Parental Medicaid Expansions and Health Insurance Coverage

Anna Aizer
Jeffrey Grogger

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Anna Aizer
Brown University

Jeffrey Grogger
UCLA and NBER

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Abstract

During the 1990s many states extended Medicaid eligibility to low-income parents who were not receiving welfare. We evaluate the effects of those expansions on health insurance coverage. To account for unobservable differences between expansion states and non-expansion states that may be correlated with both policy decisions and insurance coverage, we employ a within-state difference-in-difference technique that makes use of data only from expansion states. We find that the parental eligibility expansions increased Medicaid coverage of mothers with only small effects on private coverage. The expansions also increased the coverage of children, presumably by raising the benefit to the family of applying for coverage. We find substantial racial and ethnic differences in the effects of the expansions. As a result, the expansions help reduce racial and ethnic gaps in insurance coverage, particularly for adults.

I. Introduction

A growing body of evidence indicates that health insurance promotes health (Levy and Meltzer 2001). This seems to be particularly true among children and low-income adults (Brook, et al. 1983; Keeler, et al. 1985; Lurie et al. 1986; Currie and Gruber 1997). Because of the important links between health insurance and health, the lack of insurance among 41.2 million Americans --a disproportionate number of whom are poor--is widely regarded as a pressing public policy issue.

One reason for low coverage among the low-income population is that low-wage employers, who employ a disproportionate share of low-income workers, often do not provide their workers with coverage. Even among firms that do, evidence suggests that low wage workers often are unwilling to pay the price of insurance that they and their employers face (Long and Marquis, 1992). Individual coverage obtained directly from insurers is more expensive still.

Furthermore, until recently, public coverage under Medicaid was not generally available to working families. Historically, most families had to receive welfare in order to be eligible for Medicaid coverage.[1] Between the mid 1980s and the mid 1990s, poor children increasingly became eligible for Medicaid under the so-called poverty-related eligibility expansions, which extended eligibility to children in non-welfare families who

[1] Exceptions are coverage through the Medicaid Medically Needy Program (MN) and the Supplemental Security Income program (SSI). In 2000, 35 states offered a MN program which covers persons who do not meet the applicable income or resource requirements for categorically needy eligibility but who, largely because they have incurred considerable medical costs, may become eligible. Thirty-two states and the District of Columbia automatically provide Medicaid coverage to the poor disabled who are eligible for SSI benefits. Both programs, however, constitute only a small portion of total Medicaid enrollment: the former 3.6 million (8 percent) and the latter 5.3 million (12 percent).

met income-eligibility limits determined by state and federal governments.[2] The State Children's Health Insurance Program (SCHIP), which was introduced in 1997, expanded children's eligibility further still. However, with the exception of pregnant women, adults remained largely ineligible for Medicaid unless they received welfare or were disabled.

Beginning in the 1990s, a number of states began expanding eligibility to low-income parents who were not receiving welfare. The impetus for many of these expansions was the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA). PRWORA is best known for replacing the Aid to Families with Dependent Children (AFDC) program with the Temporary Assistance for Needy Families (TANF) program. However, PRWORA also required states to formally separate Medicaid eligibility from welfare eligibility by replacing their AFDC-related eligibility criteria with so-called "family eligibility" criteria. Although many states merely established new family eligibility criteria for Medicaid that were identical to their old AFDC-related eligibility criteria, several states used the new flexibility granted them under PRWORA to raise the income-eligibility limits for adults well beyond their former levels. Other states expanded eligibility under research and demonstration waivers.

In this paper, we analyze how these parental-eligibility expansions affected insurance coverage. We base the analysis on data from the March annual demographic supplement of the Current Population Survey and focus on expansions implemented between 1996 and 2001. We estimate first how the expansions have affected Medicaid coverage among adults. To determine whether Medicaid coverage crowded out private

[2] As a whole, the child-eligibility expansions increased child coverage, although different components of those expansions had different effects. See Currie and Gruber (1996), Ham and Shore-Sheppard (2000), Card and Shore-Sheppard (2001).

coverage, we estimate the effect of the expansions on private coverage and the likelihood of having any coverage.

We also estimate whether there were spillover effects on the coverage of children. The parental eligibility expansions did not expand eligibility for children, because income-eligibility limits for children under the poverty-related Medicaid expansions and SCHIP were generally higher than those under the parental-eligibility expansions. Nevertheless, the parental-eligibility expansions may have raised the benefit to low-income parents of applying for coverage, since both the adults and the children could become insured. If so, the parental-eligibility expansions potentially could increase child coverage as well as adult coverage.

Finally, we ask whether the effect of the parental eligibility expansions varies by race and ethnicity. Wages and occupations vary by race and ethnicity, which may affect availability of employer-provided coverage. Marriage rates vary as well, which may affect the likelihood of coverage under a spouse's employer-provided policy. Depending on how the effects of the parental eligibility expansions vary by race and ethnicity, the expansions could either reduce or exacerbate differentials in health care coverage.

One of the key challenges in estimating the effects of the parental-eligibility expansions is distinguishing the effects of the expansions themselves from the effects of other, potentially unobservable factors that might simultaneously influence both health insurance coverage on the one hand and state policy choices on the other. In the welfare reform literature, this has been referred to as the "policy endogeneity" problem. This issue is of particular concern in the policy environment of the 1990s, in which states not

only expanded parental Medicaid eligibility, but reformed their welfare programs and implemented SCHIP as well.

Previous studies vary in the extent to which they have attempted to deal with this problem. Some studies compare insurance coverage in expansion states to coverage in non-expansion states. Such cross-sectional comparisons provide no controls for unobservable influences that may result in policy endogeneity, even when they account for observable factors by employing regression methods. Other studies compare within-state changes over time between expansion and non-expansion states. Another uses a difference-in-difference, or state fixed-effects approach, comparing deviations from state-level means between expansion and non-expansion states. These latter two approaches provide some control for policy endogeneity in that they implicitly control for state-level unobservables that do not vary over time. However, our concern is that, in the volatile policy environment of the 1990s, state policy choices may have been influenced by unobservable factors that were changing over time. For this reason, we adopt an alternative approach that controls implicitly for arbitrarily time-varying unobservables within a state.

To do this we focus only on the expansion states, and define two groups of families according to states' pre- and post-expansion Medicaid-eligibility criteria. One is the target group, defined as families whose incomes lie between the AFDC-related income eligibility limit and 200 percent of the federal poverty line (FPL). Adults in these families would have been income-ineligible for welfare, and thus for Medicaid, prior to the expansion, but many of them would have become eligible for Medicaid as a result of the expansion. The other group is the below-target group, whose incomes fall below the

AFDC income-eligibility limit. These groups would have been income-eligible for Medicaid both before and after the expansion. As a result, their coverage should not change as a result of the parental-eligibility expansions.[3] We construct our estimates of the effect of the parental eligibility expansions by comparing post-expansion changes in coverage differentials between the target group and the below-target group. Since these between-group coverage differentials can be computed within cells defined by state and year, our approach implicitly controls for all arbitrarily time-varying state-specific factors that may potentially influence both insurance coverage and state policy choices.

In the next section of the paper, we discuss the parental eligibility expansions in more detail and review the few previous studies that have analyzed their effects. In section III we discuss the data. Section IV describes our empirical strategy more formally; section V presents our results. Section VI concludes.

II. Background

A. Parental Medicaid Expansions

As noted above, historically most adults were eligible for Medicaid only if they received AFDC. As such, eligibility was limited to single mothers with very low income. Beginning in 1984, the federal government authorized a series of expansions for pregnant women and their infants. By 1989, states were required to cover pregnant women up to 75 percent of the FPL, later increased to 133 percent under OBRA 1989. States could optionally extend coverage to pregnant women with incomes up to 185 percent of the FPL.

[3] Several states relaxed the so-called 100-hour rule at the same time that they expanded their parental-eligibility thresholds. This could have made previously-ineligible married couples eligible for Medicaid in both the target and below-target groups. If relaxing the 100-hour rule increased coverage within the below-target group, then our estimates would understate the effects of the parental-eligibility expansions on the target group.

More general parental-eligibility expansions began in the early 1990s. In 1992, Washington and Minnesota expanded eligibility to low-income parents (and children) through state-funded health insurance programs. These expansions were quite broad, including families with incomes up to 250 percent and 275 percent of the FPL, respectively. Shortly thereafter, three states received federal waivers to extend Medicaid eligibility to poor parents who did not receive welfare. These expansions were also broad in scope, raising eligibility to 100 percent of the FPL in Oregon, 300 percent in Hawaii and as high as 400 percent in Tennessee.

For two important reasons, we do not focus on these early, broad expansions in our analysis below. First, the fiscal burden imposed by these programs led two states to sharply retract eligibility. Tennessee scaled back its original expansion after only one year, and now extends eligibility only to those who meet federally mandated Medicaid eligibility standards and dislocated workers. Hawaii also scaled back its original expansion from 300 percent to 100 percent of the FPL in 1998. The effects of programs that experience such retrenchment may be quite different from those of programs that can be sustained.

Second, the March CPS substantially changed the way it asked questions about health coverage starting in 1995. This presents a data consistency problem which can only be solved easily by using post-1994 data. As a result, the early, broad expansions would contribute at most one year of pre-reform data to the analysis, limiting their usefulness.

Instead, we focus on the expansions that took place between 1996 and 2001 in the 24 states listed in Table 1. The table lists the state, the year in which the expansion took

place, and the pre- and post-expansion income eligibility limits, expressed as a percentage of the FPL in the year in which the expansion was implemented. The data on the expansion years and income-eligibility thresholds are taken from a number of sources, including Maloy et al. (2002), Broaddus, et al. (2002), Holohan and Pohl (2002), Krebs-Carter and Holohan (2000), Guyer and Mann (1999), and Centers for Medicare and Medicaid Services (2003).

The pre-expansion income eligibility level (IEL) is based on the AFDC net income test, which required the family's income to be less than the AFDC payment standard plus deductions and disregards. Monthly deductions and disregards include $90 for work expenses, $175 per child under age 6 for child care expenses, and an earnings disregard of $30 plus 1/3 of earnings in excess of $30. The IEL in the third column of Table 1 is equal to the sum of the state payment standard plus those deductions and disregards, expressed relative to the FPL.

In many states, the post-expansion IEL is expressed explicitly in terms of the FPL. In others, it can be derived from a formula that compares income to a payment standard plus deductions and disregards. Several states effectively raised their income-eligibility limits by implementing more generous earnings disregards. [4]

Table 1 shows that the AFDC-based pre-expansion IEL's in these 24 states averaged 74 percent of the FPL. Their post-expansion IEL's averaged 115 percent of the FPL. Based on the 2001 FPL of $14,630 for a family of three, this amounts to expanding the eligibility limit from just under $11,000 to almost $17,000.

[4] Five states (Maryland, Nebraska, North Carolina, West Virginia, and Wyoming) changed their earnings disregards in such a way that some families' eligibility limits may have risen, whereas others actually could have fallen. We exclude states with such ambiguous expansions from the analysis.

B. Previous Research

Four previous studies have analyzed the effects of the parental eligibility expansions. Because some of these analyses are limited to the broad parental eligibility expansions that took place prior to 1996, their findings may not generalize to the more recent expansions that were generally more moderate in size. Furthermore, none of the previous analyses present results disaggregated by race or ethnicity. Nevertheless, it may be useful to summarize their results here.

Ku and Broaddus (2000) compare child Medicaid coverage in Hawaii, Oregon and Tennessee to states that did not implement any expansion. They find that the states with broad expansions experienced a 16 percentage point increase in child coverage from 1990 to 1998, compared to three percent in states that did not implement an expansion. For parents, the authors found that Medicaid coverage increased four percentage points in those states with broad expansions, but declined by eight percentage points in those without an expansion. However, since the authors provide no controls for other policies that could affect Medicaid coverage, many of which changed between 1990 and 1998, it seems unlikely that this analysis truly isolates the effects of the parental-eligibility expansions.

Lambrew (2001) examines the impact of more recent expansions on Medicaid coverage among children and adults. Based on a cross-state comparison of three-year state averages calculated from the March 1998 – March 2000 CPS, the results indicate that those states that extended eligibility to parents above the poverty threshold have nearly half the child uninsured rates of those states that had not extended parental eligibility. However, if the expansion states differ from other states in other ways that

affect Medicaid coverage, then cross-state comparisons may not identify the effects of parental-eligibility expansions.

Dubay and Kenney (2001) use the 1997 and 1999 waves of the National Survey of American Families to estimate the impact of adult Medicaid expansions on child Medicaid coverage in eleven states. The authors conduct two analyses, one comparing coverage rates between states, and another comparing rates within the state of Massachusetts before and after implementation of an expansion. In their cross-state analysis, they compare child Medicaid coverage rates for 1999 in those states that had expanded coverage by 1999 (nine states) with participation rates in those states that had not (two states). Estimating linear probability models, the authors find 20 percent higher coverage rates in those states with an expansion. Of course, this analysis is subject to the same criticism as that of Lambrew (2001), which is that underlying state differences related to the decision to expand family coverage may be correlated with Medicaid participation, thereby biasing the results. Likewise, in a single-state study, it is impossible to isolate the effects of the policy change from the effects of state-specific unobservable that are correlated with both the policy change and coverage rates.

Most recently, Duchovny and Busch (2002) employ a state fixed-effects approach to compare adult insurance coverage in 21 states that expanded parental eligibility to at least 100 percent of the FPL to coverage in the remaining states. They report that such expansions increased adult coverage by about 3 percentage points. As discussed above, the state fixed-effects approach identifies the effects of the parental eligibility expansions only if any unobservable influences that may be correlated with state policy choices are time-invariant.

III. Empirical Approach

An important difference between the approach we adopt here and the approach adopted by others is that we include only expansion states in our analysis. Comparing the target and below-target groups within expansion states allows us to relax the assumption, implicit in the state fixed-effects approach, that the unobservable determinants of state policy choices are time-invariant. As a result, out approach provides more general controls for potential policy endogeneity.

Our empirical model can be written as

$$C_{ist} = b_1 T_{ist} + b_2 X_{st} + b_3 T_{ist} X_{st} + Z_{ist} g + a_{st} + e_{ist} \qquad (1)$$

The dependent variable C_{ist} is a dummy indicating whether the *i*th sample member in the *s*th state at time *t* has coverage, where coverage may mean Medicaid, private, or any coverage, depending on the model. The variable T_{ist} is the target-group dummy, which is equal to one if the *i*th family's income exceeded the *s*th state's AFDC-related income eligibility limit. In years prior to the expansion, the AFDC-related IEL is based on the AFDC payment standard, deductions, and disregards in effect in year *t*. In years following the expansion, the AFDC-related IEL is based on the value of those parameters in the year prior to the expansion. The variable X_{st} is the expansion dummy, which is equal to one in state *s* beginning with the year of the expansion. It is equal to zero in years preceding the expansion. The term $T_{ist}X_{st}$ is an interaction between the target-group dummy and the expansion dummy. The coefficient on this key interaction term provides our estimate of the effect of the parental Medicaid expansions. The vector Z_{ist} represents family characteristics, such as the mother's age, education, race, and number of children; the age of her youngest child; and a dummy indicating whether she was recently

pregnant. The child regressions also include the child's age and a dummy for whether she is an infant.

The disturbance term consists of two components, a_{st} and e_{ist}. The latter is an idiosyncratic family-specific error term. The former, a_{st}, is a term common to all families within a particular state during year t. It represents the influence of all arbitrarily time-varying characteristics of the state that could simultaneously affect coverage and the timing of the state's parental-eligibility expansion. This includes other policy choices, such as the timing and nature of the state's welfare reform plan, its Medicaid and SCHIP eligibility rules for children, as well as other influences, such as the condition of the state economy. Including dummy variables for each state-year cell in the regression models provides implicit controls for all such factors. Because the estimates are based on between-group differentials within expansion states in the context of a model that controls for state and year effects, we refer to them as " within-state difference-in-difference" estimates.

In the presence of state-year dummy variables, the parameter associated with the expansion dummy is not identified. Indeed, none of the effects of any variable that varies only by state and year, such as welfare reform, the unemployment rate, or the generosity of other state-sponsored health insurance programs, can be identified, since such variables are collinear with the state-year dummies. This reveals why the state-year dummies control for policy endogeneity: they control implicitly for all factors that vary at the state level, regardless how they may vary over time.

One possibility not accounted for by the model in equation (1) is that some factors may have different effects on the target and below-target groups. Welfare reform is a

particularly important example. Since families in the target group are generally income-ineligible for welfare, welfare reform should have little direct effect on them. However, given the important historical links between welfare and Medicaid coverage, one might expect welfare reform to have important effects on the coverage of the below-target group, whose members are income-eligible for welfare by construction.

Failing to account for such a possibility could bias our results. To account for this problem, we interact the target-group dummy with a welfare reform dummy as well as the annual state unemployment rate and, in the child regressions, the income-eligibility thresholds associated with the state's poverty-related Medicaid and SCHIP programs. The welfare reform dummy is equal to one beginning with the year in which the state implemented its TANF program; poverty-related Medicaid and SCHIP income-eligibility thresholds are expressed relative to the FPL. We include these interactions in all the regression models reported below.

IV. Data

Data on insurance coverage are taken from the March CPS surveys administered between 1995 and 2002. Because the surveys provide information regarding coverage in the previous calendar year, the sample period extends effectively from 1994 to 2001. As mentioned above, the CPS insurance coverage questions were changed in 1995. The questions were reordered, question wording changed and questions on coverage through "other health insurance plans" were added.[5] In addition, the sample frame was updated in 1995 (as it is every decade to reflect changes in the population distribution uncovered by

[5] Of particular relevance to this study, the question wording with respect to Medicaid coverage changed from "during the previous year, were you covered by Medicaid?" prior to 1995 to "at any time during 1994, were you covered by Medicaid, the government assistance program that pays for health care?" beginning in 1995. In addition, specific state program names for Medicaid were provided beginning in 1995 (eg: MediCal in California, Medi-Kan in Kansas, etc).

the decennial census). How these changes affected estimates of health insurance coverage has been explored elsewhere. Swartz (1997) finds no increases in the number of people with Medicaid coverage between 1994 and 1995, increases in the number of people with CHAMPUS/VA/Military coverage as well as employer-sponsored coverage, despite declines in military personnel and increases in Medicaid caseloads as reported in administrative data. As such, to maintain continuity and eliminate the possibility that changes in the questionnaire might contribute to the estimated changes in coverage that we attribute to the parental Medicaid expansions, we limit our study to analysis of CPS data collected from 1995 to 2002.

We limit our sample to mothers and children with family income below 200 percent of the FPL. This corresponds to the post-expansion IEL of the District of Columbia, which provides the most generous parental Medicaid eligibility.[6]

Table 2 provides insurance coverage rates from our sample of low-income families. For both mothers and children, we provide estimated coverage rates both before and after the parental-eligibility expansions. We consider Medicaid coverage, private coverage, and any coverage, defined as coverage from either Medicaid or a private plan.

Panel A provides coverage rates for Medicaid. Before the eligibility expansions, Medicaid covered 43.4 percent of mothers and 55.9 percent of children in the below-target group, that is, in families with incomes below the AFDC-related IEL. The difference in coverage is probably related to differences in eligibility. Before the parental

[6] We exclude from the sample families in which anyone receives SSI or "other government insurance" which largely includes coverage through the military and Medicare. Coverage under both types is subject to policy changes that are independent of the adult Medicaid expansions studied here but may have occurred at roughly the same time. As such we exclude both categories so as better isolate the effect of the adult Medicaid expansions.

eligibility expansions, coverage for mothers was generally limited to mothers receiving welfare. In contrast, children could have been either welfare-eligible or eligible under the poverty-related eligibility expansions.

For mothers below the AFDC-related IEL, post-expansion coverage fell by 4.7 percentage points. Clearly, this decline cannot be attributed to the parental-eligibility expansion per se. Some analysts have attributed the decline in Medicaid coverage between 1995 and 1997 to the effects of welfare reform. This is consistent with a number of studies showing that many former welfare recipients did not retain their Medicaid coverage after they left the welfare rolls, even though some may have remained eligible for Medicaid under the Transitional Medical Assistance program, which provided for up to 12 months of Medicaid eligibility for families that lost welfare eligibility due to an increase in earnings.[7] In contrast, child coverage changed very little.

The difference in the post-expansion Medicaid coverage of mothers and their children may have to do with differences in non-welfare eligibility between the two groups. Virtually all the children in the below-target group would have been eligible for Medicaid under the poverty-related expansions starting in the early 1990s, well before welfare reform. Thus children leaving welfare could have retained Medicaid eligibility fairly seamlessly, at least in principle. In contrast, non-welfare mothers would have become eligible for Medicaid only after their state implemented parental-eligibility expansions. In most states, the parental-eligibility expansions were put in place well after welfare reform, which may have resulted in a period of non-eligibility for many of these mothers.

[7] Low rates of take-up in the transitional Medicaid program is typically attributed to lack of familiarity among former welfare recipients with the program and stringent financial reporting requirements (GAO-02-679T).

Among mothers in the target group, that is, among those with incomes above the AFDC-related IEL, 8.7 percent had Medicaid coverage in the pre-expansion period. This could reflect coverage during pregnancy or under the Medically Needy eligibility category. Alternatively, it may reflect a type of measurement error. Medicaid eligibility is determined on the basis of monthly income. Thus a family could be welfare-eligible one month but leave the rolls the next month due to an earnings gain. However, the Medicaid coverage variable in the CPS indicates whether the respondent was covered at any time in the previous year. Likewise, the CPS provides a measure of annual income, from which we construct a measure of average monthly income that we use to assign families to the target or below-target groups. Some families could have been eligible for part of the year, but have enough average monthly income over the year so as to appear income-ineligible based on the income measure available in the CPS. Coverage among children was substantially higher during the pre-expansion period, at 16.9 percent. Many of the children in this group would have been eligible for Medicaid under the poverty-related eligibility expansions.

Medicaid coverage among mothers in the target group rose by 3 percentage points, to 11.7 percent, after the parental-eligibility expansions were implemented. Among target-group children, Medicaid coverage rose by 8.4 percentage points, to 25.3 percent. This contrasts with decreases in coverage among mothers and children in the below-target group of 4.7 and 0.5 percentage points, respectively.

A simple within-state difference-in-difference estimate of the effect of the parental-eligibility expansions can be constructed by subtracting the change in coverage

within the below-target group from the change in coverage within the target group.[8] The resulting estimate suggests that the parental-eligibility expansions increased maternal coverage by 7.7 percentage points and child coverage by 8.9 percentage points. Of course, if factors such as welfare reform affected the target and below-target groups differently, then this simple estimate may overstate the effects of the parental eligibility expansions.

Private coverage rates are presented in Panel B. Within the below-target group, private coverage rose for both mothers and children. This is consistent with other reports of increasing private coverage among low-income families during much of our sample period (Broaddus, et al., 2002). Among target-group mothers, private coverage rose less; among target-group children, it fell. Relative to the below-target groups, private maternal coverage fell 3.5 percentage points and private child coverage fell by 4.8 percentage points. In the absence of other influences that may have affected private coverage, this would suggest that the parental-eligibility expansions were responsible for some crowding-out of private coverage.

Finally, Panel C presents rates of coverage from either private sources or Medicaid. The simple within-state difference-in-difference estimates suggest that the probability of having any coverage among both mothers and children rose by about 4 percentage points. As a whole, the difference-in-difference estimates in Table 2 suggest that the parental-eligibility expansions increased insurance coverage by raising Medicaid coverage while reducing private coverage by a lesser amount. Of course, these estimates are valid only if the parental-eligibility expansions were the only factor influencing

[8] This is equivalent to the estimate that one would obtain by estimating equation (1) subject to the constraint that $\gamma = 0$.

coverage differentials between the target and below-target groups. However, as we argued above, welfare reform, the economy, and the implementation of SCHIP could have affected insurance coverage differently between the two groups. In the next section, we present estimates that control for such differences.

V. Results

Table 3 presents results from the regression models discussed in section III. We focus first on the results for mothers, presented in columns (1) through (3). The coefficients on the target group dummy, presented in the first row, show that mothers in the target group are less likely to receive Medicaid than their counterparts in the omitted below-target group. They are much more likely to have private coverage and somewhat more likely to have any coverage.

The coefficients on the interaction between the target-group dummy and the post-expansion dummy presented in the second row provide our regression estimates of the effects of the parental-eligibility expansions.[9] On average, the expansions increased maternal Medicaid coverage by a statistically significant 2.7 percentage points. At the same time, the expansions reduced private maternal coverage by 1.3 percentage points, although this crowd-out effect is insignificant. The increase in any maternal coverage resulting from the parental eligibility expansions was 1.4 percentage points.

The next row of Table 3 suggests why the regression estimate of the effect of the parental-eligibility expansions on Medicaid coverage is smaller than the simple within-state difference-in-difference estimate presented in Table 2. In column (1), the coefficient on the interaction between the target-group dummy and the welfare reform

[9] Recall that the coefficient on the post-expansion dummy is not identified because the post-expansion varies only by state and year.

dummy is positive and significant. Taken at face value, it indicates that welfare reform raised Medicaid coverage within the target group, relative to the below-target group, by 5.9 percentage points. Put equivalently and more intuitively, it indicates that welfare reform reduced Medicaid within the below-target group, relative to the target group, by 5.9 percentage points. Since the target-group was income-ineligible for welfare, and thus unlikely to be directly affected by welfare reform, this estimate suggests that welfare reform reduced maternal Medicaid coverage within the income-eligible population by nearly 6 percentage points. This is roughly consistent with estimates from some welfare reform experiments (Grogger, Karoly, and Klerman 2002, chapter 6).

Accounting for the effect of welfare reform on the below-target group explains why the estimate of the effect of the parental Medicaid expansions on maternal Medicaid coverage is so much smaller than the simple within-state difference-in-difference estimate in Table 2. The simple estimate attributes the entire post-expansion change in between-group coverage differentials to the parental eligibility expansions. The regression estimate attributes the decline in coverage within the below-target group to welfare reform, and attributes only the net change in between-group coverage differentials to the parental Medicaid expansions.[10]

In the next row of the table, the coefficients on the target group-unemployment interaction indicates that the economy had similar effects on mothers in both the target and below-target groups. Beyond that, the signs of the other coefficients in the model are

[10] We also fit models where we replaced the reform-target group interaction with an interaction between the target-group dummy and the log of the state's welfare caseload. The idea is that the welfare caseload may provide a more comprehensive measure of the effects of welfare reform than a single reform dummy, since the caseload would subsume the effects of the heterogeneous reforms that were implemented across the states. The estimated effects of the parental expansions from those alternative specifications were similar to the estimates reported here.

generally in accord with what one might expect based on previous research. Compared with college graduates (the omitted education group), less educated mothers and their children are more likely to receive Medicaid and less likely to have private health insurance. Compared with mothers over age 50, younger mothers are generally more likely to receive Medicaid and less likely to have private coverage. Single mothers are more likely to receive Medicaid and less likely to have private insurance than married mothers. Within the population of families whose incomes are less than 200 percent of the FPL, they are more likely to have any coverage than married mothers. Mothers with smaller families are less likely to have Medicaid coverage or any coverage than mothers with larger families. Black mothers are substantially more likely than whites to have Medicaid coverage and less likely to have private coverage. On net, they are slightly but significantly more likely to have any coverage. In contrast, Hispanic mothers are no more likely than whites to have Medicaid coverage, but are substantially less likely to have private coverage. As a result, they are less likely to have any coverage. Recently pregnant mothers, defined as those with a child age zero or one, are more likely to have Medicaid coverage, presumably because they qualify under the provisions for pregnant women.

Estimates for children are reported in columns (4) through (6) of Table 3. With only a few exceptions, the estimates in the children's coverage regressions are qualitatively similar to those in the maternal coverage regressions. Like their mothers, children in the target group are less likely to have Medicaid coverage, more likely to have private coverage, and more likely to have any coverage than children in the omitted below-target group. The adult eligibility expansions increased children's Medicaid

coverage, had insignificant crowd-out effects on private coverage, and raised any coverage. The interactions between the target group dummy and the welfare reform dummy are insignificant, suggesting that children were less affected by welfare reform than their mothers. This is consistent with the availability of Medicaid coverage for children under the poverty-related Medicaid expansions and with the data from Table 2, which show little change in Medicaid coverage within the below-target group at the time of the parental Medicaid expansions. Mother and family demographics have qualitatively similar effects on maternal and child coverage, as a rule. Child coverage from all sources falls with the child's age; infants are additionally likely to have Medicaid coverage, probably the result of the eligibility provisions for pregnant women and their infants. Neither the Medicaid nor CHIP income-eligibility have significantly different effects on the coverage of children in the target group, relative to those in the below-target group.

Despite the general qualitative similarities between the maternal and child coverage results, there is an important quantitative difference. The estimated effects of the parental eligibility expansions are greater for children than for their parents. Although this potentially could be the result of disproportionate take-up among large families, some analysis revealed that it resulted largely from inappropriately pooling the data by race and ethnicity.

Table 4 presents results disaggregated by race and ethnicity, where only the key coefficients are shown in order to save space.[11] Once the sample is stratified, the effects of the parental Medicaid expansions are more similar between mothers and their children.

[11] The unusual racial/ethnic distributions implicit in the sample sizes stem from the fact that we include only expansion states in the sample. The presence of California and New York account for the relative abundance of Hispanics; the near-absence of Southern states accounts for the relative dearth of blacks. We have omitted a fourth "other race/ethnicity" group from Table 4 due to small sample sizes.

Some further analysis revealed that the differences that remain can be explained by the fact that the expansions had larger effects on larger families, suggesting that take-up rates were larger for families with more children.

More importantly, disaggregating the sample by race and ethnicity reveals that the effects of the parental Medicaid expansions vary importantly along these lines. The expansions slightly reduced coverage of white mothers and slightly increased coverage of white children. However, none of these effects are significant In contrast, the expansions had substantial effects on both blacks and Hispanics.

The parental eligibility expansions increased Medicaid coverage by nearly 7 percentage points among black mothers and by nearly 8 percentage points among their children. The likelihood of any insurance rose by 4.4 percentage points for mothers and 6.3 percentage points for children. Most of these estimates are at least marginally significant, despite limited sample sizes.

Among Hispanics, the parental eligibility expansions increased Medicaid coverage by 4.8 percentage points among mothers and 6.7 percentage points among their children. Both of these effects are significant at conventional levels. The parental eligibility expansions increased the likelihood of any coverage by 4.2 percentage points for mothers and 3 percentage points for children.

Although it is beyond the scope of this paper to fully explain why these differences arise, we offer one suggestion. In the pre-expansion period, 73.5 percent of white mothers in the target group had private insurance coverage. Among black and Hispanic mothers, the respective percentages were 65.3 and 49.4. To the extent that demand for public coverage is increased by lack of private coverage, these pre-existing

differences in private coverage may help explain the differential effects of the parental Medicaid expansions.

We can also calculate the extent to which the parental eligibility expansions altered racial and ethnic disparities in insurance coverage. In the pre-expansion period, 81.2 percent of white mothers in the target group had some sort of insurance coverage. Among black and Hispanic mothers, the corresponding percentages were 78.1 and 57.7. On the basis of the estimates in column (3) of table 4, predicted post-expansion coverage rates, assuming that the expansions were the only factor affecting insurance rates, would have been 79.9 percent for whites, 82.5 percent for blacks, and 61.9 percent for Hispanics. Thus by themselves, the parental Medicaid expansions would have closed the black-white insurance gap among the target group entirely, and would have reduced the white-Hispanic insurance gap from 23.5 percentage points to 18 percentage points.

Among target-group children, pre-expansion insurance coverage rates were 83.9 percent for whites, 85.3 percent for blacks, and 69.9 percent for Hispanics. Ceteris paribus predicted values for the post-expansion period, based on the estimates in column (6) of table 4, are 86.4 percent for whites, 91.6 percent for blacks, and 72.9 percent for Hispanics. Thus by themselves, the parental eligibility expansions would have further expanded the white-black coverage gap among the target group in favor of blacks and would have reduced the white-Hispanic gap slightly, from 14 percentage points to 13.5 percentage points.

VI. Conclusions

Since the 1990s, many states have sought to expand eligibility for Medicaid to poor parents who were not receiving welfare. Our results show modest increases in

health insurance coverage as a result of the expansions. There also appear to be considerable spillover effects with respect to insurance coverage among children of newly eligible parents.

Our results also show substantial differences in the effects of the parental eligibility expansions by race. Whereas the expansions had little effect on whites, they had significant and generally sizeable effects on blacks and Hispanics. As a result, the expansions generally contribute to reducing racial differences in insurance coverage. Among children, they expand the slight advantage faced by black children as compared to whites.

Whether the recent gains in coverage are likely to persist is not clear. Recent growth in unemployment presumably would increase take-up, as newly jobless families lose access to employer-provided coverage. At the same time, however, pressing fiscal issues may lead the states to scale back their expansions or delay those that had been planned for the future

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Table 1
Pre- and Post-Expansion Income Eligibility Limits (%FPL)

State	Expansion year	Pre-expansion IEL	Post-expansion IEL
AZ	2001	52	100
CA	2000	112	155
CT	2001	105	158
DE	1996	57	100
DC	1998	66	200
IA	1998	67	98
ME	1997	86	108
MA	1997	90	133
MI	2001	66	69
MO	1999	48	100
MT	1997	70	78
NV	1997	57	134
NH	2000	86	102
NJ	2000	63	133
NM	1998	62	65
NY	2001	81	100
ND	1999	67	74
OH	1997	56	87
PA	1997	65	76
RI	1997	86	193
SC	1998	85	96
SD	1997	69	75
VT	1996	103	150
WI	2001	74	185
Average		74	115

Excluded are 5 states that expanded eligibility prior to 1995 (HI, MN, OR, TN, WA) and 5 states with ambiguous expansions (MD, NE, NC, WV, WY).

Table 2
Potential Eligibility and Insurance Coverage by Income Category, Before and After Parental Eligibility Expansion

	Mothers			Children		
A. Medicaid Coverage	Below AFDC IEL	Above AFDC IEL	Difference	Below AFDC IEL	Above AFDC IEL	Difference
Pre-expansion	0.434 [12,130]	0.087 [10,201]	-0.347	0.559 [25,030]	0.169 [19,929]	-0.390
Post expansion	0.387 [6,595]	0.117 [8,840]	-0.270	0.554 [13,616]	0.253 [17,348]	-0.301
Difference	-0.047	0.030	0.077	-0.005	0.084	0.089
B. Private Coverage	Below AFDC IEL	Above AFDC IEL	Difference	Below AFDC IEL	Above AFDC IEL	Difference
Pre-expansion	0.240	0.661	0.421	0.229	0.639	0.410
Post expansion	0.278	0.664	0.386	0.252	0.614	0.362
Difference	0.038	0.003	-0.035	0.023	-0.025	-0.048
C. Any Coverage	Below AFDC IEL	Above AFDC IEL	Difference	Below AFDC IEL	Above AFDC IEL	Difference
Pre-expansion	0.674	0.748	0.074	0.787	0.808	0.021
Post expansion	0.666	0.781	0.115	0.806	0.867	0.061
Difference	-0.008	0.033	0.041	0.019	0.059	0.040

Note: Numbers in square brackets are cell sizes.

Table 3
Estimates of the Effects of Parental Medicaid Expansions

	Mothers			Children		
	(1) Medicaid	(2) Private	(3) Any	(4) Medicaid	(5) Private	(6) Any
Target group	-0.283	0.329	0.046	-0.214	0.320	0.106
	(0.026)	(0.029)	(0.029)	(0.038)	(0.040)	(0.034)
Target x post-expansion	0.027	-0.013	0.014	0.053	-0.012	0.041
	(0.011)	(0.012)	(0.013)	(0.017)	(0.017)	(0.014)
Target x reform	0.059	-0.011	0.048	0.013	-0.011	0.002
	(0.013)	(0.014)	(0.014)	(0.018)	(0.019)	(0.016)
Target x unemp	-0.001	0.003	0.001	-0.014	0.002	-0.012
	(0.004)	(0.004)	(0.005)	(0.006)	(0.006)	(0.005)
Less than HS	0.184	-0.308	-0.124	0.214	-0.301	-0.087
	(0.008)	(0.009)	(0.009)	(0.011)	(0.012)	(0.010)
HS diploma	0.112	-0.177	-0.065	0.127	-0.176	-0.049
	(0.008)	(0.008)	(0.009)	(0.010)	(0.011)	(0.009)
Some college	0.085	-0.115	-0.030	0.085	-0.113	-0.029
	(0.008)	(0.009)	(0.009)	(0.011)	(0.012)	(0.009)
Age<30	0.100	-0.055	0.045	0.034	-0.076	-0.042
	(0.011)	(0.013)	(0.013)	(0.021)	(0.020)	(0.017)
30<=Age<40	0.028	0.019	0.048	-0.056	-0.000	-0.057
	(0.011)	(0.012)	(0.012)	(0.019)	(0.019)	(0.016)
40<=Age<50	0.008	0.058	0.066	-0.068	0.026	-0.042
	(0.011)	(0.012)	(0.012)	(0.019)	(0.019)	(0.016)
Single	0.172	-0.117	0.056	0.175	-0.101	0.073
	(0.004)	(0.005)	(0.005)	(0.007)	(0.006)	(0.006)
One child	-0.085	-0.015	-0.099	-0.084	-0.011	-0.095
	(0.008)	(0.009)	(0.009)	(0.011)	(0.011)	(0.009)
2 or 3 kids	-0.054	0.012	-0.043	-0.046	0.016	-0.030
	(0.007)	(0.008)	(0.008)	(0.009)	(0.009)	(0.008)
Age of youngest child	-0.000	-0.000	-0.001	-0.005	0.001	-0.004
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Black	0.097	-0.082	0.016	0.128	-0.129	-0.001
	(0.006)	(0.007)	(0.007)	(0.010)	(0.009)	(0.008)
Hispanic	-0.008	-0.126	-0.134	0.055	-0.140	-0.085
	(0.006)	(0.007)	(0.007)	(0.009)	(0.008)	(0.008)
Other race/ethnicity	0.048	-0.113	-0.064	0.111	-0.144	-0.032
	(0.009)	(0.010)	(0.010)	(0.015)	(0.014)	(0.013)
Recently pregnant	0.056	-0.003	0.053			
	(0.006)	(0.007)	(0.007)			
Child's age				-0.002	-0.001	-0.003
				(0.001)	(0.001)	(0.001)
Infant				0.026	-0.011	0.014
				(0.008)	(0.008)	(0.007)
Target x CHIP				0.013	-0.022	-0.009
				(0.010)	(0.009)	(0.008)
Target x Medicaid				-0.005	-0.006	-0.011
				(0.007)	(0.008)	(0.007)
Observations	37766	37766	37766	75923	75923	75923
R-squared	0.228	0.269	0.078	0.238	0.263	0.064

Standard errors in parentheses. In addition to the variables shown, all regressions include a full set of state-year dummies.

Table 4
Estimates of the Effects of Parental Medicaid Expansions, by Race and Ethnicity

A. Whites	Mothers			Children		
	(1) Medicaid	(2) Private	(3) Any	(4) Medicaid	(5) Private	(6) Any
Target group	-0.185	0.224	0.038	-0.150	0.191	0.040
	(0.033)	(0.039)	(0.037)	(0.050)	(0.056)	(0.046)
Target x post-expansion	-0.001	-0.013	-0.013	0.032	-0.007	0.025
	(0.015)	(0.018)	(0.017)	(0.025)	(0.025)	(0.020)
Target x reform	0.015	0.044	0.059	-0.022	0.047	0.024
	(0.017)	(0.020)	(0.019)	(0.026)	(0.028)	(0.022)
Target x unemp	-0.009	0.016	0.007	-0.012	0.017	0.005
	(0.005)	(0.006)	(0.006)	(0.008)	(0.009)	(0.008)
Target x CHIP				0.014	-0.019	-0.005
				(0.012)	(0.012)	(0.011)
Target x Medicaid				-0.011	-0.006	-0.017
				(0.009)	(0.011)	(0.008)
Observations	18968	18968	18968	37409	37409	37409
R-squared	0.206	0.242	0.058	0.195	0.216	0.053
B. Blacks	Mothers			Children		
	(1) Medicaid	(2) Private	(3) Any	(4) Medicaid	(5) Private	(6) Any
Target group	-0.438	0.472	0.034	-0.435	0.532	0.096
	(0.090)	(0.088)	(0.089)	(0.111)	(0.109)	(0.089)
Target x post-expansion	0.068	-0.024	0.044	0.078	-0.015	0.063
	(0.034)	(0.033)	(0.033)	(0.043)	(0.042)	(0.035)
Target x reform	0.091	-0.033	0.057	0.028	-0.015	0.014
	(0.040)	(0.039)	(0.040)	(0.051)	(0.050)	(0.042)
Target x unemp	0.000	-0.006	-0.006	0.000	-0.012	-0.011
	(0.014)	(0.014)	(0.014)	(0.017)	(0.017)	(0.013)
Target x CHIP				0.050	-0.076	-0.027
				(0.028)	(0.026)	(0.017)
Target x Medicaid				0.012	-0.045	-0.033
				(0.021)	(0.021)	(0.017)
Observations	4772	4772	4772	10065	10065	10065
R-squared	0.321	0.311	0.064	0.292	0.288	0.063
C. Hispanics	Mothers			Children		
	(1) Medicaid	(2) Private	(3) Any	(4) Medicaid	(5) Private	(6) Any
Target group	-0.474	0.319	-0.155	-0.458	0.335	-0.123
	(0.067)	(0.068)	(0.079)	(0.086)	(0.093)	(0.097)
Target x post-expansion	0.048	-0.005	0.042	0.067	-0.037	0.030
	(0.021)	(0.022)	(0.025)	(0.029)	(0.030)	(0.028)
Target x reform	0.152	-0.056	0.096	0.124	-0.054	0.071
	(0.027)	(0.027)	(0.032)	(0.033)	(0.037)	(0.037)
Target x unemp	0.024	0.003	0.027	0.011	-0.000	0.011
	(0.009)	(0.009)	(0.011)	(0.012)	(0.013)	(0.013)
Target x CHIP				0.017	-0.014	0.003
				(0.019)	(0.019)	(0.018)
Target x Medicaid				0.021	0.004	0.025
				(0.013)	(0.014)	(0.015)
Observations	12079	12079	12079	24435	24435	24435
R-squared	0.211	0.181	0.070	0.224	0.180	0.073

Standard errors in parentheses. In addition to the variables shown, the regressions include all variables shown in Table 3 as well as a full set of state-year dummies.