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RESEARCH ARTICLE

Transitions from Private to Public Health Coverage among Children: Estimating Effects on Out-of-Pocket Medical Costs and Health Insurance Premium Costs

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Objective. To assess the effects of transitions from private to public health insurance by children on out-of-pocket medical expenditures and health insurance premium costs.
Data Sources. Data are drawn from the 1996 and 2001 panels of the Survey of Income and Program Participation. We construct a nationally representative, longitudinal sample of children, ages 0–18, and their families for the period 1998–2003, a period in which states raised public health insurance eligibility rates for children.
Study Design. We exploit the Survey of Income and Program Participation's longitudinal design to identify children in our sample who transition from private to public health insurance. We then use a bootstrapped instrumental variable approach to estimate the effects of these transitions on out-of-pocket expenditures and health insurance premium costs.
Principal Findings. Children who transition from private to public coverage are relatively low-income, are disproportionately likely to live in single-mother households, and are more likely to be Black or of Hispanic origin. Child health status is highly predictive of transitions. We estimate that these transitions provide a cash-equivalent transfer of nearly U.S.$1,500 annually for families in the form of reduced out-of-pocket and health insurance premium costs.
Conclusions. Transitions from private to public health coverage by children can bring important social benefits to vulnerable families. This suggests that instead of being a net societal cost, such transitions may provide an important social benefit.

Key Words. Medicaid, State Children's Health Insurance Program, health insurance, crowd-out, medical expenses, Survey of Income and Program Participation

Public health insurance coverage for children increased from 18 million in 1987 to 30 million in 2007, primarily as a result of eligibility expansions in Medicaid and the State Children's Health Insurance Program (SCHIP), and major outreach and enrollment efforts by states to increase take-up among

eligible children. Many have touted SCHIP as a federal-state success in expanding coverage to uninsured families (Grogan and Rigby 2009). Perhaps the most prominent concern raised about SCHIP, especially during the 2007 reauthorization debate, has been *crowd-out*: the possibility that expanded public health insurance displaces private coverage. Findings are mixed regarding the amount of crowd-out resulting from Medicaid and SCHIP expansions. Still, many policymakers express concerns about the extent of crowd-out associated with expansions of public health insurance.

Despite numerous studies, little is known about crowd-out's implications for affected families. Hudson, Selden, and Banthin (2005) contend that debates over crowd-out point estimates "distract policymakers from the larger and more important challenge of weighing various program benefits against program costs" (p. 233). Some studies mention possible redistributive effects of crowd-out in the form of effective income transfers (Cutler and Gruber 1996a; Holahan 1997; Davidson, Blewitt, and Thiede 2004; Ham and Shore-Sheppard 2005; Hudson, Selden, and Banthin 2005). However, few scholars have specifically studied these redistributive effects.

This paper uses longitudinal data from the Survey of Income and Program Participation (SIPP) for the period 1998–2003 to identifying children ages 0–18 who transition from private to public health coverage, which includes but is not limited to crowd-out. We focus on transitions from private to public health coverage rather than crowd-out because of the many challenges in accurately identifying and measuring crowd-out. We begin by descriptively comparing children who transition from private to public coverage to those who remain on private health insurance throughout a given year, and to the broader population of all children. We then examine two key outcomes: annual out-of-pocket medical expenditures and health insurance premium costs. We utilize a bootstrapped instrumental variable, two-stage-least-squares analysis to estimate the effects of such transitions on out-of-pocket medical expenditures and health insurance premium costs. We estimate the probability of a private-to-public transition in the first stage, finding that child health status and expanded Medicaid and SCHIP eligibility are key predictive factors. In the second stage, the instrumented private-to-public transition variable has a significant impact on out-of-pocket medical expenditures and family

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premiums. Families with children who transition realize lower out-of-pocket medical expenditures and family premium costs, on average, compared with children remaining on private insurance all year. We conclude by considering policy implications.

BACKGROUND

In a 2002 study of 10 states, Sommers et al. (2007) find that 28 percent of children recently enrolled in SCHIP had private coverage at some point during the 6 months before enrollment. Shone et al. (2008) find that a similar proportion of SCHIP enrollees in New York had private insurance within the 6 months before enrollment, but that only 7 percent of all enrollees reported reasons that the authors consider crowd-out. A majority reported parental job loss or job changes. Household composition changes may also lead to such transitions.

Rather than attempting to precisely identify crowd-out, some studies focus on switches from private to public health coverage (Shone et al. 2008). We refer to these as *private-to-public transitions*. In the present paper, we define private-to-public transitions as occurring when an individual begins a year with private health coverage and reports public coverage at some subsequent point in the year. These transitions encompass much of crowd-out, but they are not limited to it.

Existing literature suggests several potential effects of private-to-public transitions. Because public insurance has fewer cost-sharing requirements and may offer more comprehensive coverage, one would expect a transition to public coverage to result in lower out-of-pocket medical expenses. Consistent with this, Kenney (2007) found that SCHIP enrollment was associated with reduced financial difficulties associated with meeting children's health care needs.

Private-to-public transitions may further result in higher wages for low-income families. Buchmueller et al. (2005) examined the effect of SCHIP expansions on employer-sponsored health insurance offerings. While they found no evidence that employers stopped offering health benefits, they did find that employers induced workers who were eligible for public insurance to decline private coverage. Buchmueller and colleagues observed that by dropping coverage, workers may gain what they would have paid in premium costs, effectively raising their wages. Consistent with this, Leininger, Levy, and Schanzenbach (2010) use the Consumer Expenditure Survey and find that

rising Medicaid and SCHIP eligibility is associated with increased consumption by families, targeted toward transportation and savings for retirement.

This paper focuses on the effects of private-to-public transitions by children on out-of-pocket medical expenditures and health insurance premium costs, during the period 1998–2003. This period saw expansions in Medicaid and SCHIP eligibility that reached the highest up the income ladder. (We also run our analyses on the periods 1997–2000 and 1997–2002). We hypothesize that child's health status will play an important predictive role, as private-to-public transitions should be most attractive to these families. We also hypothesize that expanded Medicaid and SCHIP eligibility will be associated with transitions. Finally, we expect to see the equivalent of a cash transfer in the form of reduced out-of-pocket expenditures and reduced premium payments made by families with children who transition from private-to-public coverage.

Data and Methods

We use the Survey of Income and Program Participation (SIPP), collected by the U.S. Census Bureau, which offers a longitudinal representation of the civilian noninstitutionalized population in the United States. The SIPP is commonly used in studies on the effects of public health insurance coverage among children (Ham and Shore-Sheppard 2005; Gruber and Simon 2008). The survey selects a nationally representative sample by clustering addresses within cities and counties based on population counts from the most recent decennial census. Low-income households are oversampled. Interviews are conducted every 4 months about each individual in the household for each intervening month, gathering data on demographics, welfare, family income and structure, labor force participation, and health insurance. In all analyses, we use sample weights and adjust standard errors to account for the SIPP stratified design using Stata's svy routines.

SIPP data were continuously collected during periods of rapid eligibility expansion for state Medicaid and SCHIP programs. Our main analyses focus on the period 1998–2003. We construct a pooled sample from the 1996 and 2001 SIPP panels to create a nationally representative sample of children ages 0–18, their parents, and siblings between 19 and 21 who are students, what is referred to as the Health Insurance Unit (Kuttner and Rutledge 2007).

Our primary data sources for state Medicaid and SCHIP eligibility levels are annual reports by the National Governors Association and annual surveys

conducted by the Center for Budget and Policy Priorities (Cohen Ross and Cox 2005). We assign Medicaid and SCHIP eligibility to all children using age, family income, state of residence, and observation year. Family income takes the form of an income-to-needs ratio, for which we divide total family income by the family poverty threshold assigned to that observation. Because we seek to emulate the methods used in other studies, we do not take into account immigration status or income disregards in assigning eligibility.

Simulated Eligibility as an Instrument

To address the endogeneity of family health coverage decisions, most recent econometric studies of crowd-out use a simulated eligibility instrument (Cutler and Gruber 1996b; LoSasso and Buchmueller 2004; Ham and Shore-Sheppard 2005; Hudson, Selden, and Banthin 2005; Gruber and Simon 2008). We apply this technique to our analyses of private-to-public health insurance transitions, constructing a child-level simulated eligibility instrument using our pooled SIPP sample.[1] For this, we take a fixed random subsample of children for each age, 0–18 from 2001 ($n = 400$ per age). We apply each state's eligibility rules to this random subsample and calculate the proportion that would be eligible for public insurance by age-state-year. This value is then reassigned to our full SIPP sample using age-state-year. This procedure assigns to each sample member an exogenous variable between 0 and 1 that increases with the overall proportion of eligible children by age and year. As a robustness check, we replicated the standard crowd-out estimates reported by Gruber and Simon (2008) and our point estimates match closely with theirs.

As stated previously, a child is considered to have transitioned if she reported only private insurance of any kind in the first month of the year, and reported public coverage at some point later in the year. We use this change within a person-year to match with the annualized medical expenditure data offered by the SIPP. Conditional on at least one transition, we find that there are an average of 1.6 child transitions per family in a given year in our sample. Given the nature of the analysis sample, this number should not be interpreted as the number of children in the family or the number of children with any particular form of coverage.

For the medical expenditure outcome variables, we use the medical expenses/utilization of health care topical modules that offer comparable variables from waves 6, 9, and 12 of the 1996 panel and waves 3, 6, and 9 of the 2001 panel. These topical modules provide annualized data on out-of-pocket medical experiences and health insurance premium costs. Appendix SA2 discusses our

analysis of data quality. It appears that the SIPP offers conservative but comparable estimates of these costs. Out-of-pocket costs are individual child medical expenses, which do not include insurance premium costs. These have been recoded to account for reported reimbursements, and we recode negative out-of-pocket expenses as zero. The 1996 panel only collected out-of-pocket medical expenditure data for children 15 and older. Thus, we run analyses on children 15–18 for the entire period, and children 0–18 for the period 2001–2003.

For the *family premium* variable, we cluster by family (as operationalized above) to generate the family's total annual cost of health insurance premiums during the person-year. If a child transitions from private to public coverage, it may likely affect the health insurance premium for the entire family. Parents may transition, or they may go uninsured. Trying to calculate premium costs for the child only would likely impose a downward bias on the estimates. In Table 1 we report descriptive means for out-of-pocket expenses and family premium costs, adjusted to year-2000 dollars. As expected, children who transition from private to public coverage have lower out-of-pocket costs and their families pay less in health insurance premiums than those who remain on private insurance all year.

We restrict our analyses to observations with responses included in the topical module. We further restrict to children who are in the relevant person-year for at least two waves (although does not substantively affect our main results). For our main study period of 1998–2003, this yields a sample of $n = 107{,}970$ observations of children ages 0–18. Appendix SA2 reports on a series of demographic characteristics comparing this subsample to the larger sample of all children appearing in the SIPP during this period. Estimates from the two samples are nearly identical.

We explore the effects of private-to-public transitions on out-of-pocket medical expenditures and family premium costs using a bootstrapped instrumental variable, two-stage least squares approach. This methodology is necessary given the endogeneity of family coverage decisions, especially the binary nature of an endogenous private-to-public transition. The sample for these analyses is restricted to respondents who remain on private insurance only all year, and respondents who transition from private to public coverage. This allows for a useful comparison group of children who remain on private insurance. (Not included in this model are children who begin the year on public insurance or uninsured, and children who transition from private coverage to uninsured. We ran alternative models that included children who began the person-year on private insurance and became uninsured, and results proved similar.) In the first stage, we estimate a probit specification in which the dependent variable is the dummy—private-to-public health

Table 1: Characteristics of U.S. Children, Ages 0–18, 1998–2003 (Means)

		Began Person-Year with Private Insurance	
Mean	*All Children*	*Private-to-Public Transition*	*Private Insurance All Year*
Age	9.23	9.04^{+}	9.55
Female	0.488	0.502	0.489
White, non-Hispanic	0.626	0.530*$^{+}$	0.776
Black, non-Hispanic	0.154	0.238*$^{+}$	0.090
Hispanic origin	0.171	0.181^{+}	0.091
Poverty level	296	200*$^{+}$	405
Total children	2.37	2.41^{+}	2.23
Total full-time workers	1.13	0.939*$^{+}$	1.37
Head is single female	0.224	0.336*$^{+}$	0.116
Total college graduates	0.432	0.192*$^{+}$	0.672
Health status			
Excellent health	0.552	0.485*$^{+}$	0.616
Very good	0.290	0.305*$^{+}$	0.276
Good	0.135	0.178*$^{+}$	0.096
Fair	0.019	0.027*$^{+}$	0.010
Poor	0.003	0.006*$^{+}$	0.002
Out-of-pocket costs, ages 15–18 year-2000 dollars	U.S.$160	U.S.$176	U.S.$191
Out-of-pocket costs, all ages (2001–2003) year-2000 dollars	U.S.$153	122*$^{+}$	U.S.$205
Family premium costs (year-2000 dollars)	U.S.$905	U.S.$651*$^{+}$	U.S.$1,334
Observations	107,970	3,523	55,679

Notes. Subsample consists of respondents included in medical expenses/utilization of health care topical modules. Observations from unidentifiable states (Maine, Vermont, Wyoming, North Dakota, and South Dakota) are dropped. Observations included if they appear in the person-year for at least two waves. Estimates are weighted and standard errors are adjusted to account for the SIPP stratified survey design. Chi-squared test used for categorical health status variable.

*Statistically significantly different from "all children" mean at .05 level or above.

$^{+}$Statistically significantly different from "private insurance all year" at .05 level or above.

Source. Author's calculations from a pooled sample of the 1996 and 2001 SIPP panels.

insurance transition during the person-year observation. We use the simulated eligibility instrument as our first-stage instrument for the probability of a transition. Our specification for the probit model is as follows:

$$\hat{P} = \Pr[X_{i,j,t}\beta + IVElig_{i,j,t}\theta + d_j + e_t + \varepsilon_{i,j,t} > 0] \quad (1)$$

Here *IVElig* represents our simulated eligibility instrument. Other independent variables included in X are measures of the parent-reported child's health status, changes in family composition (an indicator for a reduction in the

number of parents in the family during the person-year), changes in the number of workers (an indicator for a reduction in the number of full-time workers during the person-year), child age (in a series of dummy variables ranging from 0–18), child sex, child race and ethnicity (white non-Hispanic, black non-Hispanic, Hispanic, and other), dummy variables for the number of children 0–18 in the family (1, 2, 3, 4, and 5 or more), family income (as percent of poverty and its square), family labor force participation (total number of adults working for a large firm, total number of full-time workers); education (variables for the total number of family members with a high school diploma and nothing more, total number with some college and nothing more, and total with a 4-year college degree or more), and other variables for family composition (family headed by a single female, family headed by a single male, and an indicator for a family headed by a unemployed married man).

We also include the state-month unemployment rate, the state-month number of families on TANF, and state and year fixed effects (see Appendix SA2 for a discussion of sensitivity analyses). All static demographic and labor force participation characteristics are taken in the final month of the person-year, following the private-to-public transition. Family income and the eligibility instrument are taken as the average for the child over the course of the person-year. (We also ran models with family income from the last month of the person-year, and results were consistent.)

We then use these probit results to construct a predicted probability of a private-to-public health insurance transition, $\hat{P}$, for each observation in each year. This approach addresses the binary nature of the endogenous private-to-public transition variable. We then use this predicted probability as an instrument in a second-stage equation, specified as follows:

$$ME_{i,j,t} = \hat{P}_{i,j,t}\gamma + X_{i,j,t}\phi + d_j + e_t + \varepsilon_{i,j,t} \quad (2)$$

Here *ME* represents medical expenditures for individual i in state j at time t. $\hat{P}$ is the instrument for a private-to-public transition, using the predicted probability generated from equation (1). X in equation (2) includes the same independent variables included in equation (1), with the exception of the excluded simulated eligibility instrument.

RESULTS

Table 1 provides a descriptive profile of children who transition from private to public coverage, compared with the overall sample means and children

who remained on private insurance all year. While more than three-fourths of the private insurance all-year group was non-Hispanic white, only 53 percent of the transition group was. Annual family income of the transition group was markedly lower than the comparison groups, with a yearly income at 200 percent of the federal poverty line, compared with 405 percent for those with private coverage all year. The families of children who transition were less likely to include a college graduate or a full-time worker at the end of the person-year. However, most children transitioning from private-to-public coverage had at least one full-time worker in the family at the end of the person-year, following the transition. A third of children who transition from private-to-public coverage lived in families headed by a single woman, while only 12 percent of the private insurance group did. Children in the private insurance group all year were in better health overall. Sixty-two percent of these children were reported by parents to be in excellent health, while less than half of the transition group was. Over all, the average child who transitions from private-to-public health coverage has a relatively low income (though still well above poverty), is disproportionately likely to live in a single-mother household, is more likely to be black or Hispanic, and is less likely than the comparison group to be in excellent health.

Table 2 presents on the results from our main instrumental variable specification for the years 1998–2003. As presented in the first column of Table 2 (in probit coefficients and average marginal effects), the first stage probit model performs well. Our simulated eligibility variable is large and highly significant ($p < .001$). The F statistic for our simulated eligibility instrument is 17.86, run unstratified. When run accounting for stratification (adjusting for the number of strata), the F statistic is 8.94, slightly below the commonly used rule for a strong instrument of $F \geq 10$ (Staiger and Stock 1997). As would be expected, the instrument is strongest for the earlier years when changes in eligibility were more common. For our models reported in Table 3 for year 1997–2000 and 1997–2002, the F statistic, adjusted for stratification, is well above 10. Given the consistency in results across time periods, we believe our simulated eligibility variable is an appropriate instrument.

In addition to providing a useful first-stage, our probit specification also produces notable substantive results, reported in column 1 of Table 2. Children whose families saw a reduction in the number of full-time workers over the year were more likely to transition than those in families who did not. After controlling for other factors, children in relatively poor health were markedly more likely to transition during a person-year than children in excellent health. This relationship strengthens almost linearly from excellent to poor

Table 2: Effects of Private-to-Public Transitions on Out-of-Pocket Medical Expenditures and Health Insurance Premiums Costs, Two-Stage Least Squares Results

Stage 1: Probability of a Transition		*Stage 2: Effects of a Transition on Medical Expenditures and Family Premiums (year-2000 dollars)*		
Variable	*Probit Coefficient [Ave. Marginal Effect] (Standard Error)*	*Variable*	*Out-of-Pocket Costs 2001–2003 (Standard Error)*	*Health Insurance Premium Costs 1998–2003 (Standard Error)*
Simulated Eligibility	0.770***	Transition (Instrumented)	−166.4*	−1303***
	[0.0437]	[bootstrapped 95% CI]	(82.75) [−22; −307]	(156.8) [−1062; −1515]
	(0.257)			
Change in no. of FT workers	0.248***	Change in no. of FT workers	−24.51	74.99
	[0.0171]			
	(0.0477)		(15.17)	(41.30)
Change in no. of adults	0.158**	Change in no. of parents	−7.012	−191.2***
	[0.0104]			
	(0.0677)		(20.87)	(55.45)
Health Status "Excellent"	Referent	Health Status "Excellent"	Referent	Referent
Health Status "Very Good"	0.0721**	Health Status "Very Good"	74.28***	19.26
	[0.0042]			
	(0.0294)		(11.87)	(23.95)
Health Status "Good"	0.227***	Health Status "Good"	175.1***	82.22**
	[0.0154]			
	(0.0365)		(20.60)	(31.34)
Health Status "Fair"	0.443***	Health Status "Fair"	422.1***	282.5***
	[.0382]			
	(0.0738)		(79.07)	(81.09)
Health Status "Poor"	0.714***	Health Status "Poor"	1384***	537.6**
	[.0793]			
	(0.186)		(307.5)	(212.6)

continued

Table 2. *Continued*

Stage 1: Probability of a Transition		*Stage 2: Effects of a Transition on Medical Expenditures and Family Premiums (year-2000 dollars)*		
Variable	*Probit Coefficient [Ave. Marginal Effect] (Standard Error)*	*Variable*	*Out-of-Pocket Costs 2001–2003 (Standard Error)*	*Health Insurance Premium Costs 1998–2003 (Standard Error)*
Constant	−0.691**	Constant	88.37	614.2***
	(0.293)		(97.88)	(167.2)
Observation	59,113	Observations	29,611	59,113
Pseudo R^2	0.219	R^2	0.043	0.062

Notes. Subsample consists of respondents included in medical expenses/utilization of health care topical modules, who report only private insurance at the beginning of a person-year and either transition to public insurance or remain on private insurance only all year. Observations from unidentifiable states (Maine, Vermont, Wyoming, North Dakota, and South Dakota) are dropped. Observations are included if they appear in the person-year for at least two waves. See text for a full list of control variables. Estimates are weighted and standard errors are adjusted to account for the SIPP stratified survey design.

*$p<.05$; **$p<.01$; ***$p<.001$.

Source. Authors' calculations from a pooled sample of the 1996 and 2001 panels of the SIPP.

Table 3: Effects of Private-to-Public Transitions on Out-of-Pocket Medical Expenditures and Health Insurance Premiums Costs, in Real Year-2000 Dollars, Various Time Periods

Period	*Out-of-Pocket Costs (Ages 15–18)*	*Out-of-Pocket Costs (Ages 0–18)*	*Family Premium Costs (Ages 0–18)*
1997–2000	U.S.$150		– U.S.$900***
	(270)	—	(197)
1997–2002	– 94		– 1243***
	(153)	—	(157)
1998–2003	– 96		– 1303***
	(122)	—	(157)
2001–2003	– 293*	– 166*	– 1650***
	(147)	(83)	(288)

Notes. Subsample consists of respondents included in medical expenses/utilization of health care topical modules, who report only private insurance at the beginning of a person-year and either transition to public insurance or remain on private insurance only all year. Observations from unidentifiable states (Maine, Vermont, Wyoming, North Dakota, and South Dakota) are dropped. Observations included if they appear in the person-year for at least two waves. See text for a full list of control variables. Estimates are weighted and standard errors are adjusted to account for the SIPP stratified survey design.

*$p < 0.05$; ***$p < 0.001$.

Source. Authors' calculations from a pooled sample of the1996 and 2001 panels of the SIPP.

health status. Children in poor health—while a small proportion of the overall population—encounter large out-of-pocket expenditures, creating the maximum incentive to transition. Alternatively, these children may have frequent contact with health care providers who can inform families of their eligibility for public health insurance and assist in enrollment.

Table 2, columns 2 and 3, report on the parameter estimates for the instrumented transition variables and health status variables from equation (2) (full output available upon request). In these models, the independent variables for medical expenses are continuous variables for the total annual amount of these expenses. Our instrumented transition variable has a large and statistically significant effect on both out-of-pocket expenditures and insurance premiums. These models suggest that a private-to-public transition by children ages 0–18 reduced their family's health insurance premium costs by U.S.$1,300 (in year-2000 dollars) during the years 1998–2003. During the period for which we can estimate out-of-pocket costs for children 0–18 (2001–2003), such transitions further appear to have reduced child out-of-pocket medical expenses by U.S.$166. Both point estimates are significant at the $p < .05$ level or above. As

expected, health status is highly associated with increased medical expenditures. Children in poor health had an average of U.S.$1,384 more in out-of-pocket expenses and U.S.$538 more in family premium costs, compared with children in excellent health, after controlling for the other factors in the model.

Given the likely nonnormality of our outcome variables, we computed bootstrapped confidence intervals for our estimates, performing 200 bootstrap replications. We adjust boostrapping to account for the SIPP stratified survey design. Within each replication, we estimate equation (1) and an accompanying $\hat{P}$. We then estimate equation (2). This procedure allows us to compute robust confidence intervals for all variables. Table 3 shows the 95 percent confidence intervals for our transition variable. For health insurance premiums costs, the range is (− U.S.$1,062; − 1,515). For-out of-pocket costs, the range is (− U.S.$22, − 307).

Table 3 runs our models for a number of time periods, reporting point estimates for the instrumented private-to-public health coverage transition variable (full results available upon request). The first row shows that, even before the 2001 recession (during the period 1997–2000—also the period for which our instrument is the strongest), our findings regarding the reduction in family premiums associated with a private-to-public transition remain robust. During this period, a private-to-public health insurance transition was associated with a decline in family premium costs of U.S.$900. However, for 1997–2000, our findings for the out-of-pocket expenses of 15–18 year olds do not hold. Private-to-public transitions during the period 1997–2002 are associated with a reduction in family premium costs of U.S.$1,243, almost identical to the estimate for 1998–2003, and a statistically insignificant − U.S.$94 in out-of-pocket costs for children ages 15–18. The parameter estimate associated with out-of-pocket costs for children ages 15–18 for the period 1998–2003 is negative, − U.S.$96, but again statistically insignificant. This may reflect the small sample size available for this analysis. During the period 2001–2003, all three estimates are statistically significant. A private-to-public health insurance transition is associated with a reduction of U.S.$1,650 in family premium costs and a reduction of U.S.$293 in out-of-pocket costs for children ages 15–18.

DISCUSSION

This analysis has several limitations that must be considered in evaluating the results and in conceiving future analyses that build on the current results. First,

as shown in Appendix SA2, the SIPP offers lower estimates of medical expenditures when compared with the more specialized Medical Expenditure Panel Survey (MEPS). Fortunately, differences between the two datasets appear relatively stable over time. The SIPP remains an appropriate dataset for the current analyses because it allows for good identification of income and labor force participation, and because it has family premium payments for all types of health coverage. Future research might replicate these results using the MEPS.

Second, income eligibility thresholds are only one dimension of SCHIP policy. Expanded income eligibility may also proxy for related policies, such as expanded outreach or streamlined administrative processes conducive to enrollment. As noted by Dubay and colleagues (2007), SCHIP expansion was accompanied by a variety of measures designed to streamline Medicaid enrollment. We suspect that there are multiple avenues of SCHIP outreach and enrollment. Income-eligible uninsured children who utilize medical services may receive help to enroll by professionals associated with medical providers. Parents of children who utilize medical services also face especially strong incentives to navigate the process of SCHIP enrollment. See Appendix SA2 for a more detailed discussion of this.

Third, we would have liked to consider model variations with child fixed effects. Unfortunately, the annualized form of the medical expenditures data makes this impossible, because it does not allow enough observations within individuals for such an analysis.

Fourth, an analysis such as ours may be sensitive to specification and sample selection. Because of this, we estimated a variety of regression specifications to address the robustness of our findings. As discussed in Appendix SA2, these regressions did not alter our main result.

Fifth, reduced out-of-pocket and premium expenditures provide only a simple metric to capture a much more complex set of economic benefits and costs that come from shifts in insurance coverage. For example, we do not capture some important benefits, such as the impact on wages or reduced costs to employers that stem from reduced private coverage.

Finally, the present analysis does not unpack the insurance status of other household members, including both siblings and parents. For example, parents may enroll their children onto SCHIP and keep employer-based dependent coverage. Alternatively, parents may choose to go uninsured while their children are enrolled on public coverage. Still other parents, once they have enrolled children on public health insurance, may choose to shift their own coverage from private to public sources. We believe that understanding

the broader dynamics of family health insurance changes among families with children who transition will require a complicated analysis that goes beyond the scope of the current study. However, we hope to address these questions in future work.

With due allowance for study limitations, our paper suggests several insights for policy and practice. Between 1998 and 2003, public health insurance was expanded to include higher income groups than in previous years. Rates of private health insurance coverage for these moderate-income groups were somewhat higher, leading to greater possibilities of private-to-public transitions (Congressional Budget Office 2007).

Given the limitations in robustly identifying transitions that constitute crowd-out in nationally representative datasets, we focus instead on the broader population of children making the transition from private-to-public health coverage. A key contribution of our study is to develop the first descriptive, nationally representative understanding of who makes these transitions, and to estimate what the effects of such a transition might be for affected families. Our statistical modeling suggests that children in families who transition from private to public health coverage are a relatively vulnerable group. They are more likely to be nonwhite, low income (although well-above poverty), and are more likely to be in relatively poor health. It is worth noting that the characteristics of children in transitioning families change somewhat during our study period. For example, the mean family income of this group rises gradually from about 190 percent of poverty in the late 1990s, to above 210 percent of poverty in 2002 and 2003.

Our instrumental variable results suggest that private-to-public transitions may provide large financial benefits to affected families through reduced medical expenses. We estimate such a transition is associated with a reduction in family premium costs of U.S.$1,300 for 1998–2003 of U.S.$1,300, and a reduction in child out-of-pocket costs of U.S.$166 for the period 2001–2003.

To put our point estimates in perspective, we compared them to two measures: (1) the difference in employer premiums for single versus family coverage, using the MEPS (Insurance Component). For the period 1998–2003, this figure, adjusted to year-2000 dollars, ranges from U.S.$1,055 in 1998 to U.S.$1,569 in 2003. (2) Medicaid payments per capita for children, made available by the Kaiser Commission on Medicaid and the Uninsured for the years 2000–2003. This ranged from an inflation-adjusted U.S.$1,227 in 2000 to U.S.$1,373 in 2003. These benchmarks are consistent with our point estimates and with the likely causal pathways for changes in family coverage sources discussed above.

For a family of three with a U.S.$27,000 income in 2003, our estimated reduction in medical costs is roughly comparable to the value of the federal Earned Income Tax Credit. However, rather than targeting families according to earned income, this transfer disproportionately targets families with high medical expenditures relative to their income. For the marginally affected transition family, SCHIP bears some analogy to Medicaid's medically needy eligibility program in reaching individuals with high medical expenses.

These findings have policy implications. During the SCHIP reauthorization debate, policy makers pointed out that many lower-income children who were already eligible were not enrolled in state SCHIP programs, and many of these children remained uninsured (Congressional Budget Office 2007). This caused some concern that states had been too quick to expand coverage to higher-income families before uninsured children in lower-income families were covered (The Kaiser Commission on Medicaid and the Uninsured 2007). Several studies, however, highlight the financial burdens faced by middle-income families bearing substantial medical expenses associated with care for a child in poor health. For this small but vulnerable population of families, SCHIP may provide important and well-targeted social benefits (e.g., Shattuck and Parish 2008). Our findings suggest that transitions from private-to-public health insurance result in a substantial cash transfer, and such a transfer may serve important social goals, especially when the transfers reach low- and middle-income families with sick children.

This analysis starts the process of assessing how well the health care needs of children are being met in an increasingly mixed public–private system. It further leads to many more questions worthy of further research. To what extent are these private-to-public transitions temporary versus long-term? To what extent do children make transitions in the other direction, from public-to-private coverage, and what are the characteristics of this group?

Perhaps most important, further research should look at outcomes related to the actual experience of care. Do children who transition from private-to-public coverage experience any noticeable effects on service utilization, such as changes in the prevalence of primary care visits or dental care visits? What about changes in the nonmedical consumption of transitioning families (Leininger et al. 2010)? These questions are not only important for understanding the situation of children but will also likely inform changing policy for the broader nonelderly population, for which the health care system of the future holds much greater integration of public and private coverage.

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NOTE

1. Gruber and Simon (2008) use both a child and a family simulated eligibility instrument. We focus on the child eligibility instrument, which is more readily interpreted in our analysis.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix SA1: Author Matrix.

Appendix SA2: Transitions from Private to Public Health Coverage among Children: Estimating Effects on Out-of-Pocket Medical Costs and Health Insurance Premium Costs.

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