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# Public Insurance Eligibility and Enrollment for Special Health Care Needs Children

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*We estimated the proportion of children with special health care needs (CSHCN) eligible for Medicaid and the State Children's Health Insurance Program (SCHIP) using data from the 2000 and 2001 National Health Interview Survey (NHIS) and an algorithm to determine likely eligibility. We find that CSHCN were more likely to be eligible compared with other children (50 versus 43 percent), and that they were eligible through different program mechanisms. Relatively few faced waiting periods and premiums to participate in public programs. Participation rates were higher for CSHCN eligible through Medicaid Program rules prior to the SCHIP expansions, compared with those newly eligible after 1997. CSHCN had higher rates of participation than children without special needs (CWOSN), across all eligibility categories.*

## INTRODUCTION

Historically, public insurance has played an important role in covering CSHCN. National estimates from 1994 indicate that 29 percent of CSHCN reported Medicaid coverage, more than twice the 14 percent enrollment of CWOSN (Heck and Makuc, 2000). For CSHCN families, coverage through public insurance programs, such as Medicaid, is particularly desirable. Public insurance programs tend to cover a

much broader spectrum of services than private insurance plans, and they shift the financial burden associated with meeting a child's health needs from the family (U.S. General Accounting Office, 2000). Despite higher rates of Medicaid coverage among CSHCN, policymakers remained concerned about those in low-income families without any source of coverage (U.S. Department of Health and Human Services, 2000; Newacheck et al., 1998.)

The creation of SCHIP under Title XXI, through passage of the Balanced Budget Act of 1997, was viewed as a significant opportunity to provide public insurance coverage to many low income uninsured CSHCN (Newacheck et al., 1998). SCHIP allows States to extend public insurance eligibility to children at higher income levels. Congress set a target of coverage to children up to 200 percent of the Federal poverty level (FPL), but States are permitted to extend SCHIP eligibility to children in families with even higher levels of income. States could implement SCHIP through expansion of existing Medicaid Programs, by creating new separate programs that could be more similar to private plans, or both. By 2001, all 50 States and the District of Columbia had implemented SCHIP expansions, with 16 adopting Medicaid expansions, and 35 creating separate programs, either alone or in combination with smaller Medicaid expansions (Hill, 2000). Overall, the SCHIP expansions dramatically increased the number of children eligible for public insurance (Dubay, Haley, and Kenney, 2002).

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Policymakers concerned about insurance coverage for CSHCN have a strong interest in understanding the extent to which they are eligible for public insurance, the role of SCHIP in extending eligibility, and the extent to which eligible CSHCN enroll. While recent studies have examined these issues for children generally, (Dubay, Haley, and Kenney, 2002; Dubay, Kenney, and Haley, 2002; Selden, Banthin, and Cohen, 1999), little information is available that is specific to CSHCN. Because CSHCN have unique demographic characteristics, they may have different rates of eligibility, and eligibility through different program mechanisms. These factors, as well as a higher demand for insurance generally, may result in different patterns of participation among eligible CSHCN.

In this article, we analyze data from the NHIS to provide important new information concerning public insurance eligibility and participation for CSHCN. We provide estimates of the proportion of CSHCN eligible for Medicaid and SCHIP, and the proportion that participate. We compare those estimates to CWOSNs. We also examine eligibility for uninsured children, and explore the extent to which premiums or waiting periods may create barriers to participation.

## **BACKGROUND**

Understanding the relevant public insurance eligibility mechanisms, and how the demographic and socioeconomic characteristics of CSHCN interact with program rules, is key to understanding patterns of eligibility for, and participation in, public insurance by CSHCN, and how they might differ from other children. The Supplemental Security Income (SSI) program provides cash assistance to children with severe physical or mental impairments, who meet

the stringent income and resource limits imposed by the program. Once eligible for SSI, children are also eligible for Medicaid in most States, and are automatically enrolled in the majority of cases (Schneider, Strohmeier, and Elleberger, 2000). Other low-income CSHCN are eligible for public coverage through mechanisms generally available to children. These mechanisms include section 1931 family Medicaid coverage that replaced Aid to Families with Dependent Children (AFDC) related eligibility in 1996. Section 1115 waiver programs replaced traditional family coverage programs in some States, expanding coverage to persons with higher incomes or groups that are not traditionally eligible for Medicaid, such as childless adults. The child poverty expansions to Medicaid, and the more recent SCHIP expansions dropped categorical requirements associated with family structure and parent labor force participation, but added separate eligibility categories based on child age. Under the Medicaid child poverty expansions, coverage is mandated for infants and children age 1-5 up to 133 percent of FPL, and coverage up to 100 percent FPL for children born after October 1983 was phased-in over several years. States had the option of accelerating this phase-in for children and expanding income eligibility thresholds beyond the federally-mandated levels for all age categories. The voluntary SCHIP expansions further extended eligibility income thresholds, often with age-specific levels. Transitional Medical Assistance (TMA) extends Medicaid eligibility for at least 12 months to families who lose section 1931 eligibility because of increased earnings or higher levels of child support, and are not eligible through other mechanisms. There are two additional mechanisms through which CSHCN, in particular, may become eligible for public insurance. Children who do not

otherwise meet income thresholds for Medicaid, but whose condition results in high levels of spending may qualify through medically needy programs, after the out-of-pocket medical costs are subtracted from family income (Bruen et al., 1999). Children requiring institutional levels of care who remain at home can qualify for Medicaid regardless of family income, in States that have received Katie Beckett or home and community-based services waivers.

Expansions to the Medicaid Program implemented during the early 1990s, combined with the SCHIP expansions, resulted in public insurance eligibility covering a large proportion of children. Estimates for 2000 suggest that one-third of children were eligible for Medicaid under rules in place prior to the SCHIP expansions, and that an additional 17.5 percent of children became eligible under SCHIP. Among uninsured children, 77 percent were eligible for one of the two programs (Dubay, Haley, and Kenney, 2002).

Known differences in demographic and socioeconomic characteristics of CSHCN suggest that patterns of eligibility likely differ from those of other children. For example, income eligibility standards and disregards under the SSI program are different than those mandated for Medicaid, thus SSI recipients may be eligible for Medicaid at higher incomes, potentially reducing the number of CSHCN who were made newly eligible through SCHIP. CSHCN were also found to have lower incomes and more single parents than children generally (Davidoff, 2004a); Heck and Makuc, 2000). Lower income increases the likelihood that a CSHCN would meet the income eligibility thresholds for any of the public programs, while both lower incomes and higher rates of single parent families increase the likelihood of eligibility for family, as opposed to child-only coverage.

Having an eligible parent has been found to increase participation among children (Ku and Broaddus, 2000; Dubay and Kenney, 2003). Other factors could also increase eligibility and participation rates—such as receipt of Temporary Assistance to Needy Families (TANF), which is higher among CSHCN (Davidoff, 2004a). Finally, differences between CSHCN and other children in the distribution of age, race, ethnicity, and parent health status and labor force participation may also affect participation rates.

In addition to characteristics of the child, the design of public insurance programs, and SCHIP in particular, may affect participation differentially for CSHCN. SCHIP was designed to permit States to create programs similar to private insurance, including provisions that could reduce the value of SCHIP for CSHCN and discourage enrollment. For example, States creating separate programs were given the flexibility to adopt benefit packages that are more limited than Medicaid's, and many States pursued that option (Rosenbaum, Shaw, and Sinofsky, 2001). Similarly, these States were free to impose premiums and copayments as long as they did not exceed 5 percent of families' incomes. SCHIP programs were also required to create mechanisms that reduce crowd-out of pre-existing private insurance. In response, many States require children to be uninsured for a minimum period prior to enrolling in SCHIP. Combined, these provisions may present particular problems for CSHCN and their families. These children often need the broad array of benefits that can be provided uniquely by a public program, and their families already face higher out-of-pocket costs for health care than children generally (Newacheck et al., 2000). For those CSHCN with private coverage, parents may be particularly reluctant to allow their child to be uninsured during a waiting period in order to enroll in SCHIP.

Despite these concerns, qualitative evidence suggests that the design of SCHIP programs is not perceived to be particularly burdensome for CSHCN. In case studies of the early implementation of SCHIP, key informants reported that benefit packages in separate SCHIP programs were quite generous, and that premiums and copayments were nominal and did not create barriers to enrollment and service use (Hill, Lutzky, and Schwalberg, 2001). Moreover, a number of States with waiting periods waived these requirements, in ways that could benefit CSHCN. For example, 8 of the 11 study States that imposed waiting periods made some form of exception, exempting either children covered by individual (rather than group) policies; families paying premiums exceeding a threshold; or exempting CSHCN entirely (Hill, 2000; Hill, Lutzky, and Schwalberg, 2001). A number of States with separate programs have used the flexibility in the statute to create enhanced benefit packages and/or special service delivery arrangements for qualifying CSHCN (Hill, Lutzky, and Schwalberg, 2001).

Comparison of the potential negative effects of SCHIP provisions for CSHCN, with the positive perceptions of the programs as captured through case study research, suggests a gap between the potential and the realized effects of State policy choices. The question of whether participation in SCHIP by CSHCN differs from that of healthy children is an empirical issue. In this study, we provide quantitative estimates to determine the level of participation in SCHIP among CSHCN, and whether it differs from CWOSN.

## **METHODS**

### **Source of Data**

The primary source of data for the analysis was the NHIS, a household survey that collects data on demographics, insurance coverage, health status, access to care, and use of health care services. The annual sample of approximately 100,000 persons is nationally representative of the citizen, non-institutionalized population (Botman et al., 2000). A knowledgeable adult serves as the respondent for children in each family. We analyzed data for children age 0 to 17 years, pooling data from the 2000 and 2001 NHIS to increase statistical power.

Data on Medicaid eligibility rules were drawn from special surveys of State Medicaid Programs (Blaney et al., 2001; Maloy et al., 2002). SCHIP eligibility rules come from the National Conference of State Legislatures and the National Governors Association (1999) plan summary report supplemented by State plan amendments and annual reports submitted to CMS. The public-use NHIS data did not include the State identifiers needed to link State eligibility rules to individual observations. To access data files with these State indicators, we conducted all analyses at the National Center for Health Statistics' Research Data Center.

### **Sample Selection**

#### **Identifying CSHCN**

CSHCN were defined in a manner consistent with the Federal Maternal and Child Health Bureau (MCHB) definition

of: "...those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition, and who also require health and related services of a type or amount beyond that required by children generally." (McPherson et al., 1998). Consistent with the work of other researchers, children at risk of developing a condition were excluded, due to difficulties in operationalizing that portion of the definition (Bethell et al., 2002).

To identify CSHCN on the NHIS, an algorithm was created that replicates the CSHCN Screener (Bethell et al., 2002). This screening instrument identifies children who experience consequences associated with having a chronic condition in the form of functional limitations or elevated need or use in four service groups. Following the organizational structure of the CSHCN Screener, survey items and responses from the NHIS were used to designate children meeting each of the five screening criteria. The NHIS algorithm used information about reported chronic health conditions, and limitations of activity. Indicators for extended use of prescription medications, elevated use of physician, hospital or home health care, use of special technology, early intervention services, special therapies, or mental health treatment or counseling were created to identify children with elevated service need or use (Davidoff, 2004b). An estimated 12 percent or 8.7 million children were identified as having special health care needs, a rate similar to the 12.8 percent prevalence estimated in the national survey of CSHCN (Blumberg et al., 2004). The unweighted sample in the 2 years of pooled data includes 3,088 children with, and 23,123 without special health care needs.

## Identifying Medicaid and SCHIP Eligible Children

To identify Medicaid and SCHIP eligible children, we created an algorithm that replicates the eligibility determination process. The eligibility algorithm determines whether children are eligible for Medicaid under rules in place as of 1997 or in the group made newly eligible for public insurance through expansions implemented after 1997. The algorithm also incorporates information on premium requirements and waiting periods, and identifies children affected by them. To identify eligibility through the 1997 Medicaid rules, the algorithm models eligibility through receipt of SSI, section 1931 family coverage programs, section 1115 waiver programs, poverty-related Federal and State expansions for infants and children, and TMA. Medicaid expansions that occurred after 1997 include expansions to section 1931 eligibility through relaxed categorical rules and more generous income and asset disregards, expanded section 1115 eligibility, phased-in eligibility under federally mandated poverty-related expansions for older children, and SCHIP expansions to Medicaid Programs.

For each of the eligibility mechanisms the algorithm models most categorical, income and resource tests used by the States. Categorical requirements may include family structure<sup>1</sup> and age. Citizenship status and length of residency are important categorical requirements, as States are not permitted to use Federal matching funds to provide insurance for

<sup>1</sup> For section 1931, States may require the primary earner in a two-parent family to be disabled or underemployed—working no more than 100 hours per month.

immigrants arriving in the U.S. within the past 5 years. Children with existing private insurance are not fully eligible for separate SCHIP plans. We identified the key State- and year-specific rules for each eligibility mechanism. We used data from the NHIS to create family-level measures for each relevant eligibility test, and the algorithm compared the measures with the categorical requirements or income thresholds. For non-citizen children, we applied the residency requirements, with exceptions for States that funded coverage for children.<sup>2</sup> We did not exclude children with private coverage from income eligibility for SCHIP.

To create the measures of family structure, income, and assets required to determine eligibility, it was necessary to manipulate and supplement the data collected on the NHIS. We used nuclear families as our unit of eligibility for family coverage and as the basis for computing earnings and assets. Eligibility determinations are based on earned income and unearned income from pensions and financial and property assets, but not transfer income from public programs (e.g., Supplemental Security Disability Income [SSDI], SSI, TANF, and general assistance). Current average gross monthly income was calculated by summing prior year annual earnings reported on the NHIS for adults in the family, dividing by 12 and multiplying by an adjustment factor based on the Employment Cost Index. For workers without valid reports of earnings or who had changed their labor force status between the prior year and current period, we employed a hot-deck imputation process (Kalton and Kasprzyk, 1986) that incorporated updated sources of

<sup>2</sup> Undocumented aliens are never eligible for federally funded programs. Because we cannot distinguish them from other non-citizens, our estimates of eligible children will be overstated by a small amount.

income based on current labor force participation.<sup>3</sup> The NHIS does not report amounts of unearned income by type, so we based the eligibility income measure solely on earnings. This simplification may result in an understatement of income and result in too many children being identified as income eligible for public insurance.<sup>4</sup>

States usually allow individuals to deduct work and child care expenses, child support payments and a portion of their earnings to calculate the value used to determine eligibility. Child care expenses were imputed for families with children under age 14 with a parent who works at least part time. We used coefficients estimated from a model of child care expense using data from the 1993 Survey of Income and Program Participation, to predict average child care expenses for the families included in the NHIS. Unless otherwise specified, predicted values were capped at \$200 monthly for children under age 2 and \$175 for children age 2-14. To calculate countable income, we subtracted earnings disregards in addition to the child care and work expense, based on State-specific formulas. Net income generally disregards some child support payments, but child support payments were not reported on the NHIS.<sup>5</sup>

The NHIS did not include information to determine asset amounts, so we were unable to compare the value of assets to State-specific asset thresholds. Instead, we created a dichotomous indicator for whether the family reports dividend

<sup>3</sup> We also used this approach to impute total family income where adults had changed their labor force status or when there was no reported continuous value.

<sup>4</sup> Based on evidence from a study using 1994 NHIS data we expect this simplification to increase the proportion of children identified as eligible by approximately 3 percent.

<sup>5</sup> Data from the Current Population Survey indicated that only a small portion of families below 200 percent of FPL reported any child support income, thus, we did not attempt to impute child support amounts.

and/or interest income. If the State had an asset test, families with these assets were deemed to fail. This simplification may have biased the algorithm against families that had non-zero, but low levels of assets. To correct partially for this limitation, families that reported Medicaid, but were ineligible when the full complement of tests were applied, were deemed eligible if they passed all categorical and income tests.

One limitation to the algorithm is the inability to identify children with large out-of-pocket medical expenses who spend down their income to meet income eligibility requirements in the medically needy program. In addition, severely disabled children who benefit from home and community-based service waivers could not be identified explicitly because there are no family income constraints. Among children who reported public insurance but were not identified as eligible according to the algorithm, approximately 11 percent were limited in activities of daily living, suggesting that they might be disabled waiver recipients. If we were to add them to the sample of eligible CSHCN, the percent of CSHCN eligible for public insurance would increase by one-half of a percentage point.

With the exception of TMA eligibility, the algorithm tested eligibility for each mechanism regardless of whether the child was already determined to be eligible through previous mechanisms. We used a hierarchy to assign a unique eligibility path for each child. We did this because some children are eligible through multiple mechanisms, and we only wanted to assign SCHIP eligibility to children who would otherwise not have been eligible for public insurance. The hierarchy we implement starts with eligibility through any Medicaid mechanisms and rules in place as of 1997, Medicaid eligible in 2000 or 2001, SCHIP Medicaid expansion eligible, and SCHIP separate program eligible. The ranking of

the two different SCHIP expansion types reflects the fact that Medicaid SCHIP expansions tended to capture lower-income children.

We pooled data from 2000 and 2001 to increase the sample of eligible CSHCN, thus the estimates presented are means across the 2 years. Only a few States expanded eligibility between the 2 years, and the net change in overall eligibility rates was negligible. Overall participation rates increased from 39 percent in 2000 to 43 percent in 2001. However, the change in participation was not significantly different for children with and without special needs, thus the comparison across the groups should not be affected materially by pooling.

## Measurement of Other Key Variables

### Health Insurance

The NHIS collects data on current health insurance, asking whether family members had Medicaid, SCHIP, other State-sponsored plans, Medicare, military coverage, other government plans, employer-sponsored insurance, non-group insurance, and single-service plans. We created four summary measures of insurance coverage—private, including those with employer-sponsored, individual, and dependent military coverage; public, including persons reporting Medicaid, SCHIP or other State plans; other government coverage which includes those reporting Medicare or other government coverage; and the uninsured.

Although the NHIS has separate categories for Medicaid and SCHIP enrollment, we did not use the reported categories in our analysis, because many SCHIP expansions actually extended Medicaid Programs, thus it is often difficult for parents to distinguish between the programs. Instead, we created

indicators for enrollment if a child was deemed eligible for a particular program, and reported being enrolled in any one of the public insurance programs.

One limitation to the NHIS data is the likely underreporting of public insurance coverage, estimated at 25 percent, relative to administrative totals (Davidoff, Garrett, and Yemane, 2001). This is a common problem with household survey data, and may result in understatement of public insurance participation rates (Call et al., 2001/2002).<sup>6</sup> If underreporting patterns differ for children with and without special health care needs, then our comparisons of participation rates for the two groups may be affected. Unfortunately, there is no information available to determine the magnitude or direction of any difference in reporting rates based on health status.

In addition to the type of insurance coverage, information is collected for uninsured persons concerning how long they have been uninsured. Information is reported in ranges (e.g. less than 6 months, 6 months to 1 year, etc.) The information on the uninsured spell was used to determine whether a child met an SCHIP waiting period. If the child was uninsured for more than 6 months and the waiting period was less than 6 months, then the child was identified as meeting the waiting period requirements. We could not determine whether children met the waiting period requirements if both the waiting period and the length of time the child was uninsured were less than 6 months.

### Other Child, Parent, and Family Characteristics

We created measures of child age, race, ethnicity, and immigrant status; parent educational attainment, labor force partici-

<sup>6</sup> Despite concerns about underreporting, we did not impute Medicaid enrollment to children reporting prior year receipt of SSI or TANF. Medicaid enrollment of SSI recipients is not automatic and TANF receipt may be short term.

pation, and immigrant, marital and health status; and family characteristics, such as size, number of parents living with child, and income. Low-income children were defined as those living in families with total income below 200 percent of the FPL.

Characteristics of the study populations of CSHCN and other children are presented in Table 1. In general, CSHCN tended to be more economically disadvantaged, with a greater percentage living in poverty (23 versus 17 percent), and receiving cash assistance through either SSI (10 versus 2 percent) or TANF (9 versus 5 percent). CSHCN were more likely to live in single parent families (32 versus 22 percent) and a larger percent of CSHCN parents did not work, reducing access to employer-sponsored insurance. CSHCN were less likely to be immigrants compared with other children (1 versus 4 percent). These differences likely affect rates of eligibility as well as participation patterns for CSHCN.

### Statistical Analysis

We used bivariate analyses to test whether there were differences in patterns of Medicaid and SCHIP eligibility and participation between children with and without special health care needs. All estimates were weighted to reflect national population totals. Standard errors were adjusted for the complex survey design used by the NHIS, using Stata software. Results discussed in the text are statistically significant unless noted otherwise.

## RESULTS

### Public Insurance Eligibility

Almost one-half of CSHCN were eligible for either Medicaid or SCHIP. Six percent of CSHCN were designated as Medicaid eligible through reported receipt of SSI,



**Table 1**  
**Demographic Characteristics of Children With and Without Special Health Care Needs: 2000-2001**

Characteristic	Children				
	% of CSHCN	Standard Error		% of CWOSN	Standard Error
Unweighted <i>N</i>	3,088	—	—	23,123	—
Weighted <i>N</i> (Millions)	8.7	—	—	63.6	—
<b>Child Age</b>					
0-2 Years	7.7	0.6	***	17.3	0.3
3-5 Years	11.7	0.7	***	17.5	0.3
6-10 Years	32.6	1.1	***	27.7	0.4
11-14 Years	28.8	1.1	***	21.4	0.3
15-17 Years	19.1	0.9	***	16.1	0.3
<b>Sex</b>					
Male	62.1	1.3	***	49.7	0.4
<b>Race/Ethnicity</b>					
Black	14.8	0.8	—	13.7	0.4
White	71.6	1.0	***	64.3	0.6
Other	2.7	0.3	***	5.0	0.2
Hispanic	10.8	0.6	***	17.0	0.4
<b>Immigrant</b>					
	1.0	0.2	***	3.7	0.2
<b>Family Structure</b>					
Number of Children in Household	2.4	0.0	—	2.4	0.0
One Parent in the Household	32.1	1.0	***	22.3	0.4
<b>Family Income</b>					
< 100% Federal Poverty Level (FPL)	22.7	0.9	***	17.0	0.4
100-200% FPL	18.4	0.9	—	19.6	0.4
200-400% FPL	31.8	1.0	—	33.2	0.4
>400% FPL	27.0	1.0	***	30.1	0.5
Child Receives SSI	10.4	0.8	***	2.1	0.1
Family Member Receives TANF	9.3	0.7	***	4.7	0.2
<b>Parent Health Status</b>					
Any Parent Limited in Major Activity	7.2	0.6	***	2.8	0.1
Any Parent in Fair/Poor Health	16.8	0.9	***	8.0	0.2
<b>Parent Immigrant Status</b>					
Any Parent is an Immigrant	11.7	0.7	***	22.2	0.5
<b>Parent Educational Attainment</b>					
Less than High School	12.0	0.7	—	12.9	0.4
High School Graduate	25.0	0.9	*	23.0	0.4
Some College, No Degree	21.4	0.8	***	18.7	0.4
Two-Year Degree	13.4	0.7		12.3	0.3
Four-Year Degree or Greater	28.2	1.0	***	33.0	0.5
<b>Parent Labor Force Participation</b>					
Any Parent Works Full-Time	83.2	0.8	***	89.5	0.3
Any Parent Works Part-Time	5.1	0.5	***	3.6	0.2
No Parent in the Labor Force	11.7	0.7	***	6.8	0.2
Any Parent has an ESI Offer	69.4	1.0	***	74.6	0.4

\*0.05<p<=0.10

\*\*\*p<=0.01.

NOTES: CSHCN is children with special health care needs. CWOSN is children without special needs. SSI is Supplemental Security Income. TANF is Temporary Assistance for Needy Families. ESI is employer-sponsored insurance.

SOURCES: Davidoff, A.J., Yemane, A., and Hill, I.: Analysis of 2000-2001 National Health Interview Survey.

**Table 2**  
**Public Insurance Eligibility for Children With and Without Special Health Care Needs, by Income:**  
**2000-2001**

Eligibility Pathway	All Children		Low-Income Children	
	With CSHCN	CWOSN	With CSHCN	CWOSN
<b>All Insurance Types and Status</b>				
			Percent	
Unweighted <i>N</i>	3,088	23,123	1,392	9,568
Weighted <i>N</i> (Millions)	8.7	63.6	3.5	23.3
All Eligible <sup>1</sup>	***49.5 (1.1)	43.1 (0.5)	***96.5 (0.6)	94.3 (0.3)
Eligible in 1997	***32.7 (1.0)	25.0 (0.4)	***70.2 (1.5)	61.6 (0.7)
Supplemental Security Income	***5.7 (0.5)	0.4 (0.1)	***11.0 (1.1)	0.8 (0.1)
Non-Supplemental Security Income	**27.0 (1.0)	24.5 (0.4)	59.3 1.7	60.9 (0.7)
SCHIP Eligible Post 1997	16.8 (0.9)	18.1 (0.4)	***26.4 (1.5)	32.6 (0.7)
Separate SCHIP Program Eligible	**11.4 (0.7)	13.1 (0.3)	***16.4 (1.2)	23.0 (0.6)
Not Eligible	***50.5 (1.1)	56.9 (0.5)	***3.5 (0.6)	5.7 (0.3)
<b>Uninsured</b>				
All Eligible <sup>1</sup>	73.5 (3.5)	67.8 (1.2)	93.4 2.4	90.7 0.7
Eligible in 1997	44.3 (4.1)	38.6 (1.1)	60.9 4.6	56.4 1.3
Supplemental Security Income	*2.8 (1.5)	0.2 (0.1)	**1.9 0.9	0.2 0.1
Non-Supplemental Security Income	41.5 (4.1)	38.4 (1.1)	59.0 4.7	56.2 1.3
SCHIP Eligible Post 1997	29.3 (3.5)	29.2 (1.1)	32.5 (4.3)	34.3 (1.3)
Separate SCHIP Program Eligible	17.3 (2.8)	21.7 (0.9)	**16.8 3.3	24.6 1.2
Not Eligible	26.5 (3.5)	32.2 (1.2)	6.6 2.4	9.3 0.7

\*.005 < p <= 0.10.

\*\*0.01 < p <= 0.05.

\*\*\*p <= 0.01.

<sup>1</sup> Includes both Medicaid and SCHIP enrollees.

NOTES: CSHCN is children with special health care needs. CWOSN is children without special needs. SCHIP is State Children's Health Insurance Program. Numbers in parentheses are standard error.

SOURCES: Davidoff, A.J., Yemane, A., and Hill, I.: Analysis of 2000-2001 National Health Interview Survey.

and an additional 27 percent were eligible through other mechanisms in place as of 1997 (Table 2). The remaining 17 percent of CSHCN were made newly eligible in the period after 1997, through a combination of Medicaid expansions and creation of separate SCHIP plans. Consistent with the underlying differences in characteristics, CSHCN were more likely to be eligible for some form of public insurance compared

with other children, and most of the difference was due to mechanisms in place prior to the creation of SCHIP. Among CWOSN, 25 percent would have been eligible according to rules in place as of 1997, and 18 percent were made newly eligible, for an overall eligibility rate of 43 percent. Similar patterns prevailed when examining low-income children, although the relative proportions are much higher.

**Table 3**  
**Percent of Children With and Without Special Health Care Needs Subject to SCHIP Waiting**  
**Periods: 2000-2001**

Waiting Period for Full SCHIP Eligibility	All Eligible Children	Separate SCHIP Eligible Children
		Percent
<b>CSHCN</b>		
Unweighted <i>N</i>	1,557	365
No Waiting Period	***81.1 (1.2)	28.5 (3.3)
1-6 Months	***18.9 (1.2)	71.5 (3.3)
1-2 Months	1.7 (0.4)	7.4 (1.9)
3-4 Months	***10.0 (0.9)	**43.1 (3.2)
5-6 Months	7.1 (0.8)	21.0 (2.6)
7-12 Months	0.0 0.0	0.0 0.0
<b>CWOSN</b>		
Unweighted <i>N</i>	10,439	3,252
No Waiting Period	74.6 (0.6)	23.1 (1.0)
1-6 Months	25.3 (0.6)	76.9 (1.0)
1-2 Months	1.8 (0.2)	5.9 (0.7)
3-4 Months	15.8 (0.5)	51.6 (1.3)
5-6 Months	7.7 (0.4)	19.4 (1.1)
7-12 Months	0.1 (0.1)	0.0 0.0

\*\*0.01 < p <= 0.05.

\*\*\*p <= 0.01.

NOTES: SCHIP is State Children's Health Insurance Program. CSHCN is children with special health care needs. CWOSN is children without special needs. Numbers in parentheses are standard error.

SOURCES: Davidoff, A.J., Yemane, A., and Hill, I.: Analysis of 2000-2001 National Health Interview Survey.

### Waiting Period Requirements for SCHIP

As a result of the disproportionate eligibility of CSHCN through SSI and other Medicaid Programs, relatively few CSHCN eligible for public insurance were subject to uninsured waiting periods, as revealed in Table 3. Among all eligible CSHCN, 19 percent faced a waiting period, compared with 25 percent of CWOSN. Waiting periods ranged from 1 to 6 months, with 3 to 4 months the most common length. Among children eligible through separate SCHIP plans, 72 percent of CSHCN and 77 percent of other children were subject to waiting periods, but the difference was not significant.

States have the option to exempt various groups of children from the waiting period requirements, if they deem that the burden on families to provide private insurance for their children should be limited. Obviously, exempting CSHCN from the waiting periods would eliminate the potential effects on participation for all who met the health status criteria. Other types of exemptions would affect a broader group of children. If private non-group insurance were not considered to be creditable coverage, then an additional 2 percent of CSHCN and 6 percent of other children would be exempted. Exemptions to families paying a large percent of income in

**Table 4**  
**Percent of Eligible Children, With and Without Special Health Care Needs, With Medicaid or SCHIP Premium Requirement, by Type of Eligibility: 2000-2001**

Eligibility	CSHCN	CWOSN
<b>All Children</b>	Percent	
Total Eligible	***19.8 (1.2)	25.8 (0.6)
Medicaid Program Eligible	4.0 (0.8)	4.2 (0.5)
SCHIP Medicaid Expansion	14.0 (4.0)	13.6 (1.8)
SCHIP Separate Program	70.1 (3.0)	73.1 (0.9)
<b>Uninsured Children</b>		
Total Eligible	21.3 (3.6)	24.2 (1.2)
Medicaid Program Eligible	2.0 (1.3)	2.9 (1.0)
SCHIP Medicaid Expansion	12.3 (6.7)	4.6 (1.5)
SCHIP Separate Program	80.9 (7.1)	69.2 (2.3)

\*\*\* $p < 0.01$ .

NOTES: SCHIP is State Children's Health Insurance Program. CSHCN is children with special health care needs. CWOSN is children without special needs. Numbers in parentheses are standard error.

SOURCES: Davidoff, A.J., Yemane, A., and Hill, I.: Analysis of 2000-2001 National Health Interview Survey.

out-of-pocket premiums would clear some proportion of both CSHCN and others. If the premium burden limit were set at 5 percent of income, about 13 percent of both CSHCN and other children who currently face a waiting period would be exempted.

#### Premium Requirements for Participation

Approximately one-fifth of all eligible CSHCN had a premium requirement associated with participation (Table 4). Premium requirements were concentrated among children eligible for separate SCHIP programs, with 70 percent of eligible CSHCN required to pay a premium. Because premiums were more common for eligible children with higher incomes, the lower income CSHCN were less likely to have to contribute, whereas 26 percent of other children (73 percent among separate SCHIP eligible) faced premium requirements.

#### Enrollment in Medicaid and SCHIP

Overall, 55 percent of eligible CSHCN were enrolled in some form of public insurance (Table 5). The highest coverage rates were among those with SSI (82 percent), and others eligible according to rules in place in 1997 (65 percent). CSHCN made newly eligible through either Medicaid or SCHIP expansions were less likely to enroll in public coverage (30 percent). Eligible CSHCN had higher rates of Medicaid and SCHIP enrollment compared with other children. Among eligible CWOSN, the share with Medicaid or SCHIP was 39 percent. Medicaid coverage was highest among those eligible via rules in place in 1997 (53 percent), while rates for those newly eligible were significantly lower at 19 percent.

Different characteristics of eligible children with and without special health care needs explained some of the overall difference in enrollment rates. When we controlled

**Table 5**  
**Public Insurance Enrollment for Children With and Without Special Health Care Needs, by Eligibility: 2000-2001**

Eligibility	Children With Any Insurance Status		Eligibility Children Without Private or Other Public Insurance	
	CSHCN	CWOSN	CSHCN	CWOSN
			Percent	
All Eligible <sup>1</sup>	***55.0 (1.5) N=1,549	38.8 (0.7) N=10,404	***80.6 (1.5) N=946	65.6 (0.9) N=5,868
Eligible in 1997	***68.0 (1.7) N=1,016	53.0 (0.9) N=6,031	***84.9 (1.6) N=731	72.5 (1.0) N=4,083
Supplemental Security Income	***82.1 (3.8) 0.8 0.0 N=186	63.7 (6.2) 0.6 0.1 N=99	94.9 (2.8) 0.9 0.0 N=140	92.5 (2.7) 0.9 0.0 N=67
Non-Supplemental Security Income	***65.0 (2.0) 0.7 0.0 N=830	52.8 (0.9) 0.5 0.0 N=5,932	***82.7 (1.9) 0.8 0.0 N=591	72.1 (1.0) 0.7 0.0 N=4,016
SCHIP Eligible Post 1997	***30.0 (2.4) N=534	19.3 (0.7) N=4,370	***65.4 (4.0) N=215	48.5 (1.5) N=1,784
SCHIP Eligible, Medicaid Expansion	27.7 (4.2) N=168	22.9 (1.6) N=1,125	58.6 (7.3) N=77	53.6 (3.1) N=479
SCHIP Eligible, Separate Program	***30.8 (2.9) N=365	17.9 (0.8) N=3,248	***69.1 (4.6) N=138	46.4 (1.7) N=1,306

\*\*0.01 < p <= 0.05.

\*\*\*p <= 0.01.

<sup>1</sup> Includes both Medicaid and State Children's Health Insurance Program SCHIP enrollees.

NOTES: CSHCN is children with special health care needs. CWOSN is children without special needs. SCHIP is State Children's Health Insurance Program. Numbers in parentheses are standard error.

SOURCES: Davidoff, A.J., Yemane, A., and Hill, I.: Analysis of 2000-2001 National Health Interview Survey.

for child and family demographic characteristics<sup>7</sup> and State-fixed effects in a multivariate regression, enrollment in public insurance among CSHCN remained 10 percentage points higher than for CWOSN. This effect is smaller in absolute value than the unadjusted 16 percentage points difference in enrollment, suggesting that different characteristics do play an important, but not dominant role.

<sup>7</sup> Characteristics included age, sex, race, ethnicity, immigrant status, SSI receipt, family size, age of youngest child, parent and sibling health problems, parent marital status, education, and earnings.

We also examined participation rates among children without private or other public insurance, to determine the extent to which otherwise uninsured children were provided with insurance through public programs. The overall participation rate for CSHCN without private insurance was 81 percent. Among those eligible according to rules in 1997, 85 percent participated. Those newly eligible were less likely to participate (65 percent). Among CWOSN, participation rates were lower—66 percent, overall. Among those eligible

according to the rules in 1997, 72 percent participated, whereas 49 percent of those newly eligible via SCHIP expansions were enrolled in public insurance.

### **Eligibility and Enrollment for Uninsured Children**

Approximately 8 percent of CSHCN were uninsured, and most (74 percent) were eligible for public insurance (Table 2). Eligibility rules in place in 1997 covered 44 percent, and the expansions after 1997 extended eligibility to an additional 29 percent of CSHCN. Among CWOSN, 12 percent were uninsured. A smaller proportion was already eligible according to 1997 rules, compared with CSHCN, but the difference was not significant. Expansions post-1997 extended eligibility to 29 percent of other children.

Because most uninsured CSHCN were eligible for public insurance, we examined the role of waiting periods and premiums as potential deterrents to their participation. Approximately 80 percent of uninsured CSHCN eligible for a separate SCHIP plan had a waiting period requirement, accounting for 23 percent of all uninsured eligible CSHCN. However, at least three-quarters of these children had been uninsured sufficiently long to have met the waiting requirement.<sup>8</sup> These results suggest that waiting periods remained a potential barrier to public insurance enrollment for only a small proportion (6 percent) of currently uninsured CSHCN. For uninsured CWOSN, estimates were similar. A slightly larger proportion (83 percent) faced waiting period requirements, but a similar proportion had met the waiting period requirement. It is noteworthy that similar proportions of privately insured

<sup>8</sup> The data do not permit us to assess definitively whether the other 25 percent of eligible children had met the requirements.

children eligible for separate SCHIP plans (74 percent of CSHCN and 77 percent of other children) also faced waiting period requirements.

As revealed in Table 4, slightly more than one-fifth of uninsured eligible CSHCN, and 81 percent of uninsured CSHCN eligible for a separate SCHIP program faced premium requirements. However, the premium requirements did not appear to affect the uninsured disproportionately, relative to the overall group. Premium requirements were similar for uninsured eligible children with and without special health care needs.

### **DISCUSSION**

The results of this study indicate that a large proportion of all CSHCN, and almost all low-income CSHCN, were eligible for public insurance programs as of 2001. Expansions after 1997 extended eligibility to a large group of CSHCN, and many of the newly eligible did enroll, filling an important gap for low-income CSHCN without private insurance. Eligibility rates for CSHCN, compared with CWOSN, were significantly higher through Medicaid, based on rules in place in 1997, yet were lower for SCHIP. Rates of enrollment were substantially higher among CSHCN overall and within most of the eligibility subgroups.

The magnitude of the estimated differences between children with and without special health care needs may be affected by various limitations to the data. For example, we noted that certain groups of children, particularly higher income children with health problems, cannot be identified as eligible due to limitations of the data and eligibility algorithm. This suggests that the estimates of eligible CSHCN, and the differences between children with

and without special needs are understated to some extent. This limitation would have a much smaller effect on the estimates of eligibility among low income children.

Patterns of eligibility described in this article suggest that despite the policy focus on the role of the SCHIP expansions in covering near poor and older poor children, in fact, the Medicaid Program plays a bigger role, particularly for CSHCN. A greater proportion of CSHCN were eligible for Medicaid; and even among uninsured children, a larger proportion were eligible for Medicaid. In general, given the broader range of services covered, the general lack of cost sharing, and the ability to have both public/private coverage, the greater role for Medicaid seems appropriate to ensure that the health care needs of CSHCN are met.

Despite the fact that CSHCN enrolled at higher rates, 15 percent of Medicaid eligible, and one-third of newly SCHIP-eligible CSHCN without private coverage remained uninsured. The lack of more complete participation in public insurance by CSHCN is likely due to many of the reasons that eligible children, in general, are uninsured. For example, analysts examining systems designed to enroll and retain children in public insurance programs note that many States have engaged in extensive outreach and have simplified enrollment procedures for SCHIP, but to a lesser extent for Medicaid and SCHIP re-enrollment (Hill and Lutzky, 2003; Thompson, 2003). Requirements for regular premium payments, regardless of the dollar amount, have forced many children to lose SCHIP coverage, and they may be blocked from re-enrolling for a period of time. One system feature that may uniquely disadvantage CSHCN is the delegation of SCHIP outreach and enrollment to health plans in some localities, as these plans have a disincentive to seek out children likely to incur

higher costs (Hill, Lutzky, and Schwalberg, 2001). In addition, the heavy burden of health problems among CSHCN parents may make it more difficult for them to enroll.

Of particular concern to advocates of CSHCN is whether waiting periods have a disproportionately negative effect on participation in SCHIP. This concern grows out of focus group research suggesting that families are reluctant to allow CSHCN to go uninsured prior to enrollment (Hill, Lutzky, and Schwalberg, 2001). Our findings indicate that waiting periods were fairly common among CSHCN eligible for separate SCHIP plans, and that the majority of those with waiting periods were enrolled in private insurance. Thus, waiting periods may provide a deterrent to those children dropping their private coverage. However, among the overwhelming majority of the uninsured, the length of the spell exceeded the waiting period and thus would not constrain enrollment.

Our findings that almost all low-income children, and most uninsured children, were eligible for public insurance, suggest that the policy focus for low-income children can be shifted to emphasize outreach, enrollment, and retention of eligible children (Dubay, Haley, and Kenney, 2002), albeit with continued attention to maintaining the eligibility gains of the past 5 years. The need to focus on enrolling uninsured eligible CSHCN is particularly compelling, given the critical role insurance plays in ensuring access to care for them. Furthermore, CSHCN are less likely to have affordable private alternatives to public insurance, either because parents are less likely to have offers of employer coverage, or because they are excluded from the private individual insurance market due to their pre-existing health conditions (U.S. General Accounting Office, 1998). States trying to fill this coverage gap for

low-income CSHCN may need to adopt unique approaches to enroll, and retain eligible CSHCN. Approaches might include outreach targeted through special education programs and providers likely to serve this population. In addition, if the heavy burden of parent health problems is impeding enrollment of eligible CSHCN, States may need to provide extra assistance to this population of parents.

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