TAKE-UP OF PUBLIC INSURANCE AND CROWD-OUT OF PRIVATE INSURANCE
UNDER RECENT CHIP EXPANSIONS TO HIGHER INCOME CHILDREN

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to Higher Income Children
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NBER Working Paper No. 17658
December 2011
JEL No. I13

ABSTRACT

We analyze the effects of states' expansions of CHIP eligibility to children in higher income families
during 2002-2009 on take-up of public coverage, crowd-out of private coverage, and rates of uninsurance.
Our results indicate these expansions were associated with limited uptake of public coverage and only
a two percentage point reduction in the uninsurance rate among these children. Because not all of the
take-up of public insurance among eligible children is accounted for by children who transfer from
being uninsured to having public insurance, our results suggest that there may be some crowd-out
of private insurance coverage; the upper bound crowd-out rate we calculate is 46 percent.

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Introduction

Over the next several years, as various provisions of the Patient Protection and Affordable Care Act (ACA) take effect, the landscape of health insurance in the U.S. will increasingly shift. For children, states' Children's Health Insurance Programs (CHIP) will continue to play a vital role in meeting their health insurance needs at least through 2015, although the longer-term outlook for CHIP is less certain.

In the years leading up to the ACA, many states began moving toward far more inclusionary CHIP programs, extending eligibility to children in families with incomes far higher than historical eligibility thresholds. Between 2002 and 2009, for example, 13 states boosted their income eligibility threshold for CHIP to between 200 and 400 percent of the federal poverty line (FPL). Several studies have explored the effects of previous public health insurance expansions, including the Medicaid expansions of the late 1980s and the introduction of CHIP in 1996, on take-up of public coverage, crowd-out of private coverage, and insurance coverage rates (Cutler and Gruber 1996; Shore-Sheppard 2008; Bansak and Raphael 2006; Hudson et al. 2005; LoSasso and Buchmueller 2004; Sommers et al. 2007; Ham and Shore-Sheppard 2005). However, existing studies of CHIP extend at most through 2002, and none that we are aware of has explored the effects on coverage of the considerable changes in eligibility associated with recent expansions.

The extension of eligibility for public insurance to higher income children has not occurred without controversy. A touchstone has been concern about the potential for and magnitude of "crowd-out," defined as the extent to which an increase in the availability of public insurance

decreases coverage by private insurance. In 2007, states' eligibility expansions triggered a controversial memorandum (later rescinded) from the Center for Medicare and Medicaid Services (CMS) outlining a stringent set of conditions that states would have to meet in order to offer CHIP eligibility to higher income families (Smith 2007). Among other requirements, states offering eligibility to individuals in families with incomes above 250 percent of the FPL had to establish a minimum one year-period of uninsurance prior to eligibility for coverage and document that rates of private insurance coverage did not decline substantially. In practice, states that extended CHIP eligibility to higher income families additionally attempted to control crowd-out by requiring those families to pay premiums for CHIP coverage.

In this article, we offer an analysis of the effects of CHIP expansions from 2002-2009 on take-up of public coverage, crowd-out of private coverage, and rates of insurance coverage. Our results provide new empirical evidence about how the availability of subsidized public insurance to higher income families affects enrollment in public insurance, enrollment in private insurance, uninsurance rates, and the tradeoffs among them. In addition, we describe the implications of our results for issues related to the implementation of the ACA.

Changes to CHIP—2002 to 2009

Movement toward universal coverage of children is the defining feature of CHIP program changes during the last decade. Between 2002 and 2009, 18 states increased their income eligibility threshold for CHIP (Figure 1). In a few states, the changes were modest, from an eligibility threshold in the range of 133 to 150 percent of the Federal Poverty Level (FPL) to a level at or below 200 percent of the FPL. But in 13 states, the income threshold was boosted to

between 200 and 400 percent FPL, with 7 of the states extending eligibility for those with incomes between 3 times ($66,150 in 2009) and 4 times ($88,200 in 2009) the FPL (Kaiser Commission on Medicaid and the Uninsured 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009). Of note, because all states disregard certain types of income and allow certain credits when determining a family's income for the purpose of establishing Medicaid or CHIP eligibility, many families whose total income is above the stated threshold will meet eligibility criteria after the disregards and credits are applied (Cohen et al. 2008).

In some states, coincident with these changes have been requirements that families share in the cost of public coverage with premium contributions and/or copayments tied to use of health care services. By 2008, most states required at least some premium contribution for a subset of CHIP enrollees; only 16 states had no such requirements at any income level. Among states requiring a contribution, most absolved individuals in families with income less than 150 percent FPL of any premium cost-sharing and some only required contributions for families with incomes at least twice the FPL. Among the states that offered coverage to families with incomes at least 3 times FPL, premium contribution requirements ranged from $240 to more than $1,000 per year for a family with two children.[1]

The movement toward universal coverage in some states has been accompanied by a variety of additional program modifications, such as targeted outreach efforts, marketing of the program to reduce stigma associated with participation in a public program, and streamlined administrative processes for enrollment or renewal—all designed to increase enrollment among eligible children—as well as precautionary measures designed to reduce crowd-out, such as waiting

periods between loss of private coverage and public eligibility and premium assistance programs for individuals who have an offer of private coverage (SHADAC 2009).

Previous Evidence on Take-Up and Crowd Out

Take-up and crowd-out have been studied in the context of Medicaid expansions of the 1980s and, more recently, in the context of CHIP. (Cutler and Gruber 1996; Shore-Sheppard 2008; Bansak and Raphael 2006; Hudson et al. 2005; LoSasso and Buchmueller 2004; Sommers et al. 2007; Ham and Shore-Sheppard 2005; Gruber and Simon 2008). Studies of early Medicaid expansions find higher take-up rates of public coverage among newly eligible children compared to studies of the effects of CHIP implementation. For children made eligible through Medicaid expansions, Cutler and Gruber (1996) report a 24 percent take-up rate and Shore-Sheppard a 15-19 percent take up rate, for example. By comparison, LoSasso and Buchmuller (2004) estimate a take-up rate of between 5.4 and 9.1 percent and Gruber and Simon (2008) report a 7.2 percent take-up rate among children made eligible for public insurance through CHIP. The relatively low take-up rate among children made eligible for CHIP (compared to those made eligible through Medicaid expansions) may reflect a greater likelihood of having health insurance through some other source.

A number of methodological issues have confronted the estimation of crowd-out. Researchers haves used alternative definitions of crowd out, and crowd-out estimates have varied according to the specific eligibility change studied, the timing of the measurement of health insurance, the specification of controls in analysis, and the type of data used (administrative program data

versus data from population-based surveys). Further, the statistical uncertainty around crowd out estimates has been infrequently analyzed and reported (Davidson et al. 2004). Studies based on data from population-based surveys (e.g., the Survey of Income and Program Participation, Community Tracking Survey, Medical Expenditure Panel Survey, and Current Population Survey), typically find crowd-out rates of 25-50 percent (CBO 2007). Gruber and Simon (2008) broadly characterize findings from initial studies of crowd-out in the Medicaid expansion era as "large," though subsequent findings related to the same expansions do not corroborate initial estimates. Among studies of CHIP, LoSasso and Buchmueller (2004) report an average crowd-out rate across states with differing waiting period requirements of about 50 percent; Hudson and colleagues (2005) report a range from 35 to 70 percent; and the main estimate from Gruber and Simon's analyses (2008) is 60 percent.

A question of considerable relevance to the design of expansions in public insurance programs is whether take-up of public coverage and crowd-out private coverage among children in higher income families differs from that among children in lower income families. On balance, take-up is expected to be lower among higher income children than their lower income counterparts because more higher income children have employer-sponsored insurance (ESI); consequently, the need for public coverage is lower. At the same time, crowd-out may be more pronounced among higher income children precisely because ESI is more common. On the other hand, higher income families may be less inclined to enroll in public coverage if they associate greater stigma with participating in a public program, if public coverage is not as generous or has a more limited provider network compared to private coverage, or if public coverage is perceived to be less reliable because of the potential for policy changes affecting eligibility.

Data and Methods

Data Sources

Our main sources of data were the 2002-2009 Annual Social and Economic Supplements

(ASEC) of the Current Population Survey (CPS). The CPS-ASEC, which is administered each

February-April by the U.S. Census Bureau, collects labor market, sociodemographic, and health

insurance data from samples of households that are representative of each state. The health

insurance questions enable researchers to classify children's coverage as public (Medicaid or

CHIP), private (group or non-group), or none, and subjects are allowed to report both public and

private coverage. Notably, the CPS includes a confirmatory question for individuals who report

not having health insurance coverage. The study sample consisted of children younger than 18

who were in families with incomes between 200 and 400 percent of the FPL.[2]

We compiled data from various sources to characterize states' CHIP programs along a number of

domains, including income eligibility thresholds, income disregards, other eligibility criteria,

whether CHIP is integrated with the state's Medicaid program or separate, and whether the state

has a waiver that allows for parental eligibility (Kaiser Commission on Medicaid and the

Uninsured 2002-2009; TRIM3; Bissell and Allen 2001).

We obtained state-level estimates of unemployment rates, poverty rates among children,

unionization rates, and per capita income from CPS data and merged these variables to

individual observations. We obtained information on the employee share of private insurance

premiums for family coverage by firm size for each state and year from summary tables from the

Medical Expenditure Panel Survey-Insurance Component (MEPS-IC). We used these data to

calculate a state level measure of the average price of private insurance by taking the average by

firm size within a state and multiplying these averages by the percentage of workers within each

firm size in the state.

Econometric Analysis

Our analyses were based on multivariate regression models. Our primary outcome measures

were whether the child had any public insurance during the year, whether the child had any

private insurance during the year, and whether the child had no insurance coverage during the

year. We analyzed each of the dependent variables separately. The key independent variable of

interest was eligibility. We used the information we obtained on states' eligibility criteria in each

year to impute eligibility for individual children using the demographic and socioeconomic data

reported in the CPS-ASEC.[3]

As previous studies have highlighted, two concerns about the eligibility variable are that it is

measured with error, given limitations of the survey data on which imputation of eligibility is

based, and that it is potentially endogenous, given families' ability to modify their income to

meet an eligibility threshold through job choice or hours worked. To address these concerns, we

used instrumental variables estimation, which is a method for obtaining unbiased estimates when

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there is measurement error or endogeneity in an independent variable. Our instrument for eligibility was first described by Cutler and Gruber (1996) and has been used extensively in subsequent studies (Bansak and Raphael 2006; LoSasso and Buchmuller 2004; Hudson et al. 2005). The instrument was the percentage of a random sample of children of a particular age in families with incomes between 200 and 400 percent of the FPL from all states in a particular year who would have been eligible for public insurance in that state and year under the rules in place in that state at that time. We derived the instrument (a different value for each age-state-year cell) using a sample of 300 children from each age group and year.

The covariates models include controls for a comprehensive set of individual and family characteristics including the age, race, and gender of the child; the size of the family and household structure (one parent family, two parent family, or child lives with grandparent); parental assessment of child's health (on a 1-5 scale); highest level of education for either parent; a set of indicators for whether the child is foreign-born or his/her parent is foreign born and length of time the child has been in the U.S.; and family income as a percentage of the poverty line. We include a set of variables describing parental employment to capture differences across families in the probability of having an insurance offer. Specifically, we include indicators for whether any parent is employed full time, employed part-time, employed in the public sector, or is self-employed. For those employed full time in the private sector, we also include indicators for category of occupation of the parent (where we choose the parent with the occupation that is most likely to provide an offer of insurance) and for the firm size of the parent in the largest firm.

We also include selected characteristics of each state to control for their potential direct effect on insurance coverage outcomes and relationship with policy changes affecting eligibility in each state. We include measures of current and lagged unemployment, per capita income, the percentage of children age 0-5 in each state who live in poverty, the percentage of children age 6-18 in each state living in poverty, the percentage of employed individuals in the state who are unionized, and the price of private insurance. We also include controls for several characteristics of the public insurance programs in the state: whether the SCHIP program is integrated with Medicaid or separate, and whether the state allows parents of children eligible for SCHIP to themselves be eligible for SCHIP.

Finally, covariates included year fixed effects to capture national trends in the study outcomes and state fixed effects to control for unobserved differences among states. Additionally, in keeping with previous research, we performed sensitivity analyses that allowed for different trends in each state for particular age groups of children and different trends over time for specific age groups by including state-age and year-age interactions (Shore-Sheppard 2008). Estimates were weighted and standard errors were adjusted for weighting and clustering to reflect the complex design of the CPS, as recommended by Davern and colleagues (2007).

Results

Descriptive Data

The analytic sample in total includes 157,315 children in families with incomes between 200 and 400 percent of the FPL; Table 1 provides descriptive statistics for the sample of children from 2009. Approximately 13 percent of children were publicly insured, 84 percent privately insured

and 7 percent uninsured. The majority of children were reported to be in excellent or very good health, with only 15.5 percent of children reported to be in good, fair or poor health. The highest level of education for either parent was a high school degree or GED for 22 percent of children; neither parent had graduated from high school among another 4 percent of children. Among U.S. born children, 11 percent had no U.S. born parent or grandparent and just over 2 percent of children were reported to be themselves foreign born. The majority of children, 79 percent, were living in a 2 parent family. Family income was reported to be between 200 and 300 percent of the FPL for nearly 58 percent of children; the remainder lived in families with incomes between 300 and 400 percent of the FPL.

Figure 2 shows the percentage of children eligible for CHIP in 2002 and 2009 by income group in the 18 states that expanded eligibility. Eligibility changed dramatically between 2002 and 2009 for children in families in these states with incomes above 200% FPL. Whereas only 52 percent of children in these states in families with incomes between two and two and one-half times the FPL were eligible in 2002, 86 percent were eligible in 2009. Similarly, the percentage of children in families in these states with incomes between 250 and 300 percent FPL who were eligible increased more than five-fold (from 11 to 63 percent). Less than 3 percent of children in families with between three and four times the FPL were eligible for CHIP in 2002. By 2009, 45 percent of those with incomes between three and three and one half times the FPL were eligible, as were 31 percent of those with incomes up to four times the FPL.

Regression Results: Effects on Take-up of Public Insurance and Uninsurance Rates

Table 2 presents the results from our multivariate analyses for the three study outcomes: take-up of public coverage, reduction in private coverage, and increase in insurance coverage rates. Specifically, we report the number of children who enroll in public coverage, drop private coverage, and move out of uninsurance per 100 children who become newly eligible for subsidized public insurance.

We found that, for every 100 children who became eligible for public insurance, approximately 4 took up public coverage and approximately 2 children fell from the ranks of the uninsured (Table 2, Specification 1). The effect of the number of children who have private coverage was not statistically significant. Our findings were robust to the inclusion of state-age and year-age interactions as controls, as shown Specification 2.

A noteworthy finding in Table 2 is that the number of children who took up public coverage exceeds the sum of the number of children who drop private coverage and the number of uninsured children who gain insurance coverage. This finding reflects the fact that after a public insurance expansion the number of persons who report both private and public insurance in population-based datasets like the CPS rises, and is consistent with earlier research (Gruber and Simon 2008). The degree to which this rise is due to more people having both types of coverage simultaneously or to transitions between types of coverage is unknown.

Crowd-out

The phenomenon described in the preceding paragraph has led researchers to develop two alternative methods for measuring crowd-out using a "narrow" definition and a "broad"

definition (Cutler and Gruber 1996; Davidson et al. 2004). Under the narrow definition, crowd-out is measured as the number of children who drop private coverage divided by the number who enroll in public coverage.

$$\text{Crowd - out (narrow definition)} = \frac{\text{No. who drop private coverage}}{\text{No. who enroll in public coverage}}$$

Under the broad definition, crowd out is measured by calculating how much of the increase in public insurance is not explained by a decrease in uninsurance.[4]

$$\text{Crowd - out (broad definition)} = 1 - \left[\frac{\text{No. who move from being uninsured to insured}}{\text{No. who enroll in public coverage}} \right]$$

The narrow definition focuses on whether private insurance rates have dropped as a result of expansion, whereas the broad definition focuses on the gap between the drop in the uninsured rate and the increase in public program enrollment.[5]

We found that, using the narrow definition, the point estimate for crowd out is not statistically different from zero (Table 3).[6] By contrast, using the broad definition, the point estimate for crowd-out is roughly 46 percent and is statistically significant ($p<.05$). Thus, at most 46 percent of the increase in public coverage could potentially have come from children who switched from private coverage.

Discussion and Policy Implications

During the period prior to the ACA's passage, states increasingly experimented with offering eligibility for public coverage to children in families with incomes that are more than twice the FPL. These changes provide an opportunity for new understanding of the effects of eligibility for public insurance among higher income children on enrollment in public insurance, enrollment in private insurance, uninsurance rates, and tradeoffs among them.

Our analyses show that the 2002-2009 expansions to CHIP eligibility were associated with very limited take-up of public insurance among children in families with incomes between 2 and 4 times the FPL, with 4 children enrolling for every 100 who became newly eligible. That such a small proportion of children newly eligible for public insurance actually enrolled in public coverage may seem surprising, but the rate is not dissimilar from earlier estimates of the effect of CHIP eligibility on take-up (LoSasso and Buchmuller 2004; Hudson et al. 2005; Gruber and Simon 2008), and moreover, reflects behavior among a higher income population compared to previous studies. Further, comparing our regression results to descriptive data for several states that expanded eligibility to 300 or 400 percent of the FPL confirms the validity of these findings. In Illinois, for example, the income eligibility threshold increased from 200 to 400 percent of the FPL in 2007 and enrollment in public coverage among children in families with incomes in that range grew from 9.9 percent to 13.8 percent between 2007 and 2008. Similarly, Wisconsin modified its income eligibility threshold from 185 percent to 300 percent of the FPL in 2008. Public coverage grew from 8.1 to 12.0 percentage points among children in the 200 to 400 percent of the FPL income band.

Several factors are likely to explain the low take-up of public coverage for children in higher income families compared with their lower income counterparts. First, most children in families with incomes between 200 and 400 percent of the FPL have private coverage (around 90 percent in both Wisconsin and Illinois, for example). Second, the expansions of eligibility to children in these higher income families were coupled with sometimes substantial premium contribution requirements, which reduce the attractiveness of public coverage. Finally, the limited take-up of public coverage among higher income children may reflect that public coverage is less palatable to higher income families because of perceived stigma, a difference in the generosity or quality of public compared to private coverage options, and concern about the long-term security of public coverage availability.

Our estimates further suggest that roughly half of the newly eligible children who take up public insurance were previously uninsured; that is, for every 100 children in families with incomes between 200 and 400 percent of the FPL who are made eligible for public insurance 2 move from being uninsured to having insurance coverage. Like take-up of public insurance among eligible children, the change in uninsurance is relatively small, although statistically significant. Because not all of the take-up of public insurance among eligible children is accounted for by children who transfer from being uninsured to having public insurance, our results suggest that there may be some crowd-out of private insurance coverage. Specifically, the upper bound crowd-out rate we calculate is 46 percent; that is, for every 10 children who enroll in public coverage, at most 5 are transfers from private coverage. Our lower bound estimate shows no statistically significant reduction in private coverage from the expansions.

Our study has several limitations, most of which arise from the limitations of the CPS-ASEC data. First, there is controversy about the time period to which insurance coverage information obtained from the CPS-ASEC actually apply. Although the interview questions are intended to elicit information from subjects about coverage during the preceding year, there is indirect evidence suggesting that this is not the case (Swartz 1986). In this study, we considered the coverage data to apply to the year of the interview. However, our results and conclusions did not change when we considered the coverage data to refer to the year preceding the interview. Second, some investigators have argued that distinctions between public coverage and non-group (i.e., individual) private coverage in the CPS-ASEC data may not be reliable (LoSasso and Buchmuller 2004) However, modifications in the interview instrument that were implemented in the early part of this decade were specifically aimed at improving this distinction. In preliminary analyses (data not shown), moreover, we found that reported non-group coverage behaved much more like group coverage than like public coverage.

To conclude, our results indicate that states' expansions of public eligibility to higher income children were associated with limited uptake of public coverage and only a two percentage point reduction in the uninsurance rate among these children. Not surprisingly, given the low uptake of public coverage, crowd-out was limited as well. Indeed, concern over crowd-out appears to provide no more a reason to restrict eligibility for public insurance among higher income children than it does among lower income children.

Just as premiums for health insurance coverage purchased through the CHIP expansion programs studied in this article are subsidized for low and middle income families, so too will premium

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costs be subsidized under the ACA for insurance coverage that families with incomes under 400 percent of the FPL purchase through health insurance exchanges. The results of this study suggest that the availability of subsidized health insurance coverage for families with incomes up to 400 percent of the FPL alone, in the absence of a mandate, will not solve the problem of the uninsured.

ENDNOTES

1. Some states offered unsubsidized (full-cost) eligibility for public coverage for higher income children.

2. We limit our sample to children in families with incomes below 400 FPL because children above this threshold may be eligible to enroll in public insurance at full-cost; however, the availability of these types of unsubsidized options for families are not comprehensively documented. We restrict our attention to eligibility for subsidized public insurance. We exclude children who appear to have neither a parent nor a grandparent in the household or who report having Medicare.

3. Income disregards for 2002 through 2004 were extracted from the Urban Institute's Transfer Income Model, version 3 (TRIM3). Information on disregards for 2008 are taken from the Kaiser Family Foundation's State Health Facts website. We imputed income disregard values for intervening years. For states in which the disregard amounts are the same in 2004 and 2008, those values are assumed to have remained constant through the three year gap in data. For states that changed the amount of income that could be disregarded, we assume that the change took place in 2006.

4. Gruber and Simon (2009) provide a review of crowd-out estimates from various studies and the calculations underlying them.

5. The narrow definition treats private coverage for children who report both types of coverage as not being crowded-out and provides a lower bound on crowd out. The broad definition treats the private coverage for children who have both types of coverage as being crowded-out and provides an upper bound on crowd out.

6. We determined statistical significance using standard errors for the crowd-out estimates calculated using the delta method.

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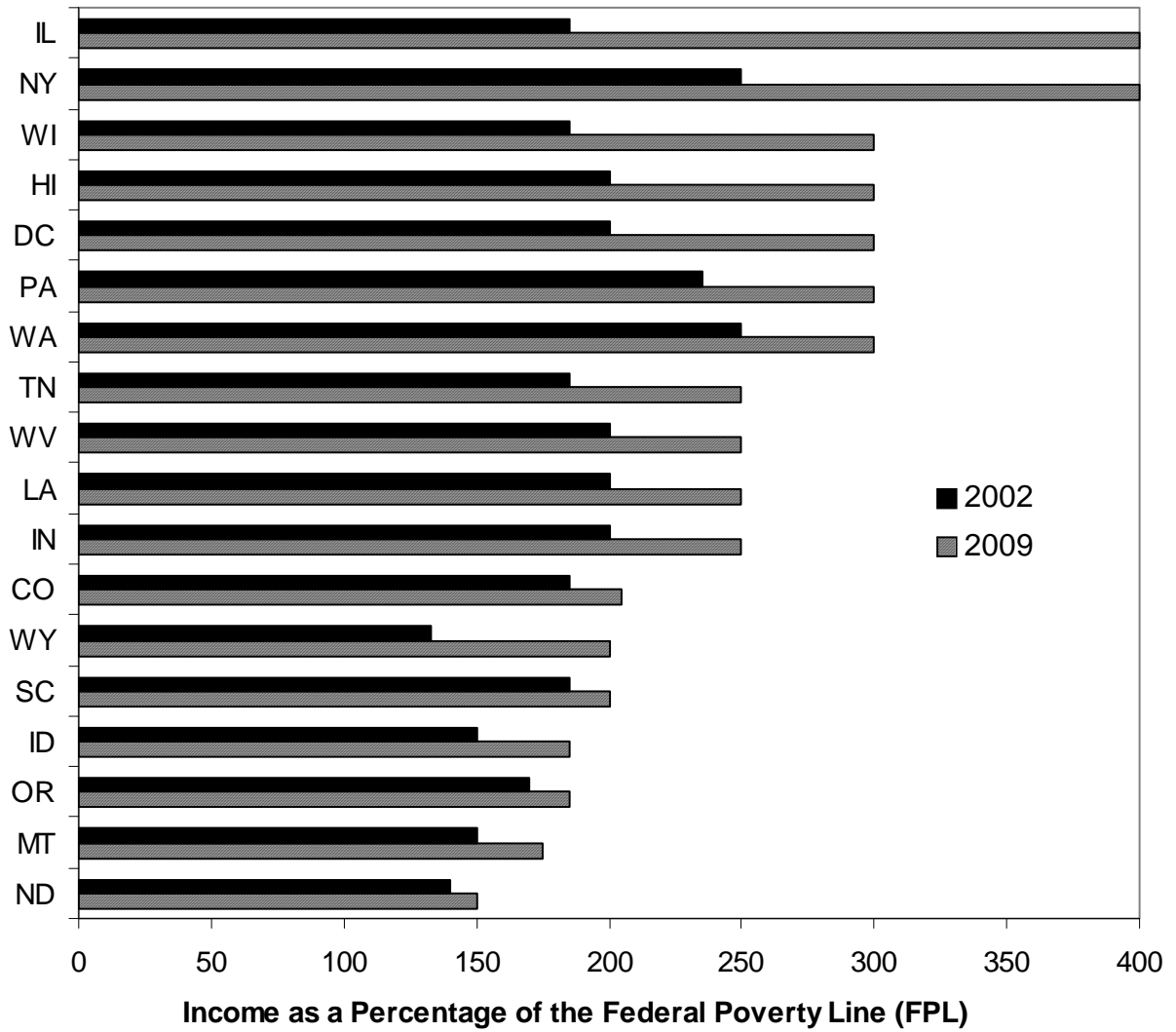**Figure 1:** **Changes in CHIP Maximum Income Eligibility Thresholds Among Expansion States: 2002-2009**

Table 1: Descriptive Statistics

	Mean	Std Dev
Dependent Variables		
Public insurance	0.133	(0.340)
Private insurance	0.844	(0.362)
No insurance	0.072	(0.259)
Independent Variables		
Individual and Family Characteristics		
Eligible for public insurance (imputed)	0.394	(0.489)
Non-Hispanic White	0.641	(0.480)
Non-Hispanic Black	0.129	(0.335)
Hispanic	0.173	(0.378)
Other race	0.057	(0.232)
Age 0-2	0.156	(0.363)
Age 3-5	0.162	(0.369)
Age 6-12	0.386	(0.487)
Age 13-18	0.296	(0.456)
Male	0.512	(0.500)
Family with 1 child	0.206	(0.404)
Family with 2 children	0.424	(0.494)
Family with 3 children	0.245	(0.430)
Family with 4 children	0.088	(0.284)
Family with 5 or more children	0.036	(0.187)
Reported health is good, fair or poor	0.155	(0.362)
Parent with highest level of education is college graduate	0.380	(0.485)
Parent with highest level of education attended some college	0.363	(0.481)
Parent with highest level of education is high school graduate or has GED	0.221	(0.415)
Neither parent is high school graduate	0.036	(0.186)
Foreign born, lived in U.S. <=5 years	0.010	(0.101)
Foreign born, lived in U.S. >5 years	0.014	(0.118)
U.S. born with no U.S. born parent/grandparent	0.112	(0.315)
U.S. born with at least 1 U.S. born parent/grandparent	0.864	(0.343)
Urban location	0.824	(0.381)
Two parent family	0.785	(0.411)
Family income 201-250% FPL	0.303	(0.460)
Family income 251-300% FPL	0.273	(0.446)
Family income 301-350% FPL	0.227	(0.419)
Family income 351-400% FPL	0.196	(0.397)
Characteristics of parental employment		
Working part-time	0.035	(0.183)
Self employed	0.043	(0.204)
Public sector employee	0.216	(0.412)
Neither parent employed	0.010	(0.100)
Firm size of parent employed in largest firm:		
Firm size <10	0.059	(0.236)
Firm size 10 to 24	0.051	(0.220)
Firm size 25 to 99	0.101	(0.302)
Firm size 100 to 499	0.114	(0.318)
Firm size 500 to 999	0.049	(0.216)

Firm size 1000+	0.314	(0.464)
Parental occupation		
Management, professional, etc.	0.294	(0.456)
Production, transport., etc.	0.130	(0.336)
Sales & office	0.144	(0.351)
Construction & maintenance	0.069	(0.254)
Service	0.033	(0.180)
Farming, fishing, forestry	0.001	(0.035)
Unknown occupation	0.015	(0.123)
State-Level Characteristics		
Percent unemployed	0.093	(0.019)
Lagged percent unemployed	0.054	(0.011)
Per capita income (in $100,000)	0.268	(0.030)
Percent of children 0-5 in poverty	0.219	(0.048)
Percent children 6-18 in poverty	0.179	(0.036)
Rate of unionization	0.122	(0.064)
Private insurance premium (in $10,000)	0.402	(0.046)
Program Characteristics		
Parental CHIP eligibility waiver	0.177	(0.382)
Separate CHIP program	0.856	(0.351)

Notes: Descriptive statistics are for 18,514 children in the CPS with incomes between 200 and 400 percent of the FPL in the 2009 CPS. Full analytic data includes 157,315 children.

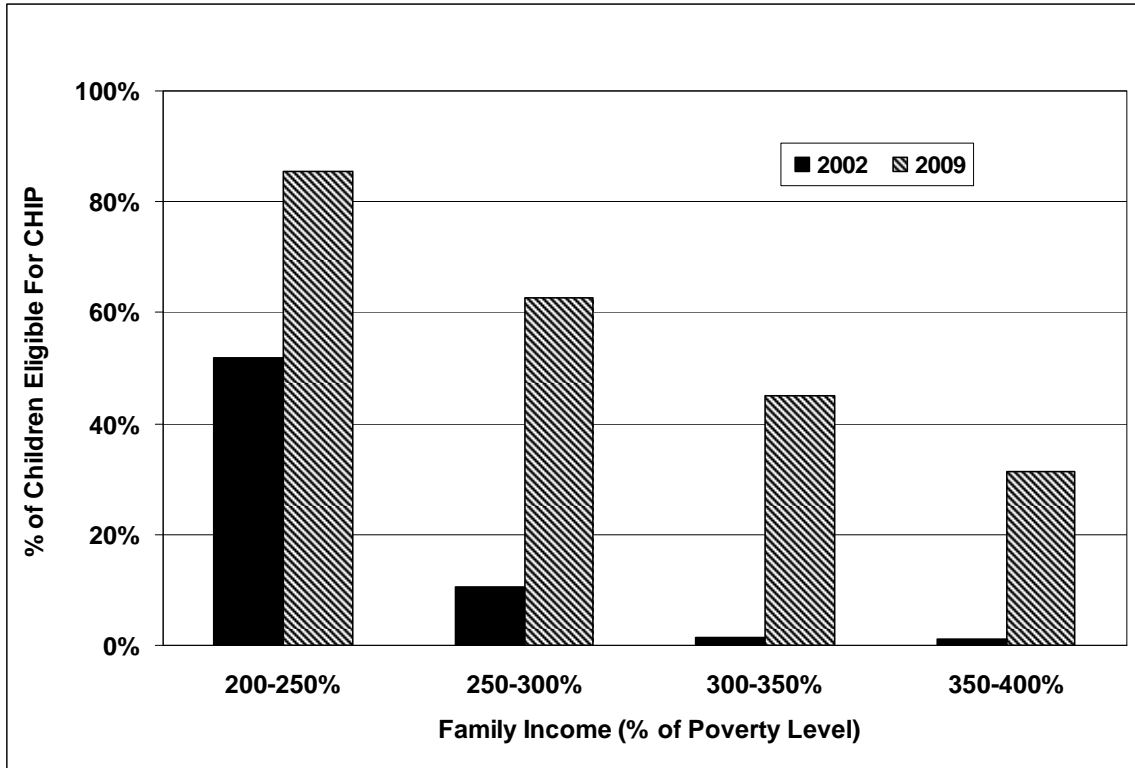**Figure 2: CHIP Eligibility in Expansion States, 2002 and 2009, by Family Income**

Table 2: Effects of Expanded CHIP Eligibility on Take-up of Public Coverage, Reductions in Private Coverage, and Insurance Coverage, 2002-2009

Per 100 children who become eligible:	Specification (1)	Specification (2)
Number who enroll in public coverage	4.21 ***	4.12 ***
Number who drop private coverage	-0.14	-0.19
Number who move from being uninsured to being insured	2.26 ***	2.31 ***

*Notes: *** p<.01; Specification 1 includes the full set of individual and family characteristics, state characteristics, program characteristics, and state and year fixed effects, as described in the text. Specification 2 additionally includes state-age and year-age controls.*

Table 3: Estimates of Crowd-Out Associated with CHIP Expansions, 2002-2009

Per 100 children who take up public coverage	Specification (1)
Crowd-out estimate, narrow definition	3.3
Crowd-out estimate, broad definition	46.3**

*Notes: **p<.05. Standard errors derived using the delta method.*