

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

Appendix

Table A.1: Health Insurance and Other Characteristics of U.S. Children, Ages 0-18, 1998-2003
Selected Descriptive Statistics

Variable	Means SIPP Total Sample	Means Medical Expenditures Sub-Sample
INSURANCE STATUS		
Public Health Insurance Only	.168	.170
Private Health Insurance Only	.620	.624
Both Public & Private	.035	.034
Military Health Insurance	.028	.028
Uninsured	.148	.144
INSURANCE ELIGIBILITY		
Eligible for Public Health Insurance	.467	.467
<i>Instrument</i>	.481	.481
Eligible for Public Health Insurance		
DEMOGRAPHICS		
Age	9.09	9.23
Female	.488	.488
White, Non-Hispanic	.626	.626
Black, Non-Hispanic	.154	.154
Hispanic Origin	.171	.171
Family Income as percent FPL	299	296
Observations	322,299	107,970

Source: Authors' calculations from a pooled sample of the 1996 and 2001 panels of the Survey of Income and Program Participation.

Notes: Weighted means. Unidentifiable states in the 1996 and 2001 panel (Maine, Vermont, Wyoming, North Dakota, and South Dakota) are dropped from all panels.

Quality of SIPP data on Medical Expenditure and Family Premium Costs

Mathematica recently undertook an exhaustive comparative analysis of eight major nationally-representative surveys that measure income and program participation, using data for calendar year 2002 (Czajka & Denmead, 2008). The SIPP typically finds higher rates of public program participation than other surveys. For example, the SIPP estimates 48.1 million persons were ever enrolled in Medicaid during 2002, compared to 41.2 million in MEPS and 32.9 million in the Current Population Survey. This is likely a result of the more frequent recall period used in the SIPP, as respondents are surveyed three times a year. The SIPP appears to offer conservative estimates of total income measures. Aggregate income in the 2002 using the SIPP was \$5.77

trillion, compared to \$6.47 trillion in the CPS and \$6.26 million in the MEPS. Average earnings per worker in 2002 was \$30,899 in the SIPP and \$35,591 in CPS. Importantly, though, the SIPP appears to measure more income in the bottom wage quintiles than other surveys, and therefore finds the least amount of income inequality. This has important implications for estimating eligibility for public health insurance.

In terms of the medical expenditures measures used in this paper, we ran a comparison between the SIPP and MEPS. There are a number of important differences between SIPP and MEPS (Insurance Component) that make direct comparisons impossible. Most importantly, SIPP collects these data annually in a topical module, for the purposes of determining program eligibility while MEPS collects data on specific services and goods with shorter recall periods. The SIPP treats net expenditures (expenditures minus reimbursements) based on the calendar year, while MEPS ties the reimbursement to the expenditure, no matter when it comes.

Despite these major differences, we compare out-of-pocket costs and family premium contributions for the SIPP and MEPS. While these amounts should not be expected to match exactly, we would expect them to be in a similar range. Table A.2 presents our results. All estimates are in nominal dollars. The MEPS measure for family premium is the average employee contribution per enrolled employee at private-sector establishments that offer health insurance. The SIPP measure is the average family premium cost for families with children who are on private insurance all year. Once again, these estimates are not directly comparable. Still, the family premium costs trend in the same direction with the SIPP amounts and remain relatively close throughout. Out-of-pocket costs appear to be similar—they are never more than \$84 dollars less in SIPP than the MEPS. Our measures using the SIPP data show less growth in both of these kinds of medical expenses over time than MEPS.

We take these results to suggest that the SIPP offers relatively conservative estimates of our key medical expenditure variables, although they are in line with the MEPS. Future research might use the MEPS in a similar analysis. However, we believe it is prudent to begin with the SIPP, as it is likely to offer a more conservative estimate of the effects of private-to-public transitions on medical expenditures. We further choose to use the SIPP because it appears to find greater levels of participation in public health insurance programs by children, our key dependent variable.

Table A.2 Comparison of Medical Expenditure Data from the MEPS and the SIPP

Year	SIPP		MEPS
Out-of-Pocket Costs	15-18	0-18	0-18
1997	\$126		\$187
1998	153		166
1999	164		190
2001	160	153	221
2002	178	162	217
2003	170	166	229
2004	167	155	239
Family Premium Costs	Average annual family contributions among families with private insurance all year		Average annual employee contribution per enrolled employee at private-sector establishments that offer health insurance

1997	1055	1305
1998	1138	1382
1999	1150	1438
2001	1454	1741
2002	1541	1987
2003	1675	2283

Source: SIPP estimates from author’s calculation from a pooled sample of the 1996 and 2001 panels of the SIPP.

MEPS estimates—tables from the MEPS website www.meeps.ahrq.gov

Sensitivity Analyses

- All sensitivity analyses discussed below pertain to our main models on the effects of private-to-public health insurance transitions on family medical expenditures, reported in table 2.
- We ran model variations that included state*year and age*year fixed effects, and our results did not change substantively.
- We wanted to test the importance of increasing health insurance premiums over time, to see if this has a biasing effect on our results. To do this, we ran all models with a variable for the average annual total family premium per enrolled employee at private sector establishments that offer health insurance, by year. This did not change our main results appreciably, as it trends closely with year fixed effects. Thus we omitted the variable from our final model.
- We ran models in table 3 with all individuals who began the year on private insurance only. This added to the sample some individuals who transition from privately insured to uninsured. This did not change the results appreciably.
- We ran the models including all individuals present in the person year for 1 month or more (instead of require 2 waves of observations). This did not change the results appreciably.
- We considered the importance of child immigrant status on our results. Unfortunately, the SIPP collects citizenship variables only for person ages 15 and older. Thus we cannot fully replicate our main results restricting to natives and naturalized citizens. This is a limitation of our analyses.
- We wanted 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 variation within individuals (at most there are three data points per respondent). This is a limitation of our study. We believe that fixed effects analyses could be undertaken in the MEPS. However, for reasons we specify above, we find that the SIPP is an appropriate baseline dataset for these analyses, and the results might later be replicated with the MEPS. Further, there are a number of concerns about the application of fixed effects models in cases such as this, including that they can “accentuate measurement error” in estimating eligibility (Ham & Shore-Sheppard, 2005, p. 77). A fixed effects model also relies on the estimation for a particular sub-sample that changes its health insurance status over time, which may not be generalizable to the total sample.
- It is possible that the simulated eligibility instrumental variable that we use (and which is used in almost all recent studies of crowd-out) is capturing not just expanded eligibility, but also the major outreach and enrollment efforts undertaken by states to increase take-

up among eligible children, which are highly correlated with the eligibility expansions. To test this, we ran models from table 2 stratified by family income, for groups $\leq 150\%$ FPL, 151-300% FPL, and $>300\%$ FPL. If the simulated eligibility instrument is only picking up the effects of expansions of eligibility, then the instrument should be strongest in the range 151-300% FPL, where eligibility expansions were concentrated. However, we find that the instrument is valid in predicting private-to-public transitions for the income range $\leq 150\%$ FPL and 151-300% FPL. The fact that it performs well for the lowest income range suggests that, indeed, the simulated eligibility instrument is picking up the effects of increased outreach by states. We believe, however, it remains a strong instrument, and our main findings are most robust for the income range for which we would expect. The instrument is not statistically significant in predicting private-to-public transitions for the highest income range, where such transitions are likely limited to the medically needy population. See results in table A.3.

Table A.3: Effects of a Private-to-Public Transition 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 (2000\$)			
		Probit Coefficient (Standard Error)	Variable	Out-of-Pocket Costs 2001-2003 (Standard Error)	Health Insurance Premium Costs 1998-2003 (Standard Error)
Table Three Results	Simulated Eligibility	.770*** (.257)	Transition (Instrumented)	-\$166.4* (82.75)	-\$1303*** (156.8)
Stratified by income					
<151% FPL n=6,347	Simulated Eligibility	1.11* (.527)	Transition (Instrumented)	-7.71 (121)	-116 (454)
>150% <300% FPL n=20,394	Simulated Eligibility	1.08* (.433)	Transition (Instrumented)	-679 (512)	-1496* (647)
>300% FPL n=32,239	Simulated Eligibility	.091 (.377)	Transition (Instrumented)	135.2 (491)	-3300* (1257)

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

Notes: Sub-sample 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. Unidentifiable states (Maine, Vermont, Wyoming, North Dakota, and South Dakota) are dropped. Observations included if they appear in the person year for at least 2 waves. See paper text for a full list of control variables. Estimates are weighted and standard errors are adjusted to account for the SIPP stratified survey design.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$