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THE EFFECT OF A HEALTH CARE VISIT ON TRANSITIONS TO MEDICAID OR SCHIP AMONG UNINSURED, LOW-INCOME CHILDREN

Mary Harrington
University of Michigan

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Economic Research Initiative on the Uninsured
University of Michigan
109 S. Observatory, M3242, SPH-II
Ann Arbor, MI 48109-2029

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Introduction

It is commonly assumed that uninsured children who are eligible for public programs will become enrolled when they present for care and, therefore, can be considered "conditionally enrolled" (Dubay 1999; Bilheimer 1997; Holtz-Eakin 2004; Mankiw 2007). This assertion is made in particular about children who are eligible under traditional Medicaid categories because that coverage extends retroactively to the three month period prior to when an application is made.[1] Because these children will eventually be covered by Medicaid, it is argued, we should not considered them uninsured. Others worry, however, that children may not become enrolled and, furthermore, that families with eligible-but-unenrolled children may not behave as if the children are insured and instead may be less likely to seek out care.

Another common belief is that the prospect of otherwise uncompensated care gives providers sufficient incentive to help get uninsured low-income children enrolled in public programs. However, while hospitals are likely to provide enrollment assistance for more costly hospital admissions, they do not always see it as cost effective to provide this assistance in emergency departments and outpatient facilities (Gordon and DuPuie 2001; Gordon, Edmond, and Camargo 2005; Mahajan et al. 2005). Also, while state Medicaid agencies are required to outstation eligibility workers at community health centers and other federally-funded health centers, only about 60 percent of these centers actually operate outstation programs to help with the application process (National Association of Community Health Centers 2003; Nolan et al. 2002; Nolan et al. 2003).

[1] Coverage under the State Children's Health Insurance Program (SCHIP) is only retroactive in states with Medicaid expansion programs as opposed to separate state programs.

Centers report the main reason for not having an enrollment assistance program is the lack of financial support from the state.

The current study investigates whether children really do become enrolled in public coverage when they visit a health care provider. If we find that children do tend to become enrolled following a health care visit, it would be consistent with the notion that parents make a choice not to enroll their children until they need care. It would also be consistent with the idea that providers are adequately equipped and motivated to help low-income families enroll uninsured children to reduce their uncompensated care burden. Outreach efforts would need to move beyond raising awareness to helping parents and providers understand the value of enrolling children prior to the need for care. If, on the other hand, we find that children are not getting enrolled even after a health care visit, we need to understand more fully the barriers facing families and providers so that outreach and enrollment efforts can be modified and strengthened appropriately.

Background

Since the late 1980's, combined efforts of states and the federal government have increased greatly the number and percentage of low-income children who are eligible for public health insurance coverage (Kenney and Chang 2004; Selden, Hudson, and Banthin 2004; Shore-Sheppard 2005; Wooldridge et al. 2005). Early expansions under Medicaid focused on infants and young children, requiring states to set income eligibility thresholds no lower than 185 percent of the federal poverty level (FPL) for infants and 133 percent FPL for children under age six. Older children were phased in gradually, with minimum income thresholds set at 100 percent FPL. As of October 1, 2002, all children under age 19 in families with incomes below the FPL are eligible for Medicaid. States have various options available for setting income thresholds higher than the federal mandated minimums, and many have chosen to do so. In federal fiscal year 2002, Medicaid covered more than 25.5 million children at some time during the year, making it by far the largest public program for low-income children (Henry J. Kaiser Family Foundation 2006).

States began implementing further expansions through the State Children's Health Insurance Program (SCHIP) soon after that legislation took effect in late 1997. The SCHIP program was motivated in part by the fact that substantial numbers of low-income children remained uninsured despite earlier Medicaid expansions. Through SCHIP, most states opted to cover children under age 19 at income levels up to 200 percent FPL, although 13 states have set their SCHIP thresholds even higher.[2] Only 8 states have levels set below 200 percent FPL, with 5 states at 185% FPL and the other 3 at levels

[2] States that had already set income eligibility limits higher than federal mandated levels are permitted to set SCHIP income thresholds 50 percentage points higher than the existing thresholds. As of July, 2005, 15 states have SCHIP income thresholds above 200 percent FPL.

above 150% FPL. As of December, 2004 just over 3.9 million children were enrolled in SCHIP (Kaiser Commission on Medicaid and the Uninsured 2005; Smith and Rousseau 2005). Together, these expansions resulted in virtually all low-income children and more than 70 percent of all uninsured children being eligible for public coverage as of 2005 (Holahan, Cook and Dubay 2007).

It has long been recognized, however, that eligibility for public programs is not the same as being enrolled. Early studies documented relatively low participation rates for public coverage (Dubay, Kenney, and Haley 2002; Selden, Banthin, and Cohen 1999), although recent work suggests that take-up rates have increased since the onset of SCHIP (Remler and Glied 2003; Selden, Hudson, and Banthin 2004). Focus groups with parents of eligible-but-unenrolled children suggest that parents are often misinformed or confused about whether their child would be eligible, and they perceive the enrollment process as burdensome (Davidoff and Garret 2001; Hill et al. 2006). Nearly all parents of low-income uninsured children have heard about Medicaid or SCHIP, but more than half of them believe these programs are available only to those who participate in the welfare program (Haley and Kenney 2003; Stuber and Bradley 2005). Confusion about eligibility is even an issue for parents of children with special health care needs (Haley and Kenney 2007). Another obstacle for SCHIP is that, unlike Medicaid where many families are eligible for other forms of public assistance, SCHIP targets children in families with higher incomes who may not have had previous experience accessing public program benefits. Language is another important barrier among parents with limited English language skills (Feinberg et al. 2002; Perry et al. 2000). A small

percentage of parents report their child(ren) doesn't need health insurance; two-thirds of these families are not English speaking (Blumberg, O'Connor, and Kenney 2005).

Citizenship and time in the U.S. are additional factors that influence eligibility for public programs for immigrants. Since the passage of federal welfare reform provisions in 1996, legal immigrants have been banned from Medicaid (and later from SCHIP when it began in 1997) for the 5-year period of time after their arrival in the U.S. (Henry J. Kaiser Family Foundation 2006). Undocumented immigrants are eligible only for emergency services. Others are citizens because they were born in the U.S. but their parents are not citizens who may fear that the application process will trigger problems with immigration officials. Barriers for immigrant children have undoubtedly become more pronounced after the 2006 Deficit Reduction Act added new citizenship and other documentation requirements. Applicants must now provide proof of their identity and citizenship, providing documentation such as a passport or a birth certificate. These requirements apply to children as well as to adults.

Special outreach and enrollment simplification efforts through SCHIP have been successful in increasing SCHIP take-up rates from a low of 10 percent initially to rates between 60 and 70 percent in recent years (Cunningham 2003; Selden, Hudson, and Banthin 2004). In addition, many of these improvements have had a spillover effect on Medicaid enrollment, in part because states must first rule out Medicaid eligibility before enrolling a child in SCHIP. Recent estimates show Medicaid take-up rates approaching 80 percent in 2002. Still, 6 million children were eligible for Medicaid or SCHIP but not enrolled in early 2002 (Dorn and Kenney 2006; Selden, Hudson, and Banthin 2004).

Conceptual Framework

We would expect parents of eligible children to make the effort to go through the application process when the expected benefits of enrolling in the program exceed the expected costs. The expected costs and benefits are in turn influenced potentially by:

- The direct cost of obtaining coverage (via premiums, deductibles, and point-of-service cost sharing)
- The indirect cost of enrolling (application time/burden/effort; perceived stigma)
- The magnitude of the expected benefit, including the length of time families expect to remain eligible
- Beliefs about the value of health care services (influenced by cultural factors, prior experiences with the health care system, and health status)
- Level of risk aversion and perceptions about the need for financial protection
- The availability of and perceptions about alternatives to coverage (such as the availability of safety net providers and other forms of charity care)

Few previous studies have isolated the causes of low take-up rates for public health insurance programs, though several have established associations between enrollment in public coverage and individual characteristics and/or program design features. Exhibit 1 shows how these characteristics might influence the core structural factors outlined above. Program features associated with take-up include the size of the expected benefit, complexity of the application, availability and quality of community-based enrollment assistance, use of automatic and continuous enrollment, and whether the program extends eligibility to parents (Blank 1997; Aizer 2003; Hollohan, Dubay, Kenney 2003; Currie 2004; Dorn and Kenney 2006). Individual characteristics associated with take-up of public coverage include age, race, ethnicity, immigrant status, past experience with public programs, family income level, family size, and employment status of the child's parents (Blank and Ruggles 1993; Currie 2004; Remler and Glied 2003; Ross and Hill 2003; Aizer 2006). Take-up rates are highest among children in families with incomes at or below the welfare payment standard, in part because these families are more likely to

have experience with other public assistance programs such as welfare or food stamps (Blank 1997; Remler and Glied 2003; Hollohan, Dubay, and Kenney 2003). Participation rates are lower among older children and children with foreign-born parents.

Compared with eligible-but-uninsured children, Medicaid enrollees are more likely to be younger, black, in better health, in a single-parent family, to have a parent who is uninsured, and/or to have a parent who does not work full time. Children eligible for but not enrolled in Medicaid are more likely to be Hispanic and to live in two-parent families where at least one parent works (Avruch et al. 1998; Lin et al. 2003). Compared with children enrolled in Medicaid, children eligible for SCHIP but not enrolled are more likely to have college-educated, employed parents, to be adolescents, and to be in better health (Byck 2000). SCHIP take-up rates are also higher among children in families with lower income levels, among children in poorer health, and in states that have expanded coverage to parents under Medicaid or SCHIP (Dubay and Kenney 2001; Kenney and Cook 2007).

Costs	Benefits			
	Nature of Benefit Package	Attitudes/Beliefs About Health Care	Risk Aversion	Alternatives
Program Factors				
Outreach programs and enrollment education/ assistance Premiums and cost sharing Burden of eligibility determination and enrollment process Provider attitudes toward public program participants Provider action to assist with enrollment	Medicaid and SCHIP program features (including whether program covers parents) Medicaid and SCHIP provider supply and location.	Outreach programs and enrollment education/ assistance programs		Supply and location of safety net providers
Individual/Family Factors				
Family income and wealth Family size Eligibility category (medical need versus income; SCHIP versus Medicaid) Prior experience/ familiarity with enrollment process Language Immigration status	Awareness of eligibility. Perceptions about the availability and quality of Medicaid and SCHIP providers.	Health Status Income/wealth Age Race Ethnicity Immigration status Past experience with health care services and with public programs	Health status Income/wealth Age Race Ethnicity Immigration status	Access to ESI (Parent employment status/prospects) Awareness of and experience with safety net providers

Exhibit 2.1 Factors Influencing Take-up of Public Health Insurance Coverage among Low-Income Children

Methods

Data

The data are from the household component of the 1999, 2000, 2001 and 2002 panels of the Medical Expenditure Panel Survey (MEPS), covering the time period 1999-2003. The MEPS household component collects data for each panel through a series of five interviews conducted over roughly a 2.5-year time period. The length of time between each interview varies but is typically 4 or 5 months. Data on each child are linked with selected data on the child's siblings and parent(s). Data on health conditions and service utilization for each child are extracted from the relevant condition and utilization files and linked with child/parent data from the household files.

The analysis file is organized at the person-month level, with 24 records per child. The analytic sample is restricted to children under the age of 19 at the end of their panel. Children living in households with no parent or grandparent head of household are excluded. Further restrictions in the sample are imposed at the observation level, primarily limiting the analysis to low-income children who are uninsured prior to the month of interest. Low income is defined as having an annual family income below 200 percent of the federal poverty level (FPL). [3]

The full sample includes 18,429 children; roughly half are children in families with annual income under 200 percent of the federal poverty level (FPL), 5600 in families with incomes less than 125 percent FPL. Weights used in the analysis are taken from the panel-specific longitudinal weight files, which adjust for the oversampling of Hispanics, blacks, Asians and low-income families, as well as initial sample unit non-

[3] MEPS income data included in public use files are annual rather than monthly.

response and panel attrition (Ezzati-Rice, Rohde, and Greenblatt 2008). The analysis was conducted using STATA 8.0. Standard errors are computed using the cluster option and the household identifier as the cluster variable to account for the occurrence of multiple observations per child.

The dependent variables are two indicator variables for transitions from uninsured to insured. One variable measures whether the child gained Medicaid or SCHIP coverage and the other measures whether the child gained any form of coverage. Both are constructed using monthly health insurance variables. Each variable is coded with a 1 if the transition took place either during the "visit" month or during either of the two months directly following the visit month. The 3-month window for the transitions allows for delays in enrollment processing and/or parents becoming aware of their child's enrollment status.

The dependent variable for gaining any coverage allows for the possibility that health care visits may also increase parent motivation to enroll their child(ren) in available private coverage, as well as the possibility that parents may mistakenly report that a child's Medicaid or SCHIP coverage is private coverage (Call et al. 2001; Lewis, Ellwood and Czajka 1998).[4] Studies have shown estimates of Medicaid and SCHIP coverage using MEPS come closer to administrative counts than estimates from other surveys, particularly when information on Medicaid or SCHIP expenditures is used to

[4] Studies comparing survey and administrative data find that parents sometimes mischaracterize Medicaid or SCHIP as private coverage. This has been attributed in part to the fact that in recent years states have structured their expansion programs in ways that more closely resemble private coverage—including giving the programs new, catchy-sounding names and implementing premiums and other cost sharing features that resemble features of private plans. This is especially true for SCHIP. In addition, the widespread use of HMOs in Medicaid and SCHIP, often well-known HMOs with both private and public lines of business, makes it more likely that parents may mistakenly believe their child has private coverage.

adjust coverage estimates (Peterson and Grady 2005). Hence, Medicaid and SCHIP expenditures are considered in categorizing a child's coverage in a given month.

Three measures of health care utilization are constructed as the main explanatory variables. One is a measure of whether the child had an outpatient or office-based medical visit during the month, another measures whether they had a visit to an emergency department, and the third measures whether they had an inpatient hospitalization. The monthly accident variables are constructed using data contained in the conditions files for each panel. Health conditions are identified for every household member during the initial interview and subsequent interviews ask whether any new conditions have occurred since the previous interview. For each condition identified in the MEPS, respondents are asked whether the condition was due to an accident or injury. Because accidents/injuries are among the subset of conditions considered priority conditions in MEPS, the following additional information is obtained: when and where the accident or injury occurred, when the condition first appeared or was noticed, whether medical treatment was sought and if so the type and amount of care received, and whether care is still being sought. The majority but not all (86 percent for my sample) of conditions resulting from an accident or injury lead to a visit to a health care provider.

Additional variables are constructed to capture characteristics about children and their families that are used as controls in the analysis. These include fixed characteristics such as race, ethnicity, and language ability as well as characteristics that change over time, including changes in parent employment status, work hours and wages, insurance coverage, and marital status. Sample means for these variables are summarized in Table 2.1, for all children and for the two groups of uninsured, low-income children.

Additional detail about the definition of variables used in the analysis is provided in Appendix A.

Data limitations

Information on income, health insurance coverage, employment, and other characteristics are self-reported and therefore subject to the same concerns about accuracy as in other survey datasets. Coverage data are likely to be more accurate in MEPS than in some other surveys because health is a primary focus in MEPS. Also, source of payment information is available (some of it validated) and employed for accuracy and consistency checks during the editing process.

Public program eligibility is measured with error. MEPS public use files do not contain sufficient detail on monthly income and state of residence to construct a refined measure of eligibility for public coverage. Instead, available data on family income relative to the federal poverty level are used to construct samples of low-income children with a high likelihood of being eligible for public coverage. A child's potential eligibility for public coverage is based on an annual measure of family income relative to the federal poverty level, and the analysis is limited to children in families with incomes below 200 percent of FPL. During the study period, all states had implemented expansions of Medicaid and SCHIP that together made children under age 19 eligible at levels at or above 200% FPL in all but 8 states. One study estimates that in 2000-2001, 98 percent of children in families with incomes under 200% FPL were eligible for Medicaid or SCHIP (Cunningham 2003). For the most part, the approach will be conservative in that it is more likely to exclude potential eligibles rather than include ineligible children. More detailed simulations of eligibility for Medicaid and SCHIP take

into account state- and program-specific rules on income disregards, deductions for work and childcare expenses, and other factors that have the effect of lowering a family's effective income level for computing eligibility. Also, 12 states have income thresholds that are higher than 200% FPL. As a sensitivity test, the analysis is also repeated for a subset of children with family incomes below 125% FPL. All of these children would be eligible for Medicaid or SCHIP, with the vast majority eligible for traditional Medicaid.

In addition to lacking detailed income information, we cannot identify children who are ineligible because they are recent immigrants. The data used in this study does not include information on a child's citizenship status or time in the U.S, and some low-income children who do not transition to Medicaid or SCHIP are immigrants who have been in the U.S. for fewer than 5 years. Finally, some states have an asset test and I am not able to take assets into account. During the study period, however, only 4 states still had an asset test for children's health insurance programs (asset tests are still widely used in eligibility determination for elderly and disabled populations).

Model estimation

Ideally the model we would like to estimate has the following form:

$$Enrollment_{it+2} \mid (lowinc \,\&\, unin)_{it-1} = F(Visit_{it} \cdot v + X_{it} \cdot b + A_{it} \cdot a + Month_t \cdot t + e_{it})$$

The dependent variable is whether or not a low-income uninsured child becomes covered by Medicaid or SCHIP during the month of the visit or in either of the two months

following the visit.[5] The effects of three types of visits are estimated: outpatient or office-based visits, emergency department visits, and inpatient hospitalizations. The matrix of variables represented by X_{it} includes observable individual and family characteristics associated with enrollment, as outlined in Table 2.1. A set of 48 calendar month dummy variables (*Month*) are included to control for unobserved programmatic and seasonal fixed effects that vary over time, including seasonal differences in enrollment and in the demand for health care.

Endogeneity concern

Because both visits for and enrollment of children require parents to act on behalf of their child, many of the control variables are measures of parent characteristics. Some of these factors, however, are unobserved and/or measures are not available in the data; their influence is captured in the error term. Most important among the unobserved variables is parent attitudes toward and preferences for health care, represented by *A* in the above model. Parent attitudes and preferences about health care are likely to influence both the incidence of a visit and the propensity to enroll in the absence of a visit. Hence, this unobserved characteristic has a direct and an indirect effect on enrollment, with the result that the visit variable is correlated with the error term in the enrollment equation. Using the model terms, the problem is that:

$$Enrollment_{it} = F(X_{it} * b + A_{it} * a + V_{it} * v + Month_t + e_{it}) \text{, and}$$

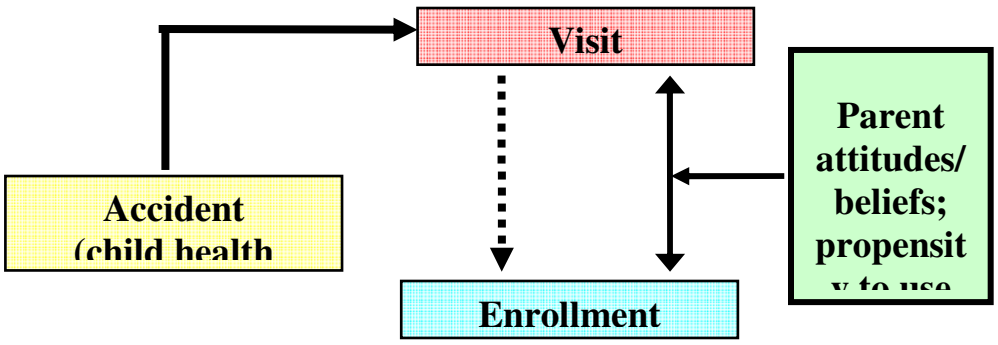
$$Visit_{it} = F(X_{it} * b + A_{it} * a + Month_t + u_{it}) \text{, so that}$$

$$u_{it} = A_{it} \cdot a + e_{it}$$

[5] We also estimate models with the dependent variable being a transition from uninsured to any type of coverage.

We can think of the visit variable, or the propensity to use health care services in this model, as having two components. One is an exogenous component tied to an unpredictable change in health status that precipitates the need for care. The other component is more discretionary and is influenced by individual attitudes and preferences for health care as well as the costs of care. It is this latter "endogenous" component that we worry about when modeling the impact of a visit on enrollment.

To address potential endogeneity, the analysis employs an instrumental variable approach. The proposed instrument is a measure of whether the child had an accident or injury during the "visit" month. This accident measure is expected to be associated with the more exogenous component of the visit variables. Instrumental variable estimation relies on variation in the visit variable that is not correlated with the vector of unobserved characteristics, most notably parent attitudes and preferences about health care. The hypothesized relationship between accidents, visits, and enrollment of the uninsured child is shown in the following diagram:



The validity of the instrumental variable hinges on two assumptions. First the instrument must be correlated with the engodenous visit variables. Second, the instrument must be correlated with the outcome of interest, enrollment in public coverage, *only* through its relationship with the endogenous variable (so as not to be correlated with the error term in the enrollment model). The first assumption can be tested, by regressing the endogenous variable on the instrumental variable along with other exogenous control variables and determining the significance of the coefficient on the instrumental variable. The second assumption (that the instrument is not correlated with the error term in the enrollment equation) cannot be verified empirically but instead must rely upon theory and suggestive evidence. The intuition for the accident instrument is that an accident or injury would be strongly associated with a health care visit but would not be associated with a child's baseline propensity to use care nor with a parent's attitudes and perceptions about health care and enrollment.

Because the potentially endogenous visit variables are binary as well as the binary dependent variable, the preferred estimation approach employs bivariate probit models.[6] (Greene 1998; Wooldridge 2002) The two equations included in the bivariate probit specification are:

$$(1) \qquad Enrollment_{it+2} \mid (lowincome \,\&\, unin)_{it-1} = F(Visit_{it} \cdot v + X_{it} \cdot b + Month_t \cdot t + e_{it})$$

$$(2) \qquad VISIT_{it} \mid (lowincome \,\&\, unin)_{it-1} = F(Accident_{it} \cdot a + X_{it} \cdot b + Month_t \cdot t + v_{it}),$$

where it is assumed that $(e,v) \sim N(0,0,1,1,\rho)$.

[6] As discussed in Wooldridge (2002), pages 477-478, two-stage least squares and similar two-step estimation procedures will not produce consistent estimators. An article by Greene (1998) also argues for using bivariate probit in situations where two binary dependent variables are jointly determined.

Results

Figures 1 and 2 display unadjusted transition rates for different groups of low-income uninsured children. Figure 1 shows rates for uninsured children with family income under 200 percent FPL, while Figure 2 is restricted to the population with family income under 125 percent FPL. Overall transition rates are compared with rates associated with (1) an accident, (2) any type of medical visit, (3) a visit to an emergency department, and (4) an inpatient hospitalization.

The descriptive story is quite compelling: by far, the most common outcome for uninsured low-income children is for them to remain uninsured, even after a health care visit. The largest rate of transition into coverage (32 percent) occurs among children with family income under 200 percent FPL who have an inpatient hospital visit. The corresponding rate associated with any visit is about 12 percentage points lower, 20 percent. Roughly three-fourths of low-income uninsured children remain uninsured despite having had some type of health care visit, and 63 percent remain uninsured despite having had a visit to the emergency department or hospital. Among the group of uninsured children with family income under 125% FPL, most of whom would be eligible for Medicaid rather than SCHIP, 72 percent of those with any type of visit remain uninsured and 68 percent remain uninsured despite having an inpatient hospitalization.

The descriptive trends make a persuasive case that uninsured, low-income children are not getting enrolled when they seek care, but factors other than the visit may play an important role in determining whether a child becomes enrolled in Medicaid or SCHIP. If the combined effects of these other factors reduce the probability of enrollment, the effect of a visit may be larger than the descriptive data suggest. By

controlling for observable factors known to influence enrollment, we will derive a more accurate estimate for the conditional effect of a health care visit on enrollment.

Results from univariate probit regressions are presented in Table 2.2.[7] Among uninsured children with family income below 200% FPL, the probit results suggest that having an outpatient or office-based medical visit increases the probability of enrollment in Medicaid or SCHIP by roughly 5 percentage points. The marginal effect of an emergency department visit is about twice as large, 11 percentage points. For the lower-income group of children, the marginal effects of the two types of visits are roughly the same, 6 and 11 percentage points respectively. Hospitalizations are estimated to have the largest effect, increasing enrollment by 23 percentage points among the full population of low-income children and by 26 percentage points among the under 125 percent FPL group. All of these estimates are highly significant statistically. Models of transitions to any type of coverage produced similar results and are not reported here.

[7] The table shows results only for the key variables of interest. Coefficients and marginal effects for the control variables are included in Appendix B, Table B-1.

	Transition from Uninsured to Medicaid or SCHIP					
	Income Under 200% FPL			Income Under 125% FPL		
Visit Type	Coefficient (SE)	p	Mean Effect (SE)	p	Coefficient (SE)	Mean Effect (SE)	p
Office or outpatient visit	0.251 (0.047)	***	0.052 (0.011)	***	0.256 (0.052)	0.061 (0.014)	***
Emergency Dept visit	0.459 (0.099)	***	0.108 (0.029)	***	0.410 (0.13)	0.106 (0.039)	**
Hospital visit	0.829 (0.277)	*	0.230 (0.101)	*	0.844 (0.35)	0.258 (0.134)	*
Observations	39,568				23,292		

*** $p \leq 0.005$; **$0.005 \leq p \leq 0.01$; *$0.01 \leq p \leq 0.05$

+ ED and hospital coefficients were estimated in separate models.

Table 2.2 Probit regression results[8]

The probit findings are consistent with the descriptive evidence, suggesting that some children become enrolled when they seek care but that many others do not. Visits, especially visits to the hospital or emergency department, increase the probability of enrollment more than any other observable factor associated with enrollment, but the largest marginal effect size is still only 26 percentage points. It is possible, however, that these results are biased by unobserved factors such as parent attitudes about health and health care that influence both whether a child has a visit and whether they enroll in coverage. An instrumental variable approach is used to address this potential for endogeneity.

[8] Separate models were estimated for each of the three types of visit. Results with all the control variables are provided in Appendix B, Table B-1.

Instrumental variable estimation

It appears as though child accidents/injuries are a good instrument for the different visit variables. First-stage regressions of the transition variable on the accident variable (along with control variables from the enrollment equation) yield significant coefficients on the accident variable, with marginal effects ranging from 7 to 10 percentage points (see Table 2.3). Not surprisingly, regressions of each visit variable on the accident variable (with control variables) show a strong, highly significant relationship between accidents and visits, with marginal effects ranging from 42 to 45 percentage points (see Table 2.4).

	Transition from Uninsured to Medicaid or SCHIP					
	Under 200% FPL			Under 125% FPL		
	Coefficient (SE)	p	Marg. effect (SE)	Coefficient (SE)	p	Marg. effect (SE)
Child accident or injury	0.301 (0.127)	0.018	0.065 (0.032)	0.412 (0.161)	0.011	0.104 (0.047)

Table 2.3 Reduced Form Probit Regressions of Transition Variable on Accident Instrument

	Under 200% FPL			Under 125% FPL		
	Coefficient (SE)	p	Marg effect	Coefficient (SE)	p	Marg effect
Office or outpatient visit on child accident	1.24 (0.107)	0.000	0.309 (0.039)	1.32 (0.148)	0.000	0.327 (0.054)
ER/hospital visit on child accident	2.40 (0.103)	0.000	0.419 (0.036)	2.50 (0.132)	0.000	0.450 (0.045)

Table 2.4 Reduced Form Probit Regressions of Visit Variables on Accident Instrument

The accident variable used as the instrument includes both random and non-random components, so it is useful to compare children with and without accidents to determine if the groups differ in ways that could bias the results. Table 2.5 compares the two groups of children and highlights where the groups differ significantly. Among uninsured children, those with an accident or injury are significantly more likely that those who don't have an accident to be older, male, white, in a household that received welfare, to be in poor health, and to have parents with at least a high school education. Children with accidents are less likely to be Hispanic, to have a parent with limited English language skills, and to have a parent with a wage increase.[9] It is difficult to predict the direction of any bias that would result from these differences; some of these characteristics are associated with higher rates of public enrollment while others are associated with lower rates of public coverage. The differences should have offsetting associations with enrollment, however, which will tend to neutralize any bias to some extent.

[9] Additional information on immigration status is available for the 2 later panels. Analysis conducted using only those panels shows additional differences between uninsured children who do and do not have an accident reported in MEPS. Children who have accidents are less likely to be foreign born and/or to have parents who are foreign born. Among all children, accidents are more common among higher income than lower income children.

Characteristic	Percentage of group Uninsured, Low Income, With Accident	Uninsured, Low Income, No Accident	
Under age 6	23.7	28.2	
Age 6 to 12	33.9	36.4	
Age 12 to 19	42.4	35.5	***
Female	43.1	47.8	*
White	56.1	43.0	***
Black, Not Hispanic	12.5	16.0	
Hispanic	31.5	41.1	***
Family size (mean)	4.4	4.8	***
Mother and father in household	42.9	49.0	
Grandparent only in household	4.3	6.2	
Received welfare during panel	3.9	2.3	*
Child has poor health	20.9	14.9	***
Parent covered by Medicaid	5.4	4.6	
Parent uninsured	83.5	81.3	
Sibling uninsured	60.8	68.1	***
Interview respondent not fluent in English	14.4	29.5	***
Parent(s) are married	40.1	47.4	
Parent(s) got married recently	4.7	3.8	
Parent(s) got divorced recently	2.2	1.5	
Neither parent has a high school degree	27.2	33.7	***
At least one parent(s) with college degree	9.9	11.4	
At least one parent works full time	45.4	51.1	
Parent(s) work part time	18.6	11.6	
Parent(s) self employed	15.3	14.0	
No working parent in home	23.4	24.8	
Parent changed job	5.0	4.2	
Parent work hours went up	2.7	3.1	
Parent work hours went down	2.1	1.7	
Parent wage went up	16.4	21.7	*
Parent wage went down	18.1	21.6	
Observations	273	42,620	

*** $p \leq 0.005$; **$0.005 \leq p \leq 0.01$; *$0.01 \leq p \leq 0.05$

Table 2.5 Comparison of children who do and do not have an accident

Results from the instrumental variable analysis using bivariate probit regressions and child accidents as instruments for visits are presented in Table 2.6.[10] The instrumented effects of each type of visit are, with one exception, smaller in magnitude than in the univariate probits and in all cases are no longer statistically different from zero. The estimated marginal effects of an outpatient or office visit range from 1-3 percentage points. For the lower income group of children, the effect of an emergency department visit is slightly larger than in the univariate probit regression, increasing the probability of enrollment by an estimated 14 (versus 11) percentage points. When hospitalizations are combined with emergency department visits, the estimated effects increase slightly to 15 percentage points for the lower income group and 8 percentage points for the full population of low-income children.[11] The magnitude of the estimated effects for the other variables in the models is roughly similar across the two approaches.[12]

[10] Note that estimates of visit effects generated from the bivariate probit models are estimates of the local average treatment effect, or LATE, as described by Imbens and Angrist (1994). This implies that the estimated effects are relevant for the subpopulation of children who have accidents or are otherwise similar to children who have accidents.

[11] It was not possible to estimate a separate bivariate probit models for hospital visits because hospitalizations are such rare events among children. Consequently, the bivariate probit model combines ED visits and hospitalizations.

[12] Full results are reported in Appendix B, Table B-2.

Characteristic	Transition from Uninsured to Medicaid/SCHIP					
	Family income < 200% FPL			Family income < 125% FPL		
	Coefficient (SE)	p	Marg. Effect (se)	Coefficient (SE)	p	Marg. Effect (se)
Outpt/office visit	.069 (.28)	ns	.012 (.049)	.147 (.310)	ns	.031 (.070)
ED Visit	.343 (.220)	ns	.075 (.057)	.506 (.288)	ns	.136 (.093)
ED or hospital visit	.368 (.217)	ns	.082 (.058)	.547 (.288)	ns	.149 (.096)
Number of observations	39568			23292		
Rho (chi2; p), office visit	.094(0.481; 0.488)			.056(0.139; 0.710)		
Rho (chi2; p), ED visit	.056(0.393; 0.531)			-.047(0.170; 0.680)		
Rho (chi2; p), ED/Hosp visit	.049(0.304; 0.581)			-.069(0.349; 0.555)		

*** $p \leq 0.005$; **$0.005 \leq p \leq 0.01$; *$0.01 \leq p \leq 0.05$

Table 2.6 Bivariate probit regression results

An instrumental variables approach may not be warranted or necessary, however. As shown at the bottom of Table 2.6, the values of rho and associated chi-squared statistics reported with the bivariate probit STATA output are in every instance not significant even at the 0.40 level. This suggests that the error terms in the two structural equations (transitions on visits, and visits on accidents) are not correlated. Consequently, we should be able to rely upon the results from the univariate probit models because the visit variables do not appear to be endogenous in the estimation of transition effects. Table 2.7 compares estimates for the visit variables from the probit and bivariate probit models.

	Effect on Child Gaining Medicaid or SCHIP			
	Under 200% FPL		Under 125% FPL	
Variable	Probit	Bivariate probit	Probit	Bivariate probit
Office or outpatient visit	.251*** (.047) .052	.069 (.278) .012	.262*** (.052) .062	.147 (.310) .031
ED or hospital visit	ED .459*** (.099) .108	ED: .343 (.220) .075	ED .412*** (.127) .106	ED: .506 (.288) .136
	HOSP .829* (.277) .230	EDorHOSP .368 (.217) .082	HOSP .842* (.347) .257	EDorHOSP .547 (.288) .149

Cells report estimates for probit coefficient, (standard error), and average marginal effect.
*** $p \leq 0.005$; **$0.005 \leq p \leq 0.01$; *$0.01 \leq p \leq 0.05$

Table 2.7 Comparison of bivariate probit and probit results

Using the results from the univariate probit estimation, the probability of enrollment increases by 5-6 percentage points with an outpatient or office visit, 11 percentage points with an emergency department visit, and 23-26 percentage points with an inpatient hospitalization. It is useful to consider how these marginal effects translate into changes in predicted probabilities of enrollment. Table 2.8 compares simulated predicted probabilities based on the probit results. The predicted probability of enrollment when no visits occur is roughly 12 percent when computed for the full population of low-income children and 15 percent for the lower income group. Having an outpatient or office-based visit raises this predicted probability to 17 percent for the full population of low-income children and to 21 percent for those in the lower income group. Finally, having an emergency department visit raises the predicted probability of

enrollment to 23 percent for the full low-income population and 25 percent for children in the lower income group, while a hospitalization increases the probability of enrollment to between 35 and 40 percent.

Visit Type	Mean Probability of Uninsured Child Gaining Medicaid or SCHIP	
	Under 200% FPL	Under 125% FPL
No Visit	0.119	0.146
Office or outpatient visit	0.170	0.208
ED visit	0.226	0.253
Hospital visit	0.349	0.403

Table 2.8 Predicted probability of transition to Medicaid or SCHIP

Analysis of racial and ethnic differences

The analysis thus far has pooled together all low-income children and included dummy variables for race and Hispanic origin as controls. However, a growing body of research documents racial and ethnic differences in enrollment and utilization outcomes, making it possible that we may observe differences in transition outcomes across these subpopulations of children. To explore that possibility, separate probit models are estimated for three groups of children: black (non-Hispanic), Hispanic, and white/other race (non-Hispanic). Results from this analysis are presented in Table 2.9 (results with the full set of controls are included in Appendix B, Table B-3).

Several findings are notable. First, while the effects of an outpatient or office visit are similar across the three groups when the analysis includes all low-income children, the effects are much larger for black children when the analysis is subset to the lower-income population of children with incomes under 125% FPL. The marginal

effect of an outpatient or office visit on transitions to Medicaid or SCHIP is 13 percentage points for black children but is half this size (5-6 percentage points) for white and Hispanic children. Another notable result is that the effects of an emergency department visit and of an inpatient hospitalization are much smaller and not statistically different from zero for Hispanic children in both low-income groups. Emergency department visits have a significant effect on transitions to Medicaid or SCHIP only for children in the white/other category. Finally, the effect of an inpatient hospitalization is significant only for black children in the under 125% FPL group, and the effect size is quite large (increasing the probability of enrollment by 56 percentage points).

Transition from Uninsured to Medicaid or SCHIP

	<200 FPL						<125 FPL					
	White		Black		Hisp		White		Black		Hisp	
Office or outpatient visit	0.250	**	0.348	***	0.225	***	0.208	*	0.535	***	0.273	***
	(0.080)		(0.111)		(0.051)		(0.091)		(0.123)		(0.065)	
	0.051	**	0.076	**	0.043	***	0.053	**	0.132	***	0.059	***
	(0.019)		(0.028)		(0.011)		(0.025)		(0.038)		(0.016)	
[ED visit]+	0.525	**	0.468	*	0.267	*	0.582	*	0.429		0.087	
	(0.16)		(0.198)		(0.131)		(0.21)		(0.261)		(0.163)	
	0.128	**	0.110		0.053		0.175	*	0.103		0.017	
	(0.049)		(0.057)		(0.030)		(0.075)		(0.076)		(0.034)	
[Hospital visit]+	1.06		1.14	*	0.354		0.948		1.66	*	0.309	
	(0.469)		(0.530)		(0.283)		(0.533)		(0.753)		(0.378)	
	0.317		0.350		0.075		0.316		0.559	*	0.069	
	(0.184)		(0.211)		(0.072)		(0.212)		(0.273)		(0.099)	
Number of observations	9678		5026		24421		4790		3444		14659	

Cells report estimates for probit coefficient, (standard error for coefficient), average marginal effect, (standard error for marginal effect).
*** $p \leq 0.005$; **$0.005 \leq p \leq 0.01$; *$0.01 \leq p \leq 0.05$

Table 2.9 Probit regression results with full interaction of race/ethnicity

Discussion

It is often assumed that low-income children who lack coverage will get enrolled in public programs when they seek care. Findings from this study suggest that this is not the case for many children, even those who visit a hospital or emergency department. The predicted probability of enrolling in Medicaid or SCHIP among uninsured low-income children increases with a visit but is at most still lower than 30 percent. Some children are becoming enrolled, but clearly many are not. Hence, we should not consider uninsured low-income children to be "conditionally enrolled."

More research is needed to explore care-seeking behaviors of families with uninsured children. Future research should also examine why uninsured children often do not become enrolled even after a health care visit. Are families aware that the child is eligible, and are they willing to apply? Do providers have the resources and the motivation to help families obtain available coverage? Children presenting for medical care should be much easier to enroll than uninsured children who are not "in the system." Providers may believe it isn't cost effective to pay for staff to assist with enrollment. A recent study analyzed the cost of adding trained outreach/enrollment staff in an urban emergency department, finding that the additional cost was more than offset by revenue resulting from enrolling uninsured children (Mahajan et al. 2005). Another study found that just handing out an application, which can be accomplished with very little added staff time, nearly tripled the odds of an uninsured child enrolling in Medicaid or SCHIP (Gordon, Emond, and Camargo 2005).

Previous research suggests that a major reason eligible children remain uninsured is that the parents don't realize the child is eligible (Haley and Kenney 2003; Stuber and

Bradley 2005). Most families with uninsured children say they would enroll their child if they knew the child was eligible (Davidoff and Garret 2001; Hill et al. 2006). Parents with limited English language skills and those with citizenship concerns are especially at risk of not understanding Medicaid and SCHIP eligibility rules. Findings from this study add to the growing body of research documenting the importance of language and citizenship status in determining coverage outcomes. Hispanic children are much less likely to become insured following a health care visit. Some of this is likely due to immigrant status, which we could not control for. Language and cultural barriers, along with real and perceived obstacles to public program eligibility are also likely important factors for many Hispanic families. Additional research is needed to understand the dynamics underlying racial and ethnic differences observed in this study.

Appendix A
Variable Definitions

Variable	Time Varying in Data?	Type of Variable	Definition
Age	Yes	Continuous	Child's age at the beginning of the month
Under age 6	Yes	Dummy	Whether child is under age 6 at the beginning of the month
Age 6 to 12	Yes	Dummy	Whether child is between ages 6 and 12 at the beginning of the month
Age 12 to 19	Yes	Dummy	Whether child is between ages 12 and 19 at the beginning of the month
Female	No	Dummy	Whether the child is female
White/Other, Not Hispanic	No	Dummy	Whether the child's race is not Black and the child is not Hispanic
Black, Not Hispanic	No	Dummy	Whether the child's race is Black and the child is not Hispanic
Hispanic	No	Dummy	Whether the child is Hispanic
Family size (mean)	No	Continuous	Natural logarithm of the maximum number of people in the child's family, based on the famszeyr variables.
Mother and father in household	No	Dummy	The child's mother and father were both present in the household throughout the panel.
Grandparent only in household	No	Dummy	The child lives with a grandparent and neither parent is present.
Received welfare during panel	No	Dummy	The child's family received income from the state welfare program at some time during the panel
Child has poor health	No	Dummy	At any time during the 24 month panel, the child's mental or physical health was characterized as fair or poor.
Parent covered by Medicaid	Yes	Dummy	One or both parent reported to be covered by Medicaid during the month
Parent uninsured	Yes	Dummy	One or both parent reported to be uninsured during the month
Sibling uninsured	Yes	Dummy	Child has one or more sibling and one or more sibling is reported to be uninsured during the month
Interview respondent not fluent in English	No	Dummy	Head of household or other respondent to the interview is not comfortable speaking English
Parent(s) are married	Yes	Dummy	Child's parents are married this month.
Parent(s) got married recently	Yes	Dummy	One or both of the child's parents became married sometime during the previous round of the panel (typically 4-5 months).
Parent(s) got divorced recently	Yes	Dummy	One or both of the child's parents became divorced during the previous round of the panel (typically 4-5 months).

Variable	Time Varying in Data?	Type of Variable	Definition
Neither parent has a high school degree	No	Dummy	Neither of the child's parents completed high school
At least one parent(s) with college degree	No	Dummy	One or both parent graduated from college
At least one parent works full time	Yes	Dummy	One or both parent works full time (35 hours per week or more), not self employed.
Parent(s) work part time	Yes	Dummy	Neither parent currently works full time; at least one parent currently works part time (less than 35 hours per week).
Parent(s) self employed	Yes	Dummy	One or both parent is currently self employed. Neither parent is employed full time in a non-self-employment capacity.
No working parent in home	Yes	Dummy	Neither parent is currently working.
Parent changed job	Yes	Dummy	One or both parents had a different main job in the previous round than the main job they hold in the current round.
Parent work hours went up	Yes	Dummy	One or both parents moved from not working in the previous round to working in the current round; or from part time work in the previous round to full time work in the current round.
Parent work hours went down	Yes	Dummy	One or both parents moved from working full time in previous round to working part time in current round; or from working in previous round to not working in current round.
Parent wage went up	Yes	Dummy	One or both parent's current hourly wage is at least 10 percent higher than their hourly wage in the previous round.
Parent wage went down	Yes	Dummy	One or both parent's current hourly wage is at least 10 percent lower than their hourly wage in the previous round.

Appendix B
Detailed Regression Results

TABLE B-1
Probit Regression Results with Control Variables

	Transition from Uninsured to Medicaid or SCHIP							
	Income Under 200% FPL				Income Under 125% FPL			
Visit Type	Coefficient (SE)	p	Mean Effect (SE)	p	Coefficient (SE)		Mean Effect (SE)	p
Office or outpatient visit	0.251	***	0.052	***	0.256	***	0.061	***
	(0.047)		(0.011)		(0.052)		(0.014)	
[ED visit]+	0.459	***	0.108	***	0.410	***	0.106	**
	(0.099)		(0.029)		(0.13)		(0.039)	
[Hospital visit]+	0.829	*	0.230	*	0.844	*	0.258	*
	(0.277)		(0.101)		(0.35)		(0.134)	
Under age 6	0.327	***	0.065	***	0.417	***	0.097	***
	(0.049)		(0.010)		(0.061)		(0.015)	
Ages 6 to 12	0.145	***	0.027	***	0.145	**	0.031	**
	(0.047)		(0.009)		(0.058)		(0.013)	
Female	0.047		0.009		0.050		0.010	
	(0.039)		(0.007)		(0.047)		(0.010)	
Black, not Hispanic	0.027		0.005		-0.109		-0.022	
	(0.061)		(0.011)		(0.074)		(0.015)	
Hispanic	0.047		0.009		-0.045		-0.009	
	(0.054)		(0.010)		(0.070)		(0.015)	
(log) Family size	0.034		0.006		0.182	**	0.038	**
	(0.056)		(0.010)		(0.070)		(0.015)	
Mom and dad in household	0.190	*	0.034	*	0.213	*	0.046	*
	(0.084)		(0.015)		(0.10)		(0.023)	
Grandparent only household	-0.315	***	-0.048	***	-0.360	***	-0.063	***
	(0.10)		(0.013)		(0.12)		(0.017)	
Welfare during panel	0.559	***	0.136	***	0.463	***	0.121	***
	(0.096)		(0.029)		(0.10)		(0.031)	
Child in bad health	-0.008		-0.001		0.092		0.020	
	(0.053)		(0.010)		(0.065)		(0.015)	
Parent(s) uninsured	-0.221	***	-0.043	***	-0.322	***	-0.075	***
	(0.050)		(0.011)		(0.068)		(0.017)	
Not fluent in English	-0.195	***	-0.034	***	-0.334	***	-0.065	***
	(0.054)		(0.009)		(0.072)		(0.013)	
Parent currently married	-0.055		-0.010		0.018		0.004	
	(0.073)		(0.013)		(0.090)		(0.019)	
Parent got married recently	-0.238		-0.009		-0.275	***	-0.057	***
	(0.15)		(0.015)		(0.18)		(0.017)	
Parent got divorced recently	-0.053		-0.037		-0.327		-0.049	
	(0.086)		(0.019)		(0.12)		(0.027)	
Neither parent high school	0.078		0.014		0.141	*	0.030	*
	(0.047)		(0.009)		(0.058)		(0.013)	
Parent(s) college or more	-0.130	*	-0.022	*	0.0211		0.005	
	(0.069)		(0.011)		(0.092)		(0.020)	
Parent(s) work part time	0.141	*	0.027		0.018		0.004	
	(0.069)		(0.014)		(0.082)		(0.018)	
Parent(s) self employed	-0.174	**	-0.029	**	-0.217	**	-0.041	***

	Transition from Uninsured to Medicaid or SCHIP							
	Income Under 200% FPL				Income Under 125% FPL			
Visit Type	Coefficient (SE)	p	Mean Effect (SE)	p	Coefficient (SE)		Mean Effect (SE)	p
	(0.069)		(0.011)		(0.080)		(0.014)	
Parent(s) do not work	0.291	***	0.058	***	0.204	***	0.045	***
	(0.060)		(0.013)		(0.068)		(0.015)	
Parent(s) changed job	0.059		0.011		0.022		0.005	
	(0.081)		(0.016)		(0.10)		(0.022)	
Parent wage went down	0.042		0.008		0.094		0.020	
	(0.079)		(0.015)		(0.098)		(0.022)	
Parent wage went up	-0.156	*	-0.027	*	-0.249	**	-0.048	***
	(0.078)		(0.013)		(0.095)		(0.017)	
Parent(s) work hours down	-0.144		-0.024		-0.220		-0.041	
	(0.13)		(0.020)		(0.14)		(0.023)	
Parent(s) work hours up	0.223	*	0.046	*	0.151		0.034	
	(0.11)		(0.024)		(0.13)		(0.032)	
Observations	39,568				23,292			

*** $p \leq 0.005$; **$0.005 \leq p \leq 0.01$; *$0.01 \leq p \leq 0.05$

+NOTE: The ED and hospital coefficients were estimated in separate models which included all the same control variables. Estimates 0on these other variables were very similar across the three models. All models also include calendar month fixed effects.

Table B-2
Bivariate Probit Regression Results with Full Controls

	Transition from Uninsured to Medicaid/SCHIP					
	Family income < 200% FPL			Family income < 125% FPL		
Characteristic	Coefficient		Marg. Effect	Coefficient		Marg. Effect
	(SE)	p	(se)	(SE)	p	(se)
Office or outpatient visit	.069		.012	.147		.031
	(.28)		(.049)	(.310)		(.070)
[ED Visit]+	.343		.075	.506		.136
	(.220)		(.057)	(.288)		(.093)
[ED or hospital visit]+	.368		.082	.547		.149
	(.217)		(.058)	(.288)		(.096)
Under age 6	.338	***	.052	.423	***	.081
	(.059)		.011	(.070)		.016
Ages 6 to 12	.147	***	.023	.146	**	.027
	(.049)		.009	(.060)		.013
Female	.046		.008	.0480		.011
	(.040)		.007	(.049)		.010
Black, not Hispanic	.019		.008	-.112		-.018
	(.079)		.014	(.095)		.017
Hispanic	.043		.009	-.047		-.007
	(.076)		.012	(.094)		.018
(log) Family size	.030		.008	.180	*	.038
	(.074)		.012	(.092)		.018
Mom and dad in household	.192		.030	.213		.042
	(.12)		.019	(.15)		.031
Grandparent only household	-.321	***	-.042	-.364	***	-.057
	(.12)		.014	(.14)		.019
Welfare during panel	.559	***	.125	.464	***	.112
	(.12)		.035	(.12)		.036
Child in bad health	.005		-.007	.011		.011
	(.060)		.010	(.074)		.015
Parent(s) uninsured	-.229	***	-.035	-.327	***	-.063
	(.064)		.012	(.089)		.021
Not fluent in English	-.195	**	-.031	-.332	***	-.063
	(.078)		.012	(.10)		.017
Parent currently married	-.054		-.009	.0191		.003
	(.099)		.016	(.13)		.025
Parent got married recently	-.236		-.008	-.275	*	-.053
	(.16)		.018	(.20)		.020
Parent got divorced recently	-.055		-.034	-.327		-.045
	(.11)		.020	(.15)		.028
Neither parent high school degree	.07		.015	.140		.030
	(.066)		.011	(.080)		.016
Parent(s) College or more	-.126		-.022	.024		.002
	(.096)		.014	(.13)		.026
Parent(s) work part time	.146		.022	.023		-.001
	(.090)		.017	(.11)		.022

Characteristic	Transition from Uninsured to Medicaid/SCHIP					
	Family income < 200% FPL			Family income < 125% FPL		
	Coefficient (SE)	p	Marg. Effect (se)	Coefficient (SE)	p	Marg. Effect (se)
Parent(s) self employed	-.173		-.027	-.215	*	-.040
	(.110)		.015	(.120)		.019
Parent(s) do not work	.291	***	.053	.205	*	.041
	(.085)		.017	(.098)		.020
Parent(s) changed job	.056		.012	.020		.007
	(.12)		.022	(.16)		.033
Parent wage went down	.039		.009	.092		.022
	(.10)		.018	(.12)		.026
Parent wage went up	-.155		-.025	-.249	*	-.050
	(.10)		.015	(.12)		.020
Parent(s) work hours went down	-.146		-.021	-.220		-.039
	(.17)		.024	(.19)		.029
Parent work hours went up	.219		.044	.151	***	-.032
	(.15)		.031	(.18)		.041
Number of observations	39568			23292		
Rho (chi2; p), office visit	.094(0.481; 0.488)			.056(0.139; 0.710)		
Rho (chi2; p), ED visit	.056(0.393; 0.531)			-.047(0.170; 0.680)		
Rho (chi2; p), ED/Hosp visit	.049(0.304; 0.581)			-.069(0.349; 0.555)		

Cells report estimates for probit coefficient, (standard error for coefficient), average marginal effect, (standard error for marginal effect).
*** $p \leq 0.005$; **$0.005 \leq p \leq 0.01$; *$0.01 \leq p \leq 0.05$

+ED and ED/hospital coefficients were estimated in separate models that included all the same variables as in the office visit model. Results for the control variables are reported for the office visit model. Results for these variables are similar across the three models. All models also include calendar month fixed effects.

Table B-3
Probit Regression Results with Control Variables, Models with full interaction with race/ethnicity

	Transition from Uninsured to Medicaid or SCHIP											
	<200 FPL						<125 FPL					
	White		Black		Hisp		White		Black		Hisp	
Office or outpatient visit	0.250	**	0.348	***	0.225	***	0.208	*	0.535	***	0.273	***
	(0.080)		(0.111)		(0.051)		(0.091)		(0.123)		(0.065)	
	0.051	**	0.076	**	0.043	***	0.053	**	0.132	***	0.059	***
	(0.019)		(0.028)		(0.011)		(0.025)		(0.038)		(0.016)	
[ED visit]+	0.525	**	0.468	*	0.267	*	0.582	*	0.429		0.087	
	(0.16)		(0.198)		(0.131)		(0.21)		(0.261)		(0.163)	
	0.128	**	0.110		0.053		0.175	*	0.103		0.017	
	(0.049)		(0.057)		(0.030)		(0.075)		(0.076)		(0.034)	
[Hospital visit]+	1.06		1.14	*	0.354		0.948		1.66	*	0.309	
	(0.469)		(0.530)		(0.283)		(0.533)		(0.753)		(0.378)	
	0.317		0.350		0.075		0.316		0.559	*	0.069	
	(0.184)		(0.211)		(0.072)		(0.212)		(0.273)		(0.099)	
	Coefficient (se)											
Under age 6	0.193	*	0.166		0.479	***	0.372	***	0.226		0.475	***
	(0.086)		(0.13)		(0.060)		(0.107)		(0.16)		(0.076)	
Age 6 to 12	0.143		-0.070		0.214	***	0.185		-0.232		0.217	***
	(0.084)		(0.11)		(0.056)		(0.111)		(0.13)		(0.071)	
Female	0.059		0.198	*	-0.006		0.071		0.152		0.003	
	(0.070)		(0.10)		(0.048)		(0.086)		(0.12)		(0.060)	
(log) Family size	0.167		0.053		-0.059		0.344	**	0.099		0.021	
	(0.10)		(0.12)		(0.079)		(0.13)		(0.14)		(0.099)	
Mom and dad in household	0.114		0.234		0.173	*	0.140		0.379		0.170	
	(0.15)		(0.20)		(0.092)		(0.19)		(0.26)		(0.105)	
Grandparent only household	-0.067		-0.631	***	-0.471	**	0.029		-0.864	***	-0.485	*
	(0.16)		(0.18)		(0.18)		(0.20)		(0.20)		(0.217)	
Received welfare at some time during panel	0.565	***	0.821	***	0.433	***	0.382		0.764	***	0.358	*
	(0.18)		(0.19)		(0.14)		(0.21)		(0.20)		(0.148)	
Child in bad health	-0.034		-0.015		-0.005		0.042		0.144		0.080	
	(0.094)		(0.13)		(0.071)		(0.13)		(0.14)		(0.086)	
Parent(s) uninsured	-0.129		-0.371	***	-0.290	***	-0.152		-0.483	***	-0.428	***
	(0.081)		(0.11)		(0.070)		(0.11)		(0.13)		(0.088)	
Interview respondent not fluent in English	-0.538	***			-0.091		-0.571	***			0.028	
	(0.19)				(0.058)		(0.28)				(0.090)	
Parent currently married	-0.096		0.055		-0.005		0.051		0.087		-0.211	
	(0.13)		(0.18)		(0.082)		(0.16)		(0.24)		(0.139)	
Parent got married recently	-0.383	*	0.291		0.049		0.041	***	-0.247		-0.716	*
	(0.182)		(0.20)		(0.100)		(0.27)		(0.41)		(0296)	
Parent got divorced recently	-0.167		0.127		-0.437		-0.764		0.035		0.076	
	(0.20)		(0.35)		(0.261)		(0.23)		(0.24)		(0.072)	
Neither parent completed high school	0.086		0.188		0.040		0.284	*	-0.027		-0.080	
	(0.094)		(0.12)		(0.054)		(0.11)		(0.15)		(0.136)	
Parent(s) has college education or more	-0.277	**	0.158		-0.007		0.047		0.214		0.037	
	(0.10)		(0.19)		(0.099)		(0.15)		(0.21)		(0.103)	
Parent(s) work part time	0.217	*	0.324		-0.040		-0.157		0.497	*	-0.339	***
	(0.11)		(0.16)		(0.093)		(0.14)		(0.19)		(0.103)	

Transition from Uninsured to Medicaid or SCHIP

	<200 FPL						<125 FPL					
	White		Black		Hisp		White		Black		Hisp	
Parent(s) self employed	-0.142		0.402		-0.226		-0.297	*	0.372		0.192	*
	(0.10)		(0.26)		(0.086)		(0.13)		(0.36)		(0.085)	
Parent(s) do not work	0.254	*	0.534	***	0.230		-0.022		0.656	***	0.104	
	(0.11)		(0.13)		(0.072)	**	(0.13)		(0.15)		(0.115)	
Parent(s) changed job	-0.147		0.280		0.213		-0.060		0.549		0.002	
	(0.13)		(0.27)		(0.104)	***	(0.20)		(0.39)		(0.109)	
Parent wage went down	-0.056		0.204		0.085		0.104		0.43		-0.266	*
	(0.14)		(0.18)		(0.098)	*	(0.22)		(0.21)		(0.104)	
Parent wage went up	-0.012		-0.391	**	-0.217		-0.170		-0.61	***	-0.568	***
	(0.14)		(0.18)		(0.098)		(0.20)		(0.20)		(0195)	
Parent(s) work hours down	-0.008		0.226		-0.443		-0.190		-0.231		0.272	
	(0.21)		(0.31)			*	(0.24)		(0.33)		(0.165)	
Parent work hours up	-0.017		0.568	*			-0.098		0.531		0.028	
	(0.18)		(0.24)			**	(0.24)		(0.27)		(0.090)	
Number of observations	9678		5026		24421		4790		3444		14659	

Cells report estimates for probit coefficient, (standard error for coefficient), average marginal effect, (standard error for marginal effect).

*** $p \leq 0.005$; **$0.005 \leq p \leq 0.01$; *$0.01 \leq p \leq 0.05$

+ ED and hospital coefficients were estimated in separate models with all the same variables, in place of the outpatient/office visit variable. The coefficients reported for explanatory variables are from the outpatient visit models; estimates are similar in models with the other other visit variables. All models also include calendar month fixed effects.

References

Aizer, A. 2003. "Low Take-Up on Medicaid: Does Outreach Matter and for Whom?" *Amer. Economic Review* 93 (2): 238-41.

Aizer, A. 2006. *Public Health Insurance, Program Take-Up, and Child Health*. Cambridge, MA: National Bureau of Economic Research.

Avruch, S., S. Machlin, P. Bonin, and F. Ullman. 1998. "The Demographic Characteristics of Medicaid-Eligible Uninsured Children." *American Journal of Public Health* 88 (3): 445-7.

Berk, M.L. and C.L. Schur. 1998. "Access to care: how much difference does Medicaid make?" *Health Affairs* 17 (3): 169-80.

Bermudez, D. and L. Baker. 2005. "The relationship between SCHIP enrollment and hospitalizations for ambulatory care sensitive conditions in California." *Journal of Health Care for the Poor & Underserved* 16 (1): 96-110.

Bilheimer 1997 [ADD CITE]

Blank, R.M. and P. Ruggles. 1993. *When do Women use AFDC and Food Stamps? The Dynamics of Eligibility vs. Participation*. Cambridge, MA: National Bureau of Economic Research.

Blank, R.M. 1997. *What Causes Public Assistance Caseloads to Grow?*: National Bureau of Economic Research, Inc.

Blumberg, S.J., K.S. O'Connor, and G. Kenney. 2005. "Unworried parents of well children: a look at uninsured children who reportedly do not need health insurance." *Pediatrics* 116 (2): 345-51.

Broaddus, M. and L. Ku. 2000. *Nearly 95 percent of Low-income Uninsured Children Now are Eligible for Medicaid or SCHIP: Measures Need to Increase Enrollment among Eligible but Uninsured Children*. Washington, DC: Center on Budget and Policy Priorities.

Burstin, H.R., K. Swartz, A.C. O'Neil, E.J. Orav, and T.A. Brennan. 1998. "The effect of change of health insurance on access to care." *Inquiry : a journal of medical care organization, provision and financing* 35 (4): 389-97.

Byck, G.R. 2000. "A Comparison of the Socioeconomic and Health Status Characteristics of Uninsured, State Children's Health Insurance Program-eligible Children in the United States with those of Other Groups of Insured Children: Implications for Policy." *Pediatrics* 106 (1): 14-21.

Christakis, D.A., J.A. Wright, T.D. Koepsell, S. Emerson, and F.A. Connell. 1999. "Is greater continuity of care associated with less emergency department utilization?" *Pediatrics* 103 (4 Pt 1): 738-42.

Cunningham, P.J. 2003. "SCHIP making progress: increased take-up contributes to coverage gains." *Health affairs (Project Hope)* 22 (4): 163-72.

Currie, J. 2002. *Health Insurance Eligibility, Utilization of Medical Care, and Child Health*: UCLA Department of Economics.

Currie, J. 2004. "The Take Up of Social Benefits." *NBER Working Paper Series* JEL No. 138

Dafny, L. and J. Gruber. 2005. "Public insurance and child hospitalizations: access and efficiency effects." *Journal of Public Economics* 89 (1): 109-29.

Davidoff, A.J. and A.B. Garret. 2001. "Determinants of Public and Private Insurance Enrollment Among Medicaid-Eligible Children." *Medical Care* 39 (6): 523-35.

Davidoff, A.J., A.B. Garret, D.M. Makuc, and M. Schirmer. 2000. "Medicaid-Eligible Children Who Don't Enroll: Health Status, Access to Care, and Implications for Medicaid Enrollment." *Inquiry* 37 (Summer 2000): 203-18.

Dorn, S. and G.M. Kenney. 2006. "Automatically Enrolling Eligible Children and Families into Medicaid and SCHIP: Opportunities, Obstacles, and Options for Federal Policymakers" [accessed on September 15, 2006, 2006]. Available at: http://www.cmwf.org/usr_doc/Dorn_auto-enrollingchildren_931.pdf.

Dubay, L. 1999. *Expansions in Public Health Insurance and Crowd-Out: What the Evidence Says*. Washington, DC: The Henry J. Kaiser Family Foundation.

Dubay, L. and G. Kenney. 2001. *Covering Parents through Medicaid and SCHIP: Potential Benefits to Low-Income Parents and Children*. Washington, DC: The Henry J. Kaiser Family Foundation.

Dubay, L., G. Kenney, and J. Haley. 2002. *Children's Participation in Medicaid and SCHIP: Early in the SCHIP Era*. Washington, DC: The Urban Institute.

Feinberg, E., K. Swartz, A. Zaslavsky, J. Gardner, and D.K. Walker. 2002. "Language proficiency and the enrollment of Medicaid-eligible children in publicly funded health insurance programs." *Matern.Child Health J.* 6 (1): 5-18.

Gordon, J.A. and T.A. DuPuie. 2001. "Child health insurance outreach through the emergency department: A pilot study." *Academic Emergency Medicine* 8 (11): 1088-90.

Gordon, J.A., J.A. Emond, and C.A. Camargo Jr. 2005. "The State Children's Health Insurance Program: a multicenter trial of outreach through the emergency department." *American Journal of Public Health* 95 (2): 250-3.

Greene, W.H. 1998. "Gender Economics Courses in Liberal Arts Colleges: Further Results." *Journal of Economic Education* 29 (4): 291-300.

Haley, J. and G. Kenney. 2003. "Coverage gaps for Medicaid-eligible children in the wake of federal welfare reform." *Inquiry : a journal of medical care organization, provision and financing* 40 (2): 158-68.

Haley, J. and G. Kenney. 2007. "Low-income uninsured children with special health care needs: why aren't they enrolled in public health insurance programs?" *Pediatrics* 119 (1): 60-8.

Hill, I., H. Stockdale, M. Evert, and K. Gifford. 2006. "Do Access Experiences Affect Parents' Decisions to Enroll their Children in Medicaid and SCHIP? Findings from focus groups with parents." *Maternal and child health journal* 10 (6): 517-25.

Holahan, J., A. Cook, L. Dubay. 2007. "Characteristics of the Uninsured: Who is Eligible for Public Coverage and Who Needs Help Affording Coverage?" Issue Paper. Washington DC: Henry J. Kaiser Family Foundation, Kaiser Commission on Medicaid and the Uninsured.

Holtz-Eakin, Douglas. 2004. "CBO Testimony: The Uninsured and Rising Health Insurance Premiums." Washington, DC: U.S. Congressional Budget Office.

Imbens, Guido W. and J. D. Angrist. "Identification and Estimation of Local Average Treatment Effects." *Econometrica* 62 (2): 467-475.

Kaiser Commission on Medicaid and the Uninsured. http://www.statehealthfacts.org/. Accessed on July 16, 2006.

Kaiser Commission on Medicaid and the Uninsured. 2005. *Enrolling Uninsured Low-Income Children in Medicaid and SCHIP*. Washington, DC: The Henry J. Kaiser Family Foundation.

Kempe, A., B.L. Beaty, L.A. Crane, J. Stokstad, J. Barrow, S. Belman, and J.F. Steiner. 2005. "Changes in access, utilization, and quality of care after enrollment into a state child health insurance plan.[see comment]." *Pediatrics* 115 (2): 364-71.

Kenney, G. and A. Cook. 2007. *Coverage patterns among SCHIP-eligible children and their parents*. Washington DC: The Urban Institute.

Kenney, G. and D.I. Chang. 2004. "The State Children's Health Insurance Program: successes, shortcomings, and challenges." *Health affairs (Project Hope)* 23 (5): 51-62.

Lin, C.J., J.R. Lave, C.C. Chang, G.M. Marsh, C.P. LaVallee, and Z. Jovanovic. 2003. "Factors associated with Medicaid enrollment for low-income children in the United States." *Journal of health & social policy* 16 (3): 35-51.

Mahajan, P., R. Stanley, K.W. Ross, L. Clark, K. Sandberg, and R. Lichtenstein. 2005. "Evaluation of an emergency department-based enrollment program for uninsured children." *Annals of Emergency Medicine* 45 (3): 245-50.

National Association of Community Health Centers. 2003. *Challenges Facing the Medicaid Program in the 21st Century*. Washington DC: National Association of Community Health Centers.

Nolan, L., J. Harvey, K. Jones, L. Vaquerano, and A. Zuvekas. 2002. *The Impact of the State Children's Health Insurance Program (SCHIP) on Community Health Centers*. Washington, DC: The Gearorge Washington University Medical Center, School of Public Health and Health Services.

Nolan, L., A. Zuvekas, J. Harvey, K. Jones, L.A. Vaquerano, and J. Regan. 2003. "Enrolling uninsured children in SCHIP. Lessons learned from community health centers." *J.Ambul.Care.Manage.* 26 (1): 51-62.

Perry, M., S. Kannel, R.B. Valdez, and C. Chang. 2000. *Medicaid and Children, Overcoming Barriers to Enrollment: Findings from a National Survey*. Washington, DC: Henry J. Kaiser Family Foundation.

Remler, D.K. and S.A. Glied. 2003. "What other programs can teach us: increasing participation in health insurance programs." *American Journal of Public Health* 93 (1): 67-74.

Ross, D.C. and I.T. Hill. 2003. "Enrolling eligible children and keeping them enrolled." *The Future of children / Center for the Future of Children, the David and Lucile Packard Foundation* 13 (1): 81-97.

Selden, T.M., J.S. Banthin, and J.W. Cohen. 1999. "Waiting in the wings: eligibility and enrollment in the State Children's Health Insurance Program." *Health affairs (Project Hope)* 18 (2): 126-33.

Selden, T.M., J.L. Hudson, and J.S. Banthin. 2004. "Tracking changes in eligibility and coverage among children, 1996-2002." *Health affairs (Project Hope)* 23 (5): 39-50.

Shore-Sheppard, L.D. 2005. *Stemming the Tide? The Effect of Expanding Medicaid Eligibility on Health Insurance*. Cambridge, MA: NBER.

Smith, V.K. and D.M. Rousseau. 2005. "SCHIP Enrollment in 50 States: December 2004 Data Update." *The Kaiser Commission on Medicaid and the Uninsured* NA (NA): NA.

Stuber, J. and E. Bradley. 2005. "Barriers to Medicaid enrollment: who is at risk?" *American Journal of Public Health* 95 (2): 292-8.

Wooldridge, J., G. Kenney, C. Trenholm, L. Dubay, I. Hill, M. Kim, L. Moreno, A. Sommers, and S. Zuckerman. 2005. *Congressionally Mandated Evaluation of the State Children's Health Insurance Program: Final Report to Congress*. Washington, DC: Mathematica Policy Research, Inc.

Wooldridge, J.M. 2002. *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: The MIT Press.