0	0	0	0	0	0	0	0	0	2	2	2
Ohio	0	0	0	0	0	0	0	0	0	2	2	2	2
Oklahoma	0	0	0	0	0	0	0	0	0	2	2	2	2
Oregon	0	0	0	0	0	1	1	1	1	2	2	2	2
Pennsylvania	0	0	0	0	0	0	0	0	0	0	2	2	2
Rhode Island	0	0	0	0	0	0	0	0	0	0	2	2	2
South Carolina	0	0	0	0	0	0	0	0	0	2	2	2	2
South Dakota	0	0	0	0	0	0	0	1	1	2	2	2	2
Tennessee	0	0	0	0	0	0	0	0	0	2	2	2	2
Texas	0	0	0	0	0	0	0	0	0	2	2	2	2
Utah	0	0	0	0	0	1	1	1	1	2	2	2	2
Vermont	0	0	0	0	0	0	0	1	1	2	2	2	2
Virginia	0	0	0	0	0	0	0	0	1	2	2	2	2
Washington	0	0	0	0	0	0	0	0	1	2	2	2	2
West Virginia	0	0	0	0	0	0	0	0	1	2	2	2	2
Wisconsin	0	0	0	0	0	0	0	0	1	1	2	2	2
Wyoming	0	0	0	0	0	0	0	0	0	2	2	2	2

Key: 1 = WAIVER 2 = TANF

Source: Department of Health and Human Service

Table 3: Trends in Health Insurance among Women by Education Level

All Women	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Private	0.774	0.758	0.747	0.737	0.725	0.735	0.725	0.718	0.722	0.718	0.724	0.750	0.742
Public	0.080	0.091	0.099	0.106	0.109	0.108	0.107	0.108	0.105	0.098	0.086	0.081	0.085
Uninsured	0.146	0.150	0.154	0.157	0.166	0.157	0.168	0.174	0.173	0.185	0.190	0.169	0.173
Adjusted Uninsured	0.146	0.147	0.149	0.150	0.163	0.164	0.164	0.170	0.169	0.179	0.185	0.180	0.169

Women with Less than a High School Education	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Private	0.510	0.475	0.447	0.445	0.417	0.431	0.423	0.406	0.411	0.409	0.420	0.452	0.418
Public	0.225	0.230	0.252	0.264	0.275	0.289	0.268	0.270	0.265	0.242	0.211	0.211	0.216
Uninsured	0.265	0.295	0.300	0.291	0.308	0.280	0.309	0.324	0.323	0.349	0.369	0.337	0.366
Adjusted Uninsured	0.265	0.280	0.280	0.269	0.283	0.277	0.270	0.283	0.281	0.297	0.318	0.309	0.308

Women with a High School Education	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Private	0.775	0.759	0.746	0.737	0.718	0.716	0.710	0.706	0.703	0.697	0.699	0.720	0.719
Public	0.074	0.087	0.097	0.100	0.110	0.113	0.109	0.103	0.107	0.102	0.095	0.092	0.094
Uninsured	0.151	0.154	0.157	0.164	0.172	0.171	0.182	0.191	0.190	0.201	0.206	0.189	0.187
Adjusted Uninsured	0.151	0.149	0.152	0.155	0.167	0.169	0.168	0.177	0.175	0.185	0.187	0.183	0.169

Women with a College Education	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Private	0.913	0.906	0.900	0.908	0.904	0.903	0.893	0.897	0.895	0.893	0.889	0.898	0.900
Public	0.015	0.022	0.022	0.022	0.018	0.021	0.022	0.025	0.025	0.022	0.021	0.023	0.022
Uninsured	0.072	0.072	0.077	0.069	0.077	0.077	0.086	0.077	0.080	0.085	0.091	0.079	0.078
Adjusted Uninsured	0.072	0.068	0.074	0.070	0.082	0.083	0.089	0.083	0.084	0.091	0.098	0.089	0.080

Note: Adjusted Uninsured based on the coefficients on the year dummies from a linear regression of uninsured on age, age squared, marital status (married), employment status (full-time/full-year, full-time/part-year, part-time/full-year, and part-time/part-year), race and ethnicity (non-white/non-Hispanic and Hispanic), number of children in the household by age group (number of children ages 6 or under, number of children ages 7-14, and number of children ages 15-17), and, when education groups are pooled, education (high school, some college, and college) and a set of year and state dummy variables.

Table 4: Welfare Reform and Health Insurance Coverage Among Women by Education Level

	Less Than High School			High School			College		
	Uninsured	Private	Public	Uninsured	Private	Public	Uninsured	Private	Public
Waiver in effect	-0.018	0.017	0.001	-0.004	0.007	-0.002	-0.000	0.003	-0.002
	(0.008)*	(0.007)*	(0.006)	(0.003)	(0.003)*	(0.002)	(0.004)	(0.004)	(0.002)
TANF in effect	-0.012	0.016	-0.004	-0.003	0.005	-0.002	0.003	-0.004	0.002
	(0.012)	(0.012)	(0.011)	(0.005)	(0.005)	(0.004)	(0.006)	(0.007)	(0.003)
State has SCHIP program	0.025	-0.001	-0.024	0.000	-0.004	0.004	0.002	0.003	-0.004
	(0.013)*	(0.012)	(0.011)*	(0.004)	(0.005)	(0.003)	(0.006)	(0.006)	(0.003)
% of Federal Poverty Limit for infants	-0.035	0.013	0.022	-0.011	0.003	0.007	-0.006	0.007	-0.001
	(0.010)**	(0.010)	(0.008)**	(0.004)**	(0.004)	(0.003)*	(0.005)	(0.005)	(0.003)
% of Federal Poverty Limit for pregnant women	0.004	-0.012	0.008	0.002	-0.002	-0.000	-0.001	0.002	-0.001
	(0.008)	(0.008)	(0.007)	(0.003)	(0.004)	(0.003)	(0.004)	(0.005)	(0.002)
State unemployment rate	0.102	-0.695	0.594	0.091	-0.151	0.060	0.202	-0.228	0.026
	(0.205)	(0.202)**	(0.176)**	(0.082)	(0.091)	(0.060)	(0.109)	(0.120)	(0.059)
Observations		77,583			319,107			105,772	
R-squared	0.06	0.22	0.23	0.06	0.16	0.13	0.06	0.08	0.03

Note: Aditional controls include age, age squared, marital status (married), employment status (full-time/full-year, full-time/part-year, part-time/full-year, and part-time/part-year), race and ethnicity (non-white/non-Hispanic and Hispanic), number of children in the household by age group (number of children ages 6 or under, number of children ages 7-14, and number of children ages 15-17), and, when education groups are pooled, education (high school, some college, and college) and a set of year and state dummy variables. Robust standard errors in parentheses.
* significant at 5%; ** significant at 1%

Table 5: Welfare Reform and Health Insurance Among Women with Less than a High School Education by Sel

Panel A: Employment Status

	Employed	Not Employed	Employed	Not Employed	Employed	Not Employed
	Uninsured		Private		Public	
Waiver in effect	-0.029	-0.009	0.036	0.002	-0.007	0.008
	(0.011)**	(0.011)	(0.011)**	(0.010)	(0.008)	(0.010)
TANF in effect	-0.017	-0.008	0.031	-0.005	-0.014	0.013
	(0.018)	(0.017)	(0.018)	(0.016)	(0.012)	(0.017)
Observations	39,179	38,404	39,179	38,404	39,179	38,404
R-squared	0.07	0.07	0.13	0.19	0.09	0.21

Panel B: Race/Ethnicity

	White, Non-Hispanic	Black, Non-Hispanic	Hispanic	White, Non-Hispanic	Black, Non-Hispanic	Hispanic	White, Non-Hispanic
	Uninsured			Private			
Waiver in effect	-0.031	0.050	-0.040	0.031	-0.022	0.022	0.000
	(0.011)**	(0.020)*	(0.016)*	(0.011)**	(0.019)	(0.014)	(0.009)
TANF in effect	-0.001	-0.058	0.010	-0.001	0.066	-0.004	0.002
	(0.018)	(0.034)	(0.022)	(0.019)	(0.032)*	(0.020)	(0.016)
Observations	36,955	10,882	26,066	36,955	10,882	26,066	36,955
R-squared	0.03	0.04	0.05	0.19	0.24	0.14	0.20

Panel C: Marital Status

	Single	Married	Single	Married	Single	Married
	Uninsured		Private		Public	
Waiver in effect	-0.017	-0.023	0.024	0.010	-0.007	0.012
	(0.011)	(0.011)*	(0.010)*	(0.011)	(0.010)	(0.008)
TANF in effect	-0.016	-0.006	0.044	-0.014	-0.028	0.019
	(0.017)	(0.017)	(0.016)**	(0.018)	(0.016)	(0.013)
Observations	37,697	39,886	37,697	39,886	37,697	39,886
R-squared	0.07	0.09	0.23	0.15	0.27	0.08

Table 5 continued

	Panel D: Presence of Children					
	No Children	Any Children	No Children	Any Children	No Children	Any Children
	Uninsured		Private		Public	
Waiver in effect	-0.011	-0.018	0.012	0.013	-0.001	0.005
	(0.011)	(0.010)	(0.012)	(0.010)	(0.009)	(0.009)
TANF in effect	-0.071	0.026	0.056	-0.014	0.015	-0.012
	(0.019)**	(0.016)	(0.020)**	(0.016)	(0.015)	(0.014)
Observations	32,647	44,936	32,647	44,936	32,647	44,936
R-squared	0.07	0.07	0.20	0.18	0.22	0.23

	Panel E: Single Motherhood						
	Single Mother	Single, No Children	Married with Children	Single Mother	Single, No Children	Married with Children	Single Mother
	Uninsured			Private			
Waiver in effect	-0.007	-0.019	-0.036	0.019	0.016	0.008	-0.012
	(0.014)	(0.017)	(0.015)*	(0.012)	(0.016)	(0.015)	(0.014)
TANF in effect	0.034	-0.090	0.019	0.002	0.082	-0.040	-0.036
	(0.022)	(0.027)**	(0.023)	(0.020)	(0.026)**	(0.024)	(0.022)
Observations	21,874	15,823	23,062	21,874	15,823	23,062	21,874
R-squared	0.08	0.08	0.09	0.19	0.22	0.13	0.24

Note: Aditional controls include age, age squared, marital status (married), employment status (full-time/full-ye
part-time/full-year, and part-time/part-year), race and ethnicity (non-white/non-Hispanic and Hispanic), number
household by age group (number of children ages 6 or under, number of children ages 7-14, and number of chil
when education groups are pooled, education (high school, some college, and college) and a set of year and stat
(Control variables are excluded when those variables are used to define the group.) Robust standard errors in pa
* significant at 5%; ** significant at 1%