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The Effect of Parents' Insurance Coverage on Access to Care for Low-Income Children

This study examines the effects of having an uninsured parent on access to health care for low-income children. Using data from the 1999 National Survey of America's Families, we find that having an uninsured parent decreases the likelihood that a child will have any medical provider visit by 6.5 percentage points, and decreases the likelihood of a well-child visit by 6.7 percentage points. Estimates for low-income children who have insurance but have an uninsured parent indicate a 4.1 percentage-point reduction in the probability of having any medical provider visit, and a similar 4.2 percentage-point reduction in the probability of having a well-child visit relative to those with insured parents. The effects of having an uninsured parent are smaller in magnitude than the effects of a child being uninsured. Efforts to increase insurance coverage of parents, either by extending eligibility for public insurance or through other policy interventions, will have positive spillover effects on access to care for children. Although the magnitude of these effects is small relative to the direct effect of providing insurance to either the child or parent, they should be considered in analyses of costs and benefits of proposed policies.

Over the past several years, there has been a growing policy focus on expanding eligibility for public health insurance programs for low-income parents (Dubay, Kenney and Zuckerman 2000; Dubay and Kenney 2003; Ku and Broadus 2000; Lambrew 2001). Efforts to expand eligibility for this population began with the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996, which de-linked Medicaid coverage and cash assistance program eligibility. Providing insurance coverage to more low-income parents was seen as part of a package of support for families leaving welfare, along with job training, child care, and transportation assistance. More re-

cently, states have sought waivers to use excess funds from the State Children's Health Insurance Program (SCHIP) to extend eligibility to parents of eligible children (Howell et al. 2002). Such coverage expansions have clear potential benefits to parents, in terms of improved access to health care, but covering parents can have benefits to children as well. A number of recent studies indicate that when public insurance eligibility is extended to parents of eligible children, their children participate in Medicaid and SCHIP at higher rates, further reducing the proportion of eligible children who are uninsured (Dubay and Kenney 2003; Ku and Broadus 2000; Lambrew 2001).

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Parents' insurance coverage also may affect access to care for their children. Navigating health insurance and health care delivery systems to obtain adequate access to health care can be challenging, and parents must act as advocates for their children in this process. Parents who are uninsured may be less able to be effective advocates for their children because they are unfamiliar with the specific insurance systems and provider networks. If having parents with insurance improves children's access, expanding public coverage or subsidizing private insurance for low-income parents also may improve access for children who are currently insured, either publicly or privately, but who have an uninsured parent.

The importance of this issue is underscored by the high proportion of low-income children whose parents are uninsured. Estimates from 1999 indicate that this situation affects one-fifth of low-income children overall (Davidoff et al. 2001). Furthermore, the proportion varies by type of insurance. More than one-third of low-income children with public coverage had a parent who was uninsured in 1999. Insurance coverage is more consistent within low-income families with privately insured children, where only 6% had an uninsured parent. Among uninsured low-income children, almost nine out of 10 had a parent who was also uninsured (Davidoff et al. 2001).

Despite more recent expansions in adult eligibility for Medicaid, the issue remains highly relevant. Eligibility expansions for parents, often in the form of increased earnings disregards, raised the effective income-eligibility thresholds for parents in more than one-third of states between 1999 and 2002 (Maloy et al. 2002). However, for most of these states, the adult eligibility thresholds are still lower than for children. Furthermore, budgetary pressures on states are forcing many to cap or even revoke the expansions of the previous three years (National Conference of State Legislatures 2003).

There is little published evidence regarding the role that parents' insurance coverage plays in shaping children's access to care. One published study (Hanson 1998) examined the effect of parents' health care use on children's use of physician services among uninsured and privately insured children, controlling for parent insurance coverage. The study found that parents' use of physician services was positively correlated with children's use of such services, especially for pri-

vately insured children, but found no relationship between parents' insurance status and children's use of services.

The design of Hanson's study may not have provided the best test of the impact of parents' insurance coverage on children's use of services because it included both parents' insurance coverage and the parents' own use of services as explanatory variables. Parents' own use of services is determined, at least in part, by their insurance coverage. Thus there may be both a direct effect of parents' insurance on children's access, and an indirect effect that operates through the effect of parents' insurance on the parents' own use of services. Looking at only the direct effect in Hanson's study is likely to understate the full effect of parents' insurance coverage. Moreover, the study focused on uninsured and privately insured children, yet there was little variation in parents' insurance coverage within these groups, potentially making it difficult to estimate the impact of having an uninsured parent.¹

The unique contribution of this paper is to examine whether having an uninsured parent reduces access to care and use of services for children, without confounding the estimates by including measures of parent service use. We estimate the effect of having an uninsured parent for children across all insurance types and status, and then separately by the insurance coverage of the child. We examine how the effect of having an uninsured parent compares to the effect of the child being uninsured, and how it compares to effects of other parent and child characteristics that may affect child access. We focus on low-income children because they are more likely to live in families with fragmented insurance coverage, and because their parents are the people likely to be targeted by expansions in public coverage. We examine a range of indicators of both access to care and use of services.

Overview of Methods

Our principal research objective is to estimate how having parents who are uninsured affects access to care and use of services for low-income children. We begin this task by estimating multivariate models for each access and use measure for all low-income children. The dependent variables are one access and two health care use measures: whether child has a usual source of care; whether child had any medical provider vis-

it in past year; and whether child had a well-child visit in past year.

The conceptual framework for the analysis is Aday and Anderson's behavioral model of health services use (1974, 1981). Access to care is modeled as a function of predisposing factors, enabling factors, and need. The key variable of interest in the current analysis is a parent's insurance status, which we hypothesize as an enabling factor. We expect that having an uninsured parent will reduce access to care and use of services for a child, due to the parent's relative lack of familiarity with the child's insurance coverage and procedures, and/or the provider networks.

The model also includes a series of predisposing, other enabling, and need factors. Predisposing factors include the child's race and ethnicity, the parent's education, and immigrant status. Other enabling measures included are the child's health insurance coverage, family structure, parent labor force participation, and family income. Need is measured by child age and health status. A vector of indicators for state of residence is included to control for state-specific differences in public insurance programs, and other state characteristics that may affect access to health care. The model is summarized as:

$$\begin{aligned}
 (\text{Access/Use}) = & \beta_0 + \beta_1 (\text{Parent uninsured}) \\
 & + \beta_2 (\text{Predisposing factors}) \\
 & + \beta_3 (\text{Other enabling factors}) \\
 & + \beta_4 (\text{Need}) + \beta_5 (\text{State}) + \varepsilon
 \end{aligned}
 \tag{1}$$

We estimate models on the subgroup of children with insurance (either public or private). This group is the most relevant from a policy perspective—the children already are insured, and we are interested in the marginal benefit from insuring their parents. In addition, this group may be fundamentally different with respect to unobserved parent preferences for insurance, compared with low-income children who are uninsured. This may have implications for selection bias, as is discussed in the "Estimation" section.

We also examine whether there are effects of parent insurance coverage that are specific to the type of insurance that covers the child. This may occur if the type of insurance dictates the system of care (e.g., health maintenance organi-

zation [HMO] or other managed care versus a fee-for-service environment); different systems may be more or less difficult for parents to understand and use on behalf of their child. Alternatively, different types of children's insurance may link a child to different types of participating providers (e.g., community health centers versus private physician offices), which may differ in the extent to which providers facilitate access to care. If the participating provider associated with a child's insurance also provides care to adults, then a parent's knowledge of the provider may be enhanced and access for the child may be affected positively. Uninsured and publicly insured children tend to use hospital outpatient departments and freestanding clinics more often than privately insured children, who tend to use private physician offices (Davidoff et al. 2000). These different provider types may affect the role of parents and parent insurance in determining access for a child.

To examine whether the effects of having an uninsured parent are specific to the type of insurance (k) that covers the child, we estimate models for each outcome measure on subgroups stratified by whether the child has private insurance, public insurance, or is uninsured, and compare the estimated effects across the models. The model we estimate for each group of children and each outcome measure is expressed as:

$$\begin{aligned}
 (\text{Access/Use})_k = & \beta_{0k} + \beta_{1k} (\text{Parent uninsured}) \\
 & + \beta_{2k} (\text{Predisposing factors}) \\
 & + \beta_{3k} (\text{Other enabling factors}) \\
 & + \beta_{4k} (\text{Need}) + \beta_{5k} (\text{State}) \\
 & + \varepsilon_k
 \end{aligned}
 \tag{2}$$

This model includes indicators that the parent is uninsured, but no longer includes an indicator for child insurance, because the estimation sample is defined by child insurance. The other control variables remain the same as in equation 1.

Source of Data

The source of data for the analysis is the 1999 National Survey of America's Families (NSAF). The NSAF is a household survey, sponsored by the Urban Institute, that collects information on family structure, demographics, income, insurance coverage, access to health care and

use of services, as well as a variety of other non-health-related information about children's well-being (Kenney et al. 1999). The sample includes 45,000 households and more than 100,000 adults and children. It is nationally representative of the noninstitutionalized, nonelderly population, with an over-sample of low-income families in 13 states (Safir, Scheuren, and Wang 2002). The 13 states were selected for intensive study because they represented a mixture of approaches to health and social policy, and were geographically and economically diverse.²

NSAF interviews were conducted using computer-assisted telephone interviewing technology. Detailed information was collected from the adult who knew most about the education and health care of up to two children (one age 5 and under and one age 6 to 17) in each selected household. Referred to as the primary caretaker, this adult was the parent of the child for 92% of the sampled children.

Study Sample

The study sample included children ages zero through 17, with family incomes below 200% of the federal poverty level (FPL), equivalent to \$33,400 for a family of four in 1999. We excluded children for whom the primary caretaker was not a biological, step-, or adoptive parent because we expect the patterns of public insurance eligibility, insurance coverage, and use of services to be very different for these children than for children who are cared for by a parent. We also excluded children who were uninsured for only part of the past 12 months, or did not have the same type of insurance for the full year, so that the measures of insurance coverage would be consistent with the 12-month recall period for questions concerning use of health care services.

The 1999 NSAF included 12,984 low-income children. We excluded 985, or 7.6% of observations, because the primary caretaker was not a parent, and excluded an additional 2,573, or 19.8% of observations, because insurance status or type of coverage changed during the year. A small number of additional observations were excluded due to problems with missing values. The final analytic sample was 9,339 children.

Measurement of Dependent Variables

Our measure for access is whether a child has a usual source of care other than a hospital emer-

gency department. We refer to this measure as "has usual source of care." We have two measures of use of services: one is a dummy variable for whether the child had any visits to a physician or physician extender such as a nurse practitioner, midwife or physician's assistant, including well-child care ("any medical provider visit"); the second is a dummy variable for whether they had visits specifically for well-child care ("any well-child visit"). It is important to note that these measures do not include visits to dental or mental health professionals, and do not include visits to auxiliary providers, such as physical and occupational therapists or vision care providers.

Table 1 reports the mean values for the dependent variables for all low-income children, and for children stratified by full-year insurance coverage. Among all low-income children in 1999, 89.7% had a usual source of care other than a hospital emergency department. The percentage with a usual source of care was lower (73.8%) for uninsured children relative to publicly insured children overall (93.2%); privately insured children were similar to publicly insured children. Both provider visit measures suggest that uninsured children are much less likely to see a provider than children with insurance, and that children with public coverage are more likely to receive services than children with private insurance. This is consistent with previous research (Dubay and Kenney 2000).

Measurement of Parent and Child Insurance

The analysis uses information on both current and full-year insurance coverage. The NSAF measures current insurance coverage through a series of detailed questions on coverage at the time of the survey. Information is collected on private, employer-sponsored and nongroup plans, as well as Medicaid, State Children's Health Insurance Programs (SCHIP), Medicare, and other public programs. State-specific program names were inserted in the survey questions to enhance respondents' recognition of Medicaid and SCHIP programs. Because more than one type of coverage was reported for a small number of children, a hierarchical algorithm was used to classify people into mutually exclusive groups. Coverage through employer-sponsored and nongroup plans took precedence, followed by Medicaid, SCHIP, or another state program, and

Table 1. Access and use measures, child and parent insurance status, and characteristics of low-income children, stratified by child's insurance, 1999

Variable	All low-income children (%) (N = 9,339)	Private low-income children (%) (N = 4,344)	Public low-income children (%) (N = 3,525)	Uninsured low-income children (%) (N = 1,470)
Access and use measures				
Has usual source of care other than ER	89.7 (.6)	94.3 (.7)	93.2 (.9)	73.8*** (2.5)
Any medical provider visit	75.8 (1.1)	81.7** (1.1)	85.5 (1.6)	46.8*** (3.0)
Any well-child visit	62.0 (1.1)	62.3*** (1.3)	76.7 (1.5)	35.4*** (2.3)
Child's insurance status				
Public ^a	36.4 (1.1)	—	—	—
Private	43.0 (1.1)	—	—	—
Uninsured	20.7 (1.2)	—	—	—
Parent's insurance status				
Public ^a	21.8 (1.0)	.9*** (.3)	57.2 (1.7)	2.9*** (.6)
Private ^a	44.8 (1.1)	94.1*** (.7)	7.5 (.8)	7.9 (1.2)
Uninsured	33.4 (1.1)	5.0*** (.6)	35.3 (1.6)	89.1*** (1.5)
Child's age				
Age 0 ^a	5.1 (.3)	4.1*** (.4)	7.8 (.7)	2.5*** (.6)
Age 1	5.8 (.5)	5.6** (.7)	7.6 (.7)	3.2*** (1.3)
Age 2	6.3 (.5)	6.0* (.7)	7.5 (.8)	4.6*** (.8)
Age 3	5.3 (.3)	4.7* (.4)	5.5 (.5)	6.4 (1.0)
Age 4	6.5 (.3)	5.8** (.5)	7.4 (.7)	6.1* (.7)
Age 5	6.3 (.4)	5.2*** (.6)	8.7 (.7)	4.2*** (.9)
Age 6	6.4 (.5)	5.4* (.5)	7.1 (.9)	7.2 (1.5)
Age 7	6.0 (.4)	6.5 (.7)	5.8 (.7)	5.2 (.8)
Age 8	5.7 (.4)	6.1* (.6)	4.9 (.6)	6.2 (1.1)
Age 9	5.5 (.4)	5.9 (.6)	5.3 (.6)	5.0 (.9)
Age 10	6.8 (.5)	6.9 (.8)	5.8 (.9)	8.1* (1.4)
Age 11	5.1 (.6)	4.7 (.6)	4.6 (.9)	6.7* (1.3)
Age 12	5.4 (.5)	5.9 (.7)	4.9 (.6)	5.3 (1.5)
Age 13	4.7 (.5)	5.7*** (.7)	3.4 (.5)	4.8 (1.3)
Age 14	5.2 (.4)	5.6 (.6)	4.4 (.9)	5.7 (1.1)
Age 15	4.6 (.4)	4.5 (.6)	4.0 (.7)	6.0* (1.3)
Age 16	5.2 (.5)	6.2*** (.8)	3.6 (.5)	5.7** (.9)
Age 17	4.2 (.4)	5.1*** (.6)	1.5 (.3)	7.1*** (1.4)
Child's gender, race and ethnicity				
Female	49.6 (.8)	49.6 (1.5)	48.8 (1.4)	50.8 (2.2)
White ^a	48.0 (.9)	62.3*** (1.5)	35.5 (1.5)	40.5* (3.3)
Black, non-Hispanic	21.0 (.7)	15.9*** (1.1)	30.6 (1.7)	14.9*** (1.8)
Other, non-Hispanic	3.8 (.4)	4.5 (.8)	3.6 (.5)	2.5* (.5)
Hispanic	27.1 (.7)	17.3*** (.9)	30.3 (1.4)	42.0*** (3.1)
Health status				
Excellent ^a	48.3 (.9)	55.6*** (1.4)	42.7 (1.6)	43.1 (2.1)
Very good	26.8 (.8)	28.5 (1.5)	26.7 (1.3)	23.2* (1.8)
Good	17.1 (.7)	11.8*** (.8)	19.3 (1.4)	24.1** (2.2)
Fair	7.1 (.6)	3.7*** (.6)	9.7 (1.3)	9.4 (1.2)
Poor	.7 (.1)	.2*** (.1)	1.5 (.3)	.2*** (.1)
Activity limitation	11.7 (.7)	7.2*** (.7)	18.3 (1.6)	9.5*** (1.2)
Family structure and income				
Number of children	2.8 (.05)	2.7** (.04)	2.9 (.05)	3.1 (.17)
Two parents in household	59.2 (1.0)	71.4*** (1.4)	39.1 (1.6)	69.2*** (2.6)
Income <50% FPL ^a	14.5 (.6)	4.3*** (.4)	29.3 (1.7)	9.8*** (1.2)
Income 50%–100% FPL	25.3 (.9)	12.7*** (1.1)	37.0 (2.0)	31.0** (2.3)
Income 100%–150% FPL	28.0 (.9)	30.7*** (1.3)	23.3 (1.5)	30.6*** (2.0)
Income 150%–200% FPL	32.1 (.8)	52.2*** (1.6)	10.4 (1.0)	28.5*** (2.1)

Table 1. (continued)

Variable	All low-income children (%) (N = 9,339)	Private low-income children (%) (N = 4,344)	Public low-income children (%) (N = 3,525)	Uninsured low-income children (%) (N = 1,470)
Characteristics of primary parent				
High school not completed ^a	28.1 (1.1)	12.4*** (1.1)	34.9 (1.6)	48.9*** (3.6)
High school degree	46.9 (1.0)	53.4*** (1.4)	47.0 (1.3)	33.5*** (2.9)
Vocational degree	15.7 (.6)	18.7*** (1.0)	14.4 (1.1)	11.6* (1.7)
College degree	9.3 (.5)	15.6*** (.9)	3.7 (.5)	6.1** (1.3)
No work ^a	19.7 (1.0)	5.2*** (.6)	40.6 (1.9)	12.8*** (1.8)
Works full time	71.8 (1.0)	89.2*** (.8)	48.0 (1.9)	77.4*** (2.3)
Works part time	8.6 (.6)	5.5*** (.7)	12.0 (.9)	9.8 (1.7)
Foreign born	23.2 (.7)	16.8*** (1.1)	21.6 (1.4)	39.5*** (3.0)
Geographic location				
Lives in MSA	73.8 (1.2)	74.2 (1.4)	76.4 (2.0)	68.3** (3.4)

Source: Urban Institute tabulations of 1999 National Survey of America's Families.

Notes: Low-income children live in families with incomes less than 200% of the federal poverty level (FPL). Numbers in parentheses are standard errors.

^a Indicates omitted variable in multivariate regressions. For child and parent insurance status, different variables were omitted depending on the analytic sample.

Differences between publicly insured children and privately insured or uninsured are significant at:

* .05 < p ≤ .10.

** .01 < p ≤ .05.

*** p ≤ .01.

then any other insurance coverage. Ultimately, insurance coverage was grouped into private (employer-sponsored, nongroup, or CHAMPUS) or public (Medicaid, SCHIP, Medicare, other public) sources, with being uninsured as a residual category.

Full-year insurance status was determined by answers to questions that asked whether individuals' insurance status had been the same as their current status for the past 12 months. People who reported that they were currently uninsured were asked whether they had insurance during the past 12 months. People who reported current public or private insurance were asked whether they had the same coverage for all of the past 12 months.

For all children, we created an indicator for whether the parent was uninsured, with insured parents as the reference group. For parents, we measured current insurance rather than using full-year coverage, because the full-year coverage information was available for only a subset of parents. In an analysis of the subset of children whose parents did have information on full-year coverage, we found that the parents' current coverage was highly correlated with their full-year coverage.³ Thus, we concluded that current insurance was a reasonable proxy for full-year coverage for parents of children who themselves had

full-year coverage or were uninsured for the full year.⁴ We included indicators for whether the child was uninsured or had private coverage for the full year. The reference category is public coverage. Table 1 also reports mean values for key explanatory variables, including parent and child insurance coverage. Among all low-income children whose insurance status and type did not change over the year, one-third had a parent who was uninsured. We found that among low-income children with public insurance, 35.3% had a primary caretaker parent who reported being uninsured, while 57.2% had parents reporting public coverage and 7.5% had parents reporting private coverage. Among low-income privately insured children, almost all had a parent who also had private insurance coverage, whereas among uninsured children, most parents also were uninsured.

Other Control Variables

Our analysis controls for various characteristics of the child, primary parent, family, and the geographic area in which a child lives. We used a series of dummy variables to control for child age (age < one year is the reference category), gender, and race and Hispanic ethnicity (white non-Hispanic is the reference category). We mea-

sured child health status using a general measure, with indicators for excellent, very good, good, fair, and poor health (reference category is “excellent health”). We also included a measure for whether the child has a limitation of activity. With respect to parent characteristics, we included a measure of the highest educational attainment for the primary parent of the child with a series of dummy indicators (no degree, high school, vocational training, college graduate; reference category is “no degree”), and a hierarchical measure of parent labor force participation (whether any parent works full time, any parent works part time, no parent in the labor force), and included an indicator for whether any parent is foreign born. We included an indicator for a two-parent family, a variable for the number of children, and indicators for family income relative to the federal poverty line. Finally, we included an indicator for whether the family resides within a metropolitan statistical area (MSA), which controls for differences in provider density, and may capture the effects of other local characteristics associated with more rural living as opposed to more urban living. State dummy indicators were included to capture the effects of state policies concerning public insurance eligibility and enrollment, as well as other policies (such as support for provider safety nets) or practices within a state that may affect insurance coverage or access to care. Table 1 also provides sample means for the explanatory variables for all low-income children, stratified by insurance coverage. Children who were uninsured differed from publicly insured children in their age distribution (fewer infants through 2-year-olds), race and ethnic mix (more Hispanics, fewer blacks), health status (fewer with poor health or activity limitations), family structure (more two-parent families), parent immigrant status (more immigrants), and parent education (more parents who had not completed high school). These differences are likely to have important effects on a child’s access to care, independent of having an uninsured parent.

Estimation

We estimated all models using logistic regression (Greene 2000). The standard errors were estimated using the balanced repeated replication method to account for the complex nature of the sample design (Brick et al. 2000). In the tables,

we present the estimated coefficients, standard errors, and marginal effects. Marginal effects were computed as the difference in the predicted probability of the dependent variable when the variable of interest is alternately set to one or zero, holding all other variables at their observed values. We used a one-tailed test of significance for our key measures, since our hypothesis is that having an uninsured parent will result in reduced access and use relative to the child whose parent has coverage. We used an alpha of .05 as our threshold for significance, but considered results with a $.05 < p < .10$ as providing weak support for rejecting the null hypothesis that there is no effect. We compared the magnitude of estimated coefficients within equations using a Wald test, and used a *t*-test to compare individual estimated coefficients across equations.

Selection Issues

We recognize that selection may be a source of bias in our estimates, because a child’s insurance coverage may be influenced by unobserved factors that affect the child’s use of health services, and these also may affect the parent’s insurance coverage. For example, health problems not captured in the general health status measures may increase the value of health insurance to the family. Similarly, a family with “a taste for medical care,” in other words, a family that likes to consult medical providers frequently, will have greater expected use of health care services that, in turn, will enhance the value of insurance. On the other hand, the availability of subsidized or free health care services will reduce the out-of-pocket cost of care to a family, and reduce the value of insurance. Ultimately, these unobserved characteristics are likely to affect use of health care services; thus the estimates of the effect of child and parent insurance on access and use may be biased.⁵

In our analysis, we do not control explicitly for this type of selection.⁶ The models we estimate on subpopulations stratified by child insurance are likely to control to some extent for endogeneity of parent insurance. This is especially true for publicly and privately insured children, where the parent’s insurance is affected to some extent by exogenous circumstances. For example, states have expanded children’s eligibility for public insurance at much higher income levels than for parents.⁷ Thus, among children who report public

Table 2. Unadjusted effects of an uninsured parent on children's access to care for low-income children, 1999

Variable	All low-income children (%) (N = 9,339)	Private low-income children (%) (N = 4,344)	Public low-income children (%) (N = 3,525)	Uninsured low-income children (%) (N = 1,470)
Has usual source of care other than ER				
Parent uninsured	82.3*** (1.6)	90.6 (4.1)	93.4 (1.3)	73.4 (2.8)
Parent insured	93.4 (.6)	94.5 (.7)	93.0 (1.2)	76.8 (4.0)
Any medical provider visit				
Parent uninsured	61.2*** (2.5)	69.8** (6.4)	82.4* (2.5)	45.2*** (3.2)
Parent insured	83.3 (1.0)	82.3 (1.1)	87.2 (1.8)	59.7 (5.0)
Any well-child visit				
Parent uninsured	50.5*** (2.0)	59.2 (5.6)	72.3** (2.6)	34.1** (2.3)
Parent insured	67.7 (1.1)	62.5 (1.3)	79.1 (1.8)	45.4 (5.4)

Source: Urban Institute tabulations of 1999 National Survey of America's Families.

Notes: Low-income children have family incomes less than 200% of the federal poverty level.

Numbers in parentheses are standard errors.

Differences between publicly insured children and privately insured or uninsured are significant at:

* .05 < p ≤ .10.

** .01 < p ≤ .05.

*** p ≤ .01.

insurance, only a subset have parents who are also eligible. For parents of publicly insured children, eligibility is a determining factor for whether the adult is uninsured; among eligible adults who enroll their children in Medicaid, only 6% are uninsured. Thus among parents of publicly insured children, very few who are uninsured are eligible for public insurance. So whether the parent of a child with public insurance also has insurance is due, in large part, to exogenous differences in eligibility policy.

Likewise, the uninsured parent of a privately insured child is likely uninsured due to particular family circumstances (e.g., divorce), which may provide access to employer-sponsored insurance for the child but not the parent. In our analysis most low-income children with private insurance also had a parent with private insurance (94.1%). This is consistent with parents who take up family coverage offered by their employer or purchase it through the private market. For the 5% of privately insured low-income children whose primary parent was uninsured, the child's insurance commonly came from a parent who did not reside in the home—as is often the case with divorced or never-married parents.⁸ These uninsured parents of privately insured children make insurance choices for themselves that are not closely linked to the coverage held by their child.

For low-income children who were uninsured in 1999, most parents (89.1%) also were unin-

sured, while 2.9% had public insurance and 7.9% had private insurance. This group of children is the most problematic with respect to selection, because it likely includes a mix of children who, with or without their parents, were eligible for, but not enrolled in public insurance programs; had parents who had offers but turned down employer-sponsored insurance; or had parents who had no offer of coverage for themselves or their children from either public programs or their employers. From other studies, we know that many children and adults who are eligible for Medicaid do not enroll (e.g., Davidoff et al. 2000; Davidoff et al. 2001; Dubay, Kenney and Haley 2002; Selden, Banthin, and Cohen 1998) and that failure to enroll is likely due to a combination of lack of knowledge, administrative barriers to enrollment, and/or personal preferences (Kenney, Haley, and Dubay 2001; Kenney and Haley 2001; Perry, Stark, and Valdez 1998). As a result, the estimated effects for uninsured children must be interpreted with caution, as they may be biased by the selection of parents and children into specific insurance groups.

Results

What is the Effect of Having an Uninsured Parent on Access to Care for Low-income Children?

Table 2 presents unadjusted effects of having an uninsured parent on the various access measures.

Table 3. Adjusted effects of an uninsured parent on access to care and use of services for low-income children, 1999 (N = 9,339)

Variable	Has usual source of care not in ER		Any medical provider visit		Any well-child visit	
	Coefficient	Marginal effect	Coefficient	Marginal effect	Coefficient	Marginal effect
Insurance status						
Parent uninsured	-.061 (.212)	-.004	-.415** (.166)	-.065	-.297** (.135)	-.067
Child uninsured	-1.521*** (.193)	-.096	-1.428*** (.185)	-.223	-1.255*** (.161)	-.283
Child has private insurance	-.289 (.254)	-.018	-.441** (.199)	-.069	-.538*** (.141)	-.121
Child's age						
Age 1	.222 (.468)	.014	-.128 (.364)	-.020	-1.204*** (.451)	-.272
Age 2	-.074 (.440)	-.005	-.186 (.404)	-.029	-1.576*** (.388)	-.356
Age 3	.252 (.411)	.016	.300 (.384)	.047	-1.694*** (.416)	-.382
Age 4	.196 (.465)	.012	-.628* (.329)	-.098	-2.247*** (.378)	-.508
Age 5	.329 (.446)	.021	-.166 (.377)	-.026	-1.820*** (.459)	-.411
Age 6	.206 (.408)	.013	-.815** (.337)	-.127	-2.254*** (.399)	-.509
Age 7	-.331 (.440)	-.021	-.787** (.369)	-.123	-2.569*** (.380)	-.580
Age 8	.106 (.387)	.007	-.720** (.304)	-.113	-2.663*** (.392)	-.601
Age 9	.064 (.454)	.004	-.785** (.370)	-.123	-3.009*** (.416)	-.680
Age 10	-.668 (.439)	-.042	-1.398*** (.356)	-.219	-3.080*** (.428)	-.696
Age 11	.012 (.460)	.001	-1.160*** (.383)	-.181	-2.797*** (.444)	-.632
Age 12	.498 (.483)	.031	-1.438*** (.351)	-.225	-2.725*** (.394)	-.615
Age 13	-.240 (.553)	-.015	-.923** (.357)	-.144	-2.638*** (.445)	-.596
Age 14	-.056 (.407)	-.004	-1.794*** (.448)	-.281	-3.139*** (.414)	-.709
Age 15	-.670 (.482)	-.042	-1.567*** (.355)	-.245	-2.653*** (.407)	-.599
Age 16	-.168 (.418)	-.011	-1.389*** (.353)	-.217	-3.059*** (.374)	-.691
Age 17	-.781 (.505)	-.049	-1.438*** (.368)	-.225	-3.273*** (.429)	-.739
Gender and race/ethnicity						
Female	.072 (.131)	.005	.011 (.110)	.002	-.033 (.087)	-.008
Black, non-Hispanic	-.815*** (.234)	-.052	-.518*** (.170)	-.081	.339** (.137)	.077
Other, non-Hispanic	-.640** (.299)	-.040	.424 (.273)	.066	.318 (.255)	.072
Hispanic	-.703*** (.223)	-.044	-.225 (.191)	-.035	.216 (.137)	.049
Health status						
Very good	-.372** (.156)	-.023	.154 (.100)	.024	-.101 (.105)	-.023
Good	-.244 (.171)	-.015	.224 (.136)	.035	-.279* (.143)	-.063
Fair/poor	-.298 (.280)	-.019	.434* (.233)	.068	-.098 (.219)	-.022
Activity limitation	-.037 (.223)	-.002	.366* (.207)	.057	.340* (.184)	.077
Family characteristics						
Number of children	.064 (.057)	.004	-.095** (.040)	-.015	-.144*** (.036)	-.032
Two parents in household	-.223 (.184)	-.014	-.300** (.148)	-.047	-.186 (.117)	-.042
Income						
50%–100% FPL	.161 (.259)	.010	-.088 (.186)	-.014	-.240 (.169)	-.054
100%–150% FPL	.380 (.250)	.024	-.028 (.208)	-.004	-.149 (.173)	-.034
150%–200% FPL	.473* (.249)	.030	.172 (.210)	.027	-.189 (.168)	-.043
Parent's education and work status						
High school degree	.267 (.200)	.017	.439*** (.138)	.069	.177 (.106)	.040
Vocational degree	.635** (.255)	.040	.677*** (.183)	.106	.280* (.158)	.063
College degree	.466 (.287)	.029	.861*** (.206)	.135	.673*** (.184)	.152
Works full time	.329 (.219)	.021	.037 (.207)	.006	-.037 (.165)	-.008
Works part time	-.076 (.308)	-.005	.458* (.234)	.072	.202 (.221)	.046
Foreign born	-.749*** (.221)	-.047	-.446** (.190)	-.070	-.184 (.143)	-.041

Table 3. (continued)

Variable	Has usual source of care not in ER		Any medical provider visit		Any well-child visit	
	Coefficient	Marginal effect	Coefficient	Marginal effect	Coefficient	Marginal effect
Geographic location						
Lives in MSA	-.170 (.217)	-.011	.364*** (.124)	.057	.575*** (.088)	.130
Alabama	-.354 (.301)	-.022	.113 (.160)	.018	-.219 (.140)	-.049
California	.423* (.242)	.027	.119 (.172)	.019	.014 (.172)	.003
Colorado	.271 (.273)	.017	.204 (.181)	.032	-.183 (.175)	-.041
Florida	.217 (.235)	.014	.391** (.194)	.061	-.064 (.173)	-.015
Massachusetts	1.175*** (.385)	.074	.852*** (.247)	.133	1.249*** (.234)	.282
Michigan	-.124 (.327)	-.008	-.048 (.185)	-.007	-.523*** (.143)	-.118
Minnesota	.611** (.297)	.039	.076 (.176)	.012	-.224 (.181)	-.050
Missouri	-.458* (.231)	-.029	.056 (.175)	.009	-.152 (.143)	-.034
New Jersey	.348 (.293)	.022	.687*** (.202)	.107	.506*** (.175)	.114
New York	.854*** (.313)	.054	.776*** (.207)	.121	.645*** (.159)	.146
Texas	.231 (.219)	.015	-.083 (.162)	-.013	-.356** (.163)	-.080
Washington	.145 (.320)	.009	-.115 (.203)	-.018	-.273 (.189)	-.062
Wisconsin	.096 (.273)	.006	.011 (.185)	.002	-.003 (.146)	-.001
Wald Chi ² (df = 53)	400.18		507.12		625.27	

Source: Urban Institute tabulations of 1999 National Survey of America's Families.

Note: Standard errors are in parentheses. Children with uninsured parent are significantly less likely to have access to care.

* .05 < p ≤ .10.

** .01 < p ≤ .05.

In general, children with an insured primary parent fare better than children with an uninsured parent. For example, low-income children with an uninsured parent are less likely to have a usual source of care compared with those whose parent is insured, and less likely to have any provider visit or a well-child care visit. For the "any visit" measure, the gap between children with and without an uninsured parent is significant for all three subgroups of children. The well-child visit difference is significant for uninsured and publicly insured children only. However, since these comparisons are not adjusted for differences in characteristics of children or parents, the results can be seen as suggestive of a pattern, but multivariate analyses are required to confirm these results.

When the effect of having an uninsured parent on children's access to care is adjusted for child and parent characteristics, some but not all of the unadjusted results remain. Estimated coefficients, standard errors and marginal effects from the models for all children are presented in Table 3. In these results having an uninsured parent decreases the likelihood that a child will have any medical provider visit by 6.5 percentage points, and decreases the likelihood that a child will re-

ceive well-child care by 6.7 percentage points. We do not find an effect of having an uninsured parent on the probability that the child has a usual source of care.

How Does the Effect of Having an Uninsured Parent Compare to the Effect of the Child Being Uninsured?

When a low-income child is uninsured, relative to the child being covered by Medicaid, the likelihood that the child has a usual source of care decreases by 9.6 percentage points (Table 3). An uninsured child is also 22.3 percentage points less likely to have had any medical provider visits and 28.3 percentage points less likely to have received well-child care within the past 12 months.⁹

As expected, we find that the marginal effects of parents being uninsured are much smaller in magnitude than the effects of children themselves being uninsured. For example, children with insurance are 28.3 percentage points more likely to have received well-child care, whereas children whose parents have insurance are 6.7 percentage points more likely to have received well-child care than those whose parents lack coverage. These results suggest that although having an uninsured parent does have an effect

Table 4. Effect of having an uninsured parent on low-income children’s access to care and use of services, by children’s insurance status

Estimated effects of uninsured parent	Has usual source of care not in ER		Any medical provider visit		Any well-child visit	
	Coefficient	Marginal effect	Coefficient	Marginal effect	Coefficient	Marginal effect
Low-income children with insurance (N = 7,869)	.201 (.314)	.008	-.348** (.205)	-.041	-.215* (.158)	-.042
Low-income children with public insurance (N = 3,525)	.358 (.438)	.012	-.310* (.231)	-.032	-.220 (.185)	-.035
Low-income children with private insurance (N = 4,344)	-.540 (.587)	-.018	-.773*** (.340)	-.096	-.129 (.242)	-.029
Low-income uninsured children (N = 1,470)	-.354* (.270)	-.062	-.504** (.258)	-.125	-.548** (.242)	-.118

Source: Urban Institute analysis of 1999 National Survey of America’s Families.
 Note: Numbers in parentheses are standard errors. Children with uninsured parent are significantly less likely to have access to care.
 * .05 < p ≤ .10.
 ** .01 < p ≤ .05.
 *** p ≤ .01.

on some outcomes for children, those effects are of second-order importance relative to the child’s own insurance status.

Other Determinants of Children’s Access to Care

Other factors have significant effects in each of the access and use models. For example, in the models of any provider visit and well-child care, a child’s age is an important determinant, with particularly large effects on the probability of a well-child visit. In the model estimating the likelihood of having a usual source of care, black, other non-Hispanic, and Hispanic children are all significantly less likely to have a usual source of care compared with white non-Hispanics. Black children are also less likely to have received any doctor visits, but are more likely to have had a well-child visit. The presence of foreign-born parents has negative effects on the likelihood of having a usual source of care and having any doctor visits. Parent education also has consistent effects on these measures, with higher educational attainment associated with an increased likelihood that a child has a usual source of care, any doctor visit, and any well-child visit.

The magnitude of these effects is variable, with many in the same range as the effect of having an uninsured parent. For example, being black reduces the probability of having any doctor visit by 8.1 percentage points; having a foreign-born parent reduces the probability by seven percent-

age points. Parent education has somewhat larger effects. A college-educated parent increases the likelihood that a child will have any visit by 14 percentage points, and a well-child visit by 15 percentage points, compared with a parent who has not completed high school. Thus other parent characteristics may be equally if not more important than whether parents have insurance coverage when considering their ability to advocate for their children in the health care system.

Do the Effects of Having an Uninsured Parent Vary Depending on the Child’s Insurance Status or Type?

The estimated effect of having an uninsured parent for all low-income children represents an average across children with different types of insurance coverage, which may involve different delivery systems, and different issues of selection for parent insurance status. Table 4 reports the estimated effects of having an uninsured parent separately for low-income children with any insurance, public insurance, and private insurance, and for children without insurance. For low-income children with any insurance, we find that having an uninsured parent reduces the probability that the insured child has any doctor visit by 4.1 percentage points. The effect of having an uninsured parent on the probability of any well-child visit is similar in magnitude (–4.2

percentage points) but only weakly significant ($p = .089$).

When we examine the effect of having an uninsured parent on the subgroup of publicly insured children, we find a weakly significant reduction in the probability that the child has any doctor visit (3.2 percentage points; $p = .093$). The effect of having an uninsured parent on the probability of any well-child visit is similar in magnitude (−3.5 percentage points), but is not statistically significant ($p = .119$). The lack of a significant effect may be due to reduced power when we subset the sample to the publicly insured. However, it is also possible that the care systems used by publicly insured children are more proactive in providing preventive care, relying less on parent initiative, or that they also provide care to parents, which increases the ability of parents to advocate for their children.

When privately insured children have an uninsured parent, the child is 9.6 percentage points less likely to have had any medical provider visit. We fail to find an effect of having an uninsured parent on the probability of any well-child visit ($p = .297$). It is not clear why the results of having an uninsured parent diverge for any medical provider visit and well-child care visits. It may be that parents of privately insured children, who tend to be more educated and have relatively higher incomes than parents of publicly insured children, place special emphasis on obtaining well-child care but are not as focused on obtaining other types of care. Alternatively, the older age distribution for privately insured children suggests that well-child care is relatively less important for this population, and thus may be less affected by parent insurance status.

What is the Effect of Having an Uninsured Parent on Low-Income Uninsured Children?

For uninsured children, having a parent who is uninsured is significantly related to all three of the outcome measures we examined. First, there is weak evidence ($p = .098$) that having an uninsured parent decreases the likelihood that a child has a usual source of care by 6.2 percentage points. The probability of having had any medical provider visit is reduced by 12.5 percentage points, which is larger than the effect of having an uninsured parent on low-income children with insurance. The estimated effect of having an un-

insured parent on the probability of a well-child visit is also fairly large and negative, with a marginal effect of −11.8 percentage points. These results are consistent with both the selection scenario described earlier and a real negative effect of having an uninsured parent on a child's use of health care.

Is There an Effect When a Parent Has a Different Type of Insurance Coverage than the Child?

We also estimated models where we distinguished between parents who had the same type of insurance coverage as their child and parents who had a different type of insurance. We estimated the models separately for publicly and privately insured children, replacing the single indicator for an uninsured parent (reference category: parent has any insurance) with a vector of indicators (parent uninsured, parent has different type of coverage than the child; reference category: parent has the same type of insurance as the child.) We defined type of insurance using broad categories of public and private insurance. We expected to find a gradient, whereby having a parent with a different type of insurance than the child would have negative effects on access and use for the child, but with smaller magnitudes than the estimated effects of having an uninsured parent.

Overall, there were few significant effects of having a parent with a different type of insurance than the child (results not shown). Contrary to our expectations, we found weak evidence that publicly insured children have a higher likelihood of having a usual source of care when their parent has different (i.e., private) insurance. This result could reflect unmeasured differences in income for parents with private insurance. Alternatively, privately insured parents may be able to access a broader range of providers, which somehow increases the publicly insured child's access to providers. There is no evidence that having a parent with a different type of insurance affects child visits to providers among publicly insured children.

Discussion

This analysis has confirmed prior research that documented substantial access and use differentials between low-income insured and uninsured children: low-income uninsured children are sub-

stantially less likely to have a usual source of care and to receive any physician visits or any well-child care, relative to low-income insured children. What has been less studied in past research is whether and how a parent's health insurance status influences receipt of services among low-income children. Here, we find that, other things being equal, having an uninsured parent results in a small reduction in the likelihood that low-income children receive medical provider visits and well-child care. Not surprisingly, we find that the effects of a parent's insurance status are smaller than the effects of a child's insurance status, and comparable to the effects of other parent characteristics, such as education, on receipt of care. While we acknowledge the potential for selection bias in the estimates, it is not possible to determine the direction of any bias because parent uninsurance is likely to be correlated with multiple other explanatory variables in the model.

Contrary to our expectations, we did not find any consistent patterns for insured children whose coverage differs from that of their parents. This suggests that any mechanisms that are successful in newly insuring low-income parents, whether through expansions of public insurance or subsidies for private coverage, are likely to have a positive effect on use of services by children.

When we look specifically at low-income insured children, where we believe a priori that there is less potential for selection bias, we find that they may be worse off if their parents are uninsured. These children are less likely to receive any medical provider visits, and may be less likely to receive well-child care. While a parent's insurance status has a substantially smaller effect than the child's own insurance status, it is highly relevant for publicly insured children, since over

a third have parents who are uninsured. In recent years, a number of states have expanded public coverage to parents, but eligibility levels for parents still remain below those for children in most states. Moreover, under the current state budget crisis, some states have scaled back their eligibility thresholds for parents.

When we examine low-income uninsured children, the results indicate that they are disadvantaged with respect to receipt of well-child care, and that children with an uninsured parent are at an even greater disadvantage. This is true regardless of whether one interprets the results as due to selection or due to the real effects of having an uninsured parent. If the problem is one of financial access, then providing insurance to both the child and parent will improve the situation of these children. If the issue is selection, then parent education about the benefits of preventive care may need to be incorporated with any coverage expansions.

This paper provides further evidence of positive spillover effects on children from expanding coverage to parents. A recent study (Dubay and Kenney 2003) indicates that making more parents eligible for Medicaid raised participation rates and reduced the proportion of uninsured children who were already eligible for coverage. Thus eligibility expansions for parents should translate directly into access and use gains by providing more children with insurance coverage. It also appears that expansions to parents may confer small, but meaningful access gains for children who are already insured. Ultimately, these spillover benefits to children should be factored into an assessment of the costs and benefits associated with expansions in coverage to low-income parents that also address the access and use improvements experienced by the parents when they gain insurance coverage.

Notes

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1 Only 14.5% of uninsured children studied by Hanson had an insured parent and 2.1% of privately insured children had an uninsured parent.

2 The 13 NSAF states are Alabama, California, Colorado, Florida, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, Texas, Washington, and Wisconsin.

3 We analyzed the relationship between full-year and current coverage for those parents for whom data were collected on both. For children with full-year private insurance, 93% of parents reporting current private insurance were insured full year. For children with full-year public insurance, 82% of

parents reporting current public coverage had full-year public coverage. Finally, for children who were uninsured for the full year, 92% of parents who reported being currently uninsured were uninsured for the full year.

- 4 To the extent that not all parents who reported being currently uninsured were uninsured throughout the year, the estimated effect of having an uninsured parent will be biased downward. Even if we were able to select only full-year uninsured parents, we recognize that insurance during prior years may provide sufficient familiarity with insurance systems so as to ameliorate any negative effect of an uninsured parent on children's access. Information on insurance status in prior years is not available on the NSAF.
- 5 Our model includes three potentially endogenous variables, and each one may be correlated to some extent with other explanatory variables. In this situation it is not possible to determine the direction of any possible bias in the estimated effect of having an uninsured parent.
- 6 We attempted to estimate two-stage least squares (2SLS) and other instrumental variable models (Greene 2000), where we treated parent and child insurance as endogenous. We used indicators for parent Medicaid eligibility, child Medicaid and SCHIP eligibility, parent offer of employer-sponsored insurance, parent health status, and parent risk aversion as instruments. The estimated second-stage coefficients were similar to the logit results in direction and magnitude for the any provider visit and well-child care dependent variables, suggesting that the single-stage results were not affected strongly by selection bias. However the standard errors were large and the models were found to be overidentified. When we dropped selected instruments, the first-stage models were no longer able to differentiate parent and child insurance patterns, the predicted parent and child insurance variables were highly correlated, and the newly estimated coefficients were affected by multicollinearity.
- 7 Prior to the Omnibus Budget Reconciliation Act of 1986 (OBRA 86), public coverage was available through the Medicaid program primarily to very low-income children and their single parents. States permitted coverage of two-parent families through the Aid to Families with Dependent Children-Unemployed Parent (AFDC-UP) program if the primary earner was unemployed or one parent was disabled. The small Ribicoff program provided Medicaid coverage to children in families that met the income but not the family structure and employment requirements of the AFDC and AFDC-UP programs. The OBRA expansions to the Medicaid program require states to cover pregnant women and children up to age six at 133% of FPL, and children born after October 1, 1983, at 100% of FPL. Later legislation allowed states to cover children and pregnant women at even higher income levels under Section 1902(r)(2) of the Social Security Act. The SCHIP program allows states to cover children at even higher income levels with a higher federal match, and allows states to provide insurance through separate non-Medicaid programs. The mandated poverty-related expansions to Medicaid eligibility, along with the State Children's Health Insurance Programs and many state-specific expansions that include adults, have created new categories of public program eligibility that are limited to some but not all family members. These changes have increased the likelihood that low-income parents and children will have different coverage, or that children will have insurance and parents will be uninsured.
- 8 Two-thirds of these children live with an uninsured mother and obtain private insurance from a father living outside the household. Another 20% of these children reside with both parents. This is consistent with a scenario where one parent has his or her own coverage and child coverage through an employer, but the spouse is left uninsured.
- 9 Low-income children with private insurance also fare less well than those with Medicaid. Low-income privately insured children are 6.9 percentage points less likely to have had any medical provider visits, and are 12.1 percentage points less likely to have had any well-child visit. These estimated effects are consistent with findings from previous analyses using data from the 1997 NSAF, which focused primarily on children's insurance coverage (Dubay and Kenney 2000).

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