

# The Evolution of the State Children's Health Insurance Program (SCHIP) in New York: Changing Program Features and Enrollee Characteristics

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**ABSTRACT.** *Background.* The State Children's Health Insurance Program (SCHIP) has been operating for >5 years. Policy makers are interested in the characteristics of children who have enrolled and changes in the health care needs of enrolled children as programs mature. New York State's SCHIP evolved from a similar statewide health insurance program that was developed in 1991 (Child Health Plus [CHPlus]). Understanding how current SCHIP enrollees differ from early CHPlus enrollees together with how program features changed during the period may shed light on how best to serve the evolving SCHIP population.

*Objective.* To 1) describe changes in the characteristics of children enrolled in 1994 CHPlus and 2001 SCHIP; 2) determine if changes in the near-poor, age-eligible population during the time period could account for the evolution of enrollment; and 3) describe changes in the program during the period that could be responsible for the enrollment changes.

*Setting.* New York State, stratified into 4 regions: New York City, New York City environs, upstate urban counties, and upstate rural counties.

*Design.* Retrospective telephone interviews of parents of 2 cohorts of CHPlus enrollees: 1) children who enrolled in CHPlus in 1993 to 1994 and 2) children who enrolled in New York's SCHIP in 2000 to 2001. The Current Population Survey (CPS) 1992 to 1994 and 1999 to 2001 were used to identify secular trends that could explain differences in the CHPlus and SCHIP enrollees.

*Program Characteristics.* 1994 CHPlus and 2001 SCHIP were similar in design, both limiting eligibility by age, family income, and insurance status. SCHIP 2001 included 1) expansion of eligibility to adolescents 13 to 19 years old; 2) expansion of benefits to include hospitalizations, mental health, and dental benefits; 3) changes in premium contributions; 4) more participating insurance plans, limited to managed care; 5) expansions in marketing and outreach; and 6) a combined enrollment application for SCHIP and several low-income programs including Medicaid.

*Sample.* Cohort 1 included 2126 new CHPlus enrollees 0 to 13 years old who were enrolled for at least 9 months, stratified by geographic region. Cohort 2 included 1100 new SCHIP enrollees 0 to 13 years old who were enrolled for at least 9 months, stratified by geographic region, age, race, and ethnicity. Results were weighted to be representative of statewide CHPlus or SCHIP new enrollees who met the sampling criteria. Samples of age- and income-eligible children from New York State were drawn from the CPS and pooled and reweighted (1992–1994 and 1999–2001) to generate a comparison group of children targeted by CHPlus and SCHIP.

*Measures.* Sociodemographic characteristics, race and ethnicity (white non-Hispanic, black non-Hispanic, and Hispanic), prior health insurance, health care access, and first source of information about the program.

*Analyses.* Weighted bivariate analyses (comparisons of means and rates) adjusted for the complex sampling design to compare measures between the 2 program cohorts and between the 2 CPS samples. We tested for equivalence by using  $\chi^2$  statistics.

*Results.* As the program evolved from CHPlus to SCHIP, relatively more black and Hispanic children enrolled (9% to 30% black from 1994 to 2001, and 16% to 48% Hispanic), more New York City residents (46% to 69% from 1994 to 2001), more children with parents who had less than a high school education (10% to 25%), more children from lower income families (59% to 75% below 150% of the federal poverty level), and more children from families with parents not working (7% to 20%) enrolled. These socioeconomic and demographic changes were not reflected in the underlying age- and income-eligible population. A greater proportion of 2001 enrollees were uninsured for some time immediately before enrollment (57% to 76% had an uninsured gap), were insured by Medicaid during the year before enrollment (23% to 48%), and lacked a USC (5% to 14%). Although "word of mouth" was the most common means by which families heard about both programs, a greater proportion of 2001 enrollees learned about SCHIP from marketing or outreach sources.

*Conclusion.* As New York programs for the uninsured evolved, more children from minority groups, with lower family incomes and education, and having less baseline access to health care were enrolled. Although changes in the underlying population were relatively small, progressively increased marketing and outreach, particularly in New York City, the introduction of a single application form for SCHIP and Medicaid, and expansions in the benefit package may have accounted, in part, for the large change in the characteristics of enrollees. *Pediatrics* 2003;112:e542–e550. URL: <http://www.pediatrics.org/cgi/content/full/112/6/e542>; access

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Received for publication Jun 25, 2003; accepted Aug 4, 2003.

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This article represents the views of the authors and not necessarily those of the funding agencies.

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ABBREVIATIONS. SCHIP, State Children's Health Insurance Program; CHPlus, Child Health Plus; FPL, federal poverty level; CPS, Current Population Survey; WIC, Special Supplemental Food Program for Women, Infants and Children; PCAP, Prenatal Care Assistance Program; USC, usual source of care; CHC, community health center; NHC, neighborhood health center; ER, emergency room; SES, socioeconomic status.

The State Children's Health Insurance Program (SCHIP), enacted in 1997 with passage of Title XXI of the Social Security Act, provides health insurance to low-income uninsured children who do not qualify for Medicaid.<sup>1</sup> Since 1998, all 50 states have established 1 of 3 SCHIP models: Medicaid expansion programs, separate programs through commercial insurers, or combination programs.<sup>2-5</sup> Commonly asked questions by SCHIP and policy leaders are: "is SCHIP effectively reaching the targeted population?" (ie, "who enrolled?") and "what are enrollees' demographic characteristics, prior insurance and health care experiences, and health care needs?"<sup>6,7</sup> To best serve the population of low-income SCHIP enrollees, program administrators need to understand the characteristics of their enrollees and how they are likely to evolve over time.

Because SCHIP is a relatively new program in most states, the characteristics of enrollees are likely to change as the program matures. A number of studies of managed care programs<sup>8,9</sup> including Medicaid<sup>10-12</sup> and Medicare<sup>13-15</sup> have found that early enrollees tend to differ from later enrollees in important ways. There is some evidence that early enrollees are healthier (although certainly not in all cases<sup>16,17</sup>) and more connected with the health care system at baseline.<sup>18</sup> In some cases, as programs have matured and become better known, progressively higher-risk patients have enrolled.<sup>19,20</sup> Little is known, however, about whether similar patterns exist for SCHIP programs.<sup>21,22</sup> The consequences of program maturity could be important. For example, if increasingly high-risk patients enroll as programs mature, states will need to plan for greater health care needs of enrollees. In most states SCHIP is relatively new, and there are few models to guide states in planning for future needs. In addition, little is known about why the changes in characteristics of enrollees occur. Is it because of changes in specific program features or because of the natural phenomenon of information diffusion? We address these issues by examining the experience of New York. We describe how key characteristics of the enrolled population have changed as New York's health insurance programs for low-income children matured and how differences in population characteristics may be related to changes in the SCHIP program, more so than to changes in the underlying population of near-poor, age-eligible children.

The experience of New York State provides a unique opportunity to describe changes in program enrollment over nearly a decade and changes in program features that could explain, in part, the enroll-

ment changes. New York State, along with several other states including Pennsylvania<sup>23</sup> and Florida,<sup>24</sup> established a prototype state health insurance program (New York's Child Health Plus [CHPlus]) in 1991 that served as a precursor to SCHIP. By 1994, program enrollment had reached 70 000 children. Our previous evaluations of CHPlus provide detailed data about new CHPlus enrollees in 1994.<sup>25</sup> These data, which include baseline sociodemographic characteristics and health care access measures, make it possible to assess how enrollment has changed since then.

Nearly a decade later in 2001, New York's SCHIP was the nation's largest program, with >590 000 children enrolled in the program, comprising 19% of the nation's SCHIP enrollment.<sup>26</sup> The percent of uninsured near-poor (100%-300% of the federal poverty level [FPL]) children in New York remained roughly the same over that time period (12.5% in 1994 and 2001; Current Population Survey [CPS] tabulations were performed by the authors), however, suggesting that SCHIP may have mitigated an increase by enrolling a large number of children who otherwise would have been uninsured.<sup>27</sup> Our recent evaluation of New York's SCHIP program, which provides detailed data similar to those of the 1994 evaluation, together with the 1994 CHPlus evaluation serve as the basis for assessing long-term trends in program enrollment as the program has evolved.

The goals of this study are to: 1) describe changes in the characteristics of children enrolled in 1994 CHPlus and 2001 SCHIP; 2) determine if changes in the near-poor, age-eligible population during the time period could account for the evolution of enrollment; and 3) describe changes in the program during the period that could be responsible for the enrollment changes. We hypothesized that, as the program evolved, more "harder-to-reach" children enrolled.

#### EVOLUTION OF PROGRAM FEATURES

Table 1 presents the program characteristics of 1994 CHPlus and 2001 SCHIP. CHPlus was first implemented in 1991, and on April 1, 1998 CHPlus was approved by the Health Care Financing Administration as New York State's SCHIP program.<sup>28</sup> In both periods (1994 and 2001), children were eligible for enrollment if they were age- and income-eligible New York State residents, not eligible for Medicaid, and without other insurance coverage. Enrollees were granted presumptive eligibility (enrollment was permitted before eligibility determination) for 2 months, and no uninsured period was required before enrollment.

There were, however, several important differences between 1994 CHPlus and 2001 SCHIP. First, age eligibility expanded during the period to include adolescents (13-19 years old). To maintain comparability, we limit our analyses to children <13 years old. Second, the Clinton administration published regulations in the late 1990s that defined "public charge" to clarify the circumstances under which noncitizens could be denied public assistance. Although these regulations explicitly exclude SCHIP

**TABLE 1.** Programmatic Characteristics of 1994 CHPlus and 2001 SCHIP

Characteristic	1994 CHPlus	2001 SCHIP
Enrollment at year end	70 000	590 000
Eligibility	New York State resident Not eligible for Medicaid Lacked equivalent coverage 0–12.9 years old	New York State resident Not eligible for Medicaid Lacked equivalent coverage 0–17.9 years old
Presumptive eligibility	2 mo	2 mo
Required uninsured period	None	None
Immigrants	Restrictions against enrollment were selectively enforced; noncitizen children could enroll	Children who are New York State residents are eligible regardless of immigration status
Benefits included	Primary and specialty outpatient, emergency, pharmacy	Primary and specialty outpatient, emergency, pharmacy, hospitalizations, mental health, dental
Benefits excluded	Hospitalizations, mental health, dental, durable medical equipment	Some limits to durable medical equipment and mental health
Premiums	<160% FPL \$0 premium 160–222% FPL \$2/child/mo >222% FPL Full premium	<160% FPL \$0 premium 160–222% FPL \$9/child/mo* 223–230% FPL \$15/child/mo* >230% FPL Full premium
Insurance delivery systems	14 commercial plans 3 indemnity, 11 managed care 7 operating in New York City	32 commercial plans All managed care 14 operating in New York City
Marketing and outreach	- Insurance plan outreach - 2 state-contracted marketing contractors (1 New York City, 1 rest of New York) - No policy (or funds) for broad outreach and marketing	- Insurance plan outreach - Facilitated enrollment†  - \$18.5 million budgeted for broad outreach and marketing approach (1999–2000)
Enrollment process	- Single-sheet (front/back) form  - Completed by family  - Applicant submits to insurer of choice - Eligibility determined by insurer	- 8-page form; joint CHPlus, Medicaid, WIC, PCAP - Completed face-to-face by facilitated enroller/DSS caseworker - Enroller submits to lead agency/DSS - Eligibility determined by contracted lead agencies or DSS

DSS indicates Department of Social Services

\* Maximum of \$45 per family per month for any number of children.

† New York State contracted with regional entities to provide “facilitated enrollment” throughout New York State: holding enroller training sessions and train-the-trainer sessions statewide. Enrollers work in community-based settings under the supervision of a “lead agency” that may be a county or regional governing body, a community-based organization, or some other oversight entity. Families must meet with a facilitated enroller or DSS caseworker to complete the application process.

from consideration<sup>29</sup> and New York State’s SCHIP program explicitly includes “all children who are New York State residents. . . regardless of immigration status,”<sup>30</sup> recent immigrant or noncitizen families may have been deterred from applying as a result of the focus. To the extent that these regulations deterred (or encouraged) recent immigrants and noncitizens from enrolling, this could affect the comparisons between 1994 and 2001 enrollees. Third, legislation in 1996 and 1998 expanded the benefit package to include hospitalizations, mental health, and dental benefits.<sup>28</sup> Fourth, although the monthly premium structure remained similar, families’ share of premiums increased from \$2 to \$9 per child per month for children with family incomes from 160% to 222% FPL but decreased from full pay to \$15 per child per month for children with family incomes from 223% to 230% FPL (with a maximum of \$45 per family per month). Fifth, there was a significant increase in the number of participating insurance plans (from 14 to 32), and although 3 of the 14 CHPlus plans offered traditional indemnity coverage, all 32 of the SCHIP plans offered only managed care coverage. Sixth, vigorous marketing and outreach poli-

cies were adopted in 1998 with the explicit goal of increasing participation. Seventh, in 1998 the state introduced facilitated enrollment, which combined the application process for SCHIP with those of several other programs including Medicaid, Special Supplemental Food Program for Women, Infants and Children (WIC), and Prenatal Care Assistance Program (PCAP); this also increased the length of the application form from 2 to 8 pages. This policy may have expanded SCHIP enrollment and participation by directing low-income families who were applying for other programs to SCHIP. However, it also may have decreased SCHIP enrollment among children who were Medicaid-eligible if some Medicaid-eligible children were enrolled erroneously in SCHIP before the implementation of facilitated enrollment.

Many of these program changes may be typical of how successful programs evolve and expand over time and may be the mechanism by which enrollment naturally changes. Expansion of the benefit package, changes in the premium structure, growth in the number of participating plans, and vigorous marketing and outreach policies are good examples of this evolution.

## METHODS

### Design

Two surveys were conducted: the first (in 1994) was for parents or guardians of children who enrolled in New York State's CHPlus in 1993 to 1994, and the second (in 2001) was for parents or guardians of children who enrolled in New York State's SCHIP in 2000 to 2001. The surveys addressed demographic characteristics and health status on enrollment, baseline health insurance and health care experiences, utilization of health services, and unmet health care needs, with all baseline variables focused on the year before enrollment in either CHPlus or SCHIP. Many of the questions on the 2 surveys were identical and derived from national surveys. Although the name CHPlus remained after the state prototype program converted to SCHIP (see below), we refer to the 2 surveys as the "1994 CHPlus survey" and the "2001 SCHIP survey."

We used the CPS to generate a comparison group for the population of age- and income-eligible children (those potentially eligible) for CHPlus in 1992 to 1994 and SCHIP in 1999 to 2001.<sup>31</sup> Although there is insufficient information in the CPS to determine categorical eligibility, we identified near-poor (100%–300% of the FPL) age-eligible children who could be eligible during the year. These samples provide a broad picture of the children who were eligible for enrollment in CHPlus and SCHIP. We used the 1990 and 2000 census to adjust the CPS weights for the 1992 to 1994 and 1999 to 2001 samples, respectively, by age, sex, race, and geographic region. Further details of this methodology are presented elsewhere.<sup>25</sup>

### Setting

The 1994 CHPlus and 2001 SCHIP studies evaluated the programs throughout New York State, and both stratified the state into 4 regions: New York City (1.9 million children 0–18 years old in the 1990 census),<sup>32</sup> urban counties around New York City (1.2 million children), upstate urban counties (standard metropolitan statistical area,<sup>33</sup> 1.3 million children), and upstate rural counties (0.4 million children).

### Surveys

The method for the 1994 CHPlus survey is described in detail in an earlier article.<sup>34</sup> First-time CHPlus enrollees were selected from the 70 000 enrollees in New York's CHPlus enrollment files. Children were eligible if they had been enrolled for at least 9 months in CHPlus and had a telephone number or address contained in the enrollment file. One child per family was selected with stratified random sampling, stratified by each of the 4 geographic regions. Parent interviews were conducted ~2 years after the child first enrolled in CHPlus, with contact attempted during days, evenings, and weekends. Interviews were conducted in English, Spanish, and 3 Chinese dialects. Specific prompts were used to cue parents about the pre-CHPlus time period. Of the 4342 children sampled who met eligibility criteria, 2232 (51%) interviews were completed. Parents of 106 children stated that they believed their child had been enrolled for <9 months, leaving a study sample of 2126 children.

The methods for the 2001 SCHIP survey were similar. A stratified random sample was drawn consisting of first-time SCHIP enrollees selected from New York's CHPlus administrative files who had a new SCHIP enrollment between November 1, 2000 and March 31, 2001. A random sample of 9101 children was selected, and 1 child per household was selected, stratified by 1) the 4 geographic regions described above, 2) age (0–5, 6–11, and 12–18 years old), and 3) race and ethnicity (3 mutually exclusive categories of white non-Hispanic, black non-Hispanic, and Hispanic; details of race/ethnicity and sampling are described elsewhere).<sup>35</sup> Children who did not fall into 1 of these 3 race/ethnicity groups were ineligible for the 2001 study. Parent interviews were conducted in English and Spanish at all times of day and days of the week. Interviews were conducted ~5 to 7 months after the child's enrollment in SCHIP (time 1), and parents were asked about demographics and child health status and asked to focus on the 1-year period before SCHIP enrollment regarding prior health insurance and health care experiences. Parents were interviewed a second time 13 to 15 months after enrollment (time 2) and asked about the 1-year period after SCHIP enrollment and whether children were still enrolled in SCHIP. Results were weighted to be

representative of the universe of New York's new SCHIP enrollees who met the sampling criteria just as for the CHPlus survey.

Of the 9101 children in the sample frame, we successfully contacted 7293 (80.1%). Of those, 4528 were ineligible because of race or age, the child was deceased or moved out of state, or self-report that the child was not enrolled in SCHIP. Of the remaining 3658 subjects, 957 (26.6%) refused, and 2701 (73.8%) completed interviews, 2644 of which were analyzable. We attempted to contact these 2644 subjects a second time for the time 2 interview. We successfully located 2545 (96.3%) and completed interviews with 2290 (89.98%) of these children. Of these, 1100 were 0 to 12.9 years old and had been enrolled for  $\geq 9$  months.

### Survey and Measure Comparability

There were several key differences in the CHPlus and SCHIP programs and surveys, some of which we account for by limiting the samples we compared. First, as noted above, SCHIP 2001 expanded to include adolescents 13 to 19 years old. In all of our analyses, we consider only children <13 years old to maintain comparability. Second, the 1994 CHPlus sample was limited to children with at least 9 months of CHPlus enrollment, whereas the 2001 SCHIP survey required only 3 to 5 months of enrollment. In all analyses, we used information from the second 2001 SCHIP survey to exclude children who were enrolled for <9 months. Third, because of the design of the 2001 SCHIP surveys, we limit all samples (the 2 program surveys and the CPS) to include Hispanic, non-Hispanic white, and non-Hispanic black children only. Thus, we do not address changes in the characteristics of children of other races. Fourth, the 1994 CHPlus survey required parents to recall measures over a 2- to 3-year period, whereas the 2001 SCHIP survey required a much shorter recall period (3 to 17 months depending on the measure). Fifth, although the 2 program surveys included many identical measures including detailed socioeconomic and demographic characteristics, prior health insurance, health care access, and several quality measures, the health service utilization measures were different. We limit our analyses to those measures that were comparably defined.

### Analyses

We performed weighted bivariate analyses adjusting for the complex sampling design. We compared results from the 2 surveys (1994 CHPlus and 2001 SCHIP) using  $\chi^2$  tests and compared results from the 2 pooled CPS samples (1992–1994 and 1999–2001) using  $\chi^2$  tests. We used Stata 7.0 to perform all analyses.<sup>36</sup>

## RESULTS

Table 2 provides summary statistics for near-poor, age-eligible children (Near-Poor CPS) in New York State from the 2 time periods and for the children enrolled in CHPlus and SCHIP. A comparison of the 1994 CHPlus and 2001 SCHIP enrolled populations shows that there were substantial differences in all measured characteristics as the program matured. There were relative increases in the enrollment of children with the following characteristics: 6 to 12 years old (relative to children 0–5 years old,  $P < .01$ ); black and Hispanic children (relative to white children,  $P < .01$ ); New York City residency (relative to residency in each of the other regions,  $P < .01$ ); and children from single-parent households (relative to children from 2-parent households,  $P < .01$ ). Children enrolled in 2001 SCHIP had considerably lower socioeconomic characteristics (income, educational level, and employment status) than children enrolled in 1994 CHPlus.

A comparison of the near-poor, age-eligible populations in 1992 to 1994 versus 1999 to 2001 shows that there were only small changes in the age, income, and education characteristics of these populations. There was a shift in the racial/ethnic composition ( $P < .01$ ), with a relative increase in Hispanic chil-

**TABLE 2.** Socioeconomic and Demographic Characteristics of Near-poor, Age-eligible Children and of 1994 CHPlus and 2001 SCHIP Enrolled Children

	CHPlus (CHPlus and SCHIP Surveys)		Near-Poor‡ (CPS)	
	1994 CHPlus (%)	2001 SCHIP (%)	1992–1994 (%)	1999–2001 (%)
Age				
0–5 years	60.9	50.8**	45.5	41.9**
6–12 years	39.1	49.2	54.5	58.1
Race/ethnicity				
White	74.3	23.2**	68.8	58.1**
Black	9.4	29.7	17.8	18.4
Hispanic	16.4	48.1	13.4	23.5
Household income				
≤150% FPL	59.1	74.7**	25.1	24.9†
Residence				
New York City	46.0	69.1**	42.5	42.2**
New York City metro	20.3	16.4	14.0	17.5
Upstate urban	23.5	10.5	31.0	34.4
Upstate rural	10.1	4.0	12.6	5.9
Parents' education (maximum)				
<High school	9.9	24.9**	17.6	17.0**
High school or GED	36.5	38.5	41.0	37.0
>High School	53.6	36.6	41.4	46.0
Parents' employment status (max)				
Working full-time (35+ hours)	74.7	66.1**	79.0	70.6**
Working part-time (<35 hours)	18.3	14.2	8.0	9.8
Not working	7.0	19.8	12.9	19.6
Single-parent household	18.3	45.3**	24.6	33.8**

‡ Children who are age-eligible with household incomes between 100% and 300% FPL.  
 $\chi^2$  tests of independence of SES concept (eg, race/ethnicity) and year in the near-poor samples and again by year in the 1994 CHPlus and 2001 SCHIP samples: \*\*  $P \leq .01$ ; †  $P \leq .10$ .

dren and relative decrease in white children. There was a substantively modest change in the geographic composition of the near-poor, age-eligible populations ( $P < .01$ ), with a relative increase in enrollees residing in New York metro and upstate urban and relative decrease in upstate rural residence. There was also a reduction in employment status with a relative decrease in full-time working parents and increase in not-working parents ( $P < .01$ ). The majority of enrollees, however, were from families who were working full-time. Differences in these popula-

tions were small compared with the differences in the enrolled populations.

Table 3 describes the insurance experiences of the near-poor, age-eligible populations as well as the prior insurance experiences of the CHPlus and SCHIP enrolled populations. The 1994 CHPlus and 2001 SCHIP enrollees had similar rates of “ever insured before,” but relatively more children in 2001 SCHIP had as their last insurance Medicaid ( $P < .01$ ) and relatively fewer had as their last insurance a private carrier. Finally, from 1994 CHPlus to 2001

**TABLE 3.** Prior Insurance Characteristics of Near-poor, Age-eligible Children and of 1994 CHPlus and 2001 SCHIP Enrolled Children

	CHPlus Enrollees (CHPlus and SCHIP Surveys)		Near-Poor‡ (CPS)	
	1994 CHPlus (%)	2001 SCHIP (%)	1992–1994 (%)	1999–2001 (%)
Ever insured before	64.9	65.4	—	—
Insurance: year before				
Insured during year	—	40.9	87.5	87.6
Insured all 12 mos before	—	25.9	—	—
Uninsured all 12 mos before	—	59.0	12.5	12.4
Last insurance type				
Any private insurance	65.3	45.5**	76.1	66.3**
Private ESHI§	—	44.1	60.9	56.4**
Private/other (self-purchased)	—	1.9	15.2	9.9
Public	—	58.8	15.3	27.4**
Medicaid	34.7	48.4**	—	—
Other	—	10.4	—	—
Insurance gap before enrollment	56.6	75.8**	—	—

‡ Children who are age-eligible with household incomes between 100% and 300% FPL.  
 Chi-squared tests of independence of insurance measure and year in the near-poor samples, and again in the 1994 CHPlus and 2001 SCHIP samples: \*\*  $P \leq .01$ .  
 § ESHI indicates employer-sponsored health insurance.

SCHIP, there was a large increase in the fraction of children who had an insurance gap before enrolling ( $P < .01$ ). Turning to the near-poor, age-eligible populations, the vast majority (88%) of these children had been insured at some point during the prior year both during the 1994 CHPlus and 2001 SCHIP time periods. Compared with the 1994 CHPlus era, however, near-poor, age-eligible children who had had some insurance in the 2001 SCHIP era were more likely to be insured by public insurance and less likely to be insured privately.

Table 4 shows the rates at which enrolled children were reported to have a usual source of care (USC) during the year before CHPlus/SCHIP as well as the type of USC before enrollment (CPS data do not include USC). Although most children had a USC before enrollment in CHPlus (1994) or 2001 SCHIP, relatively fewer had a USC in 2001 (86.2% vs 95.1%,  $P < .01$ ). The type of USC before enrollment changed dramatically as well. Private offices were identified for 66.6% of children who enrolled in 1994 CHPlus but for only 48.1% of children who enrolled in 2001 SCHIP ( $P < .01$ ). This change was accompanied by relative increases in community health centers (CHCs) or neighborhood health centers (NHCs), hospital emergency room (ER), and hospital clinics.

Table 5 presents the distribution of sources from which families first learned about 1994 CHPlus and 2001 SCHIP. The most common source in 1994 was a neighbor, friend, or relative (38.8%). This was followed by doctor's office, clinic, or hospital (23.9%), school (12.1%), and newspaper, magazine, or billboard (10.3%). In 2001, the most common source was still neighbor, friend, or relative, but its importance had dropped substantially (28.3%,  $P < .01$ ). Doctor's office/clinic/hospital increased in importance (28.1%,  $P < .01$ ). Television (10.6%) became a more important source of information about SCHIP, whereas print media became correspondingly less important. There was a large increase in outreach workers as a source of information, from a negligible 2% in 1994 to 13% in 2001. Outreach workers, television, and print media together were the source of SCHIP information for 27.3% of new enrollees in 2001 versus only 14.3% in 1994 ( $P < .01$ ).

**TABLE 4.** USC for 1994 CHPlus and 2001 SCHIP Enrolled Children

	1994 CHPlus (%)	2001 SCHIP (%)
Had a USC during year before	95.1	86.2**
Type of USC		
Hospital ER	0.2	4.8**
Clinic at hospital	5.2	15.2**
Private	66.6	48.1**
Doctor's office inside hospital		42.2
Doctor's office outside hospital		5.9
Health maintenance organization		1.7
CHC/NHC	13.4	19.6**
Health department clinic	6.1	5.3
Other‡	0.04	0.8
Not ascertained	4.3	—

‡ Other indicates school clinic, urgent care center, Planned Parenthood, or family planning.

$\chi^2$  tests of equivalence of USC status or type by year: \*\*  $P \leq .01$

**TABLE 5.** Source of Information About 1994 CHPlus and 2001 SCHIP

	1994 CHPlus (%)	2001 SCHIP (%)
Neighborhood, friend, or relative	38.8	28.3**
Newspaper, magazine, billboard	10.3	3.6**
Television	2.0	10.6**
Outreach worker	2.0	13.1**
Doctor's office or clinic	23.9	28.1+
School	12.1	5.3**
Other	10.9	11.0

$\chi^2$  tests of equivalence of each information source by year: \*\*  $P \leq .01$ ; +  $P \leq .10$ .

## DISCUSSION

In the early years of New York's CHPlus program, typical CHPlus enrollees may have been relatively easier to reach (they had relatively higher socioeconomic status [SES]), better access to prior insurance, and higher rates of USC) compared with enrollees in the later years (SCHIP). Thus, as the program matured, enrollment evolved to include relatively more children with lower family income and education and less baseline access to care. These results are consistent with findings from several other studies of the evolution of different programs.<sup>8-22</sup>

There are several factors that could have contributed to this pattern over time. Our results indicate that the underlying near-poor, age-eligible population did change somewhat during the time period, but this contributed only a very small amount to the findings. Changes in the racial composition, residency, and employment status of the near-poor, age-eligible population were very small relative to the large changes in the enrolled population.

Changes in key program features could have induced different families to participate in CHPlus/SCHIP. Although premium contributions were similar in structure between 1994 and 2001, they increased from \$2 per child per month to \$9 per child per month for families with incomes between 160% and 222% of FPL. This could have dissuaded relatively higher income families from enrolling under SCHIP. There was, however, a dramatic decline in the premium contributions for families with incomes from 223% to 230% FPL (full pay to \$15 per child) that would work in the opposite direction, although on a smaller number of families. Although most enrollees during both periods faced no premiums (family incomes <160% FPL), there was a substantial reduction in the fraction of enrollees whose families paid a share of the premium (from ~35% to ~20%), which raises a question about the effect of premiums on participation.

Expansions in the program's benefit package (hospitalization, mental health, and dental benefits) could have increased participation among families with greater needs. Other changes such as eliminating indemnity insurance or the deterrent effect of the regulations defining the public charge could work to reduce the participation of families with greater needs. An increase in the number of participating insurance plans with overlapping market areas could

have increased participation, particularly if this increased the number of participating physicians and clinics who were committed to SCHIP enrollment. The relatively large increase in the number of plans operating in New York City could explain, in part, the relative increase in participation there, particularly because plans in New York State market directly to the population.

An important synergy between the benefit expansions and presumptive eligibility could have increased enrollment further. Children who use the expanded benefits (for example, children admitted to a hospital or adolescents seen at an ER or clinic) are more likely to be enrolled if the providers can get paid through presumptive eligibility.

Because CHPlus was a new, relatively small program in 1994, families may not have known about it, particularly those with relatively poor access and little medical care use. Early on, the program may have had little or no reputation as a solution for these families. With little formal outreach and marketing, word of mouth and physicians played a particularly important role in generating enrollment. In 1994, nearly 40% of enrollees learned about CHPlus from a neighbor, relative, or friend, whereas nearly 25% learned about CHPlus from a doctor or clinic, suggesting that in only the third full year of CHPlus many physicians were touting the program. The continued importance of clinics and physicians as a source of information about SCHIP in 2001 could be explained by the ease with which SCHIP materials can be displayed and distributed in clinics and physicians' offices. There was little formal outreach and marketing in the early years of CHPlus, particularly targeted at the hard-to-reach populations. By 1998, however, New York State had adopted a multifaceted outreach approach, for which substantially more money was available. The New York State line-item budget for CHPlus community outreach and marketing grew from \$2.5 million in 1997 to 1998 to \$18.5 million in 1999 to 2000.<sup>37</sup> The outreach strategy included a large-scale media approach (including television advertisements) and advertisements in theaters before movies, on milk cartons, and with prescriptions given at drugstores.<sup>38–40</sup> There were coordinated outreach efforts at day-care centers, schools, health care sites, and with community leaders. All of this significantly raised the profile of CHPlus such that it was a well-known program by 2001. By 2001, parents of nearly 3 in 10 enrollees reported that they first heard about SCHIP from one of the outreach and marketing strategies (outreach worker, television, and from a sign or billboard). The majority of parents still learned about the program from doctors, at clinics, or by word of mouth, but the outreach and marketing strategies clearly played an increasingly important role. It is possible that this aggressive outreach successfully targeted a higher-risk and harder-to-reach population.

In 1997, the State introduced facilitated enrollment, which used a single application form for Medicaid, SCHIP, PCAP, and WIC.<sup>41</sup> Although facilitated enrollment dramatically increased the length of the application form (from 2 to 8 pages),<sup>42</sup> it formalized

the link between Medicaid and CHPlus enrollment so that children whose parents attempted to enroll them in Medicaid would automatically be enrolled in CHPlus if eligible.<sup>43</sup> On the other hand, before the joint application and eligibility determination was instituted, some Medicaid-eligible children may have been enrolled in CHPlus erroneously, and facilitated enrollment may have reduced this problem.

Finally, the success of SCHIP in providing access to insurance also led to the enrollment becoming more representative of the near-poor, age-eligible population as the program aged. With 590 000 children enrolled in 2001, there was considerably less opportunity for differential selection than in 1994, when only ~70 000 children were enrolled.

## LIMITATIONS

The results from this study depend on the comparability of the 1994 CHPlus and 2001 SCHIP evaluations. Although the second study was patterned after the first, the surveys required parents to recall pre-program experiences over different lengths of time. The resulting recall bias and its consequences for this study may be small, particularly for demographic measures obtained at baseline (sex, race, residency, and parents' education and employment), but we are uncertain about its effect on measures of access during the pre-CHPlus period.

Our intent in using the near-poor, age-eligible CPS samples is to assess secular trends that could explain differences in the enrollees during the 2 periods. Inferences drawn about relative participation rates from these samples should not be made. The CPS was not designed with this kind of exercise in mind. Implicitly, an assessment of participation rates assumes that the CPS sample reflects CHPlus or SCHIP-eligible children. Insurance information in the CPS is limited to annual concepts, however, making it impossible to select only those categorically eligible based on insurance status. Analogous problems exist with the income measures. Although changes in the income range with which we select "near-poor" have only small effects on comparisons between the 1992 to 1994 and 1999 to 2000 samples, they have large effects on the fraction of children in each of the samples with family income <150% FPL. We therefore are not confident that we have identified CHPlus- and SCHIP-eligible children, but we are confident that we are identifying secular trends in a broadly defined near-poor, age-eligible population.

Finally, we are uncertain about the effects of various program changes on the evolution of enrollment. Some of the program changes (eg, the implementation of facilitated enrollment) are not predictable or reproducible, which limits the generalizability of our findings. Some of the changes, however, may represent the natural growth of successful programs over time. Changes such as these (eg, the implementation of extensive outreach and marketing strategies and an increase in the number of participating insurance plans) could be the mechanism by which program "maturity" occurs. Of course, these program changes occurred in New York during a

period of extended economic expansion. States may be considerably less likely to adopt measures that extend benefit packages, expand eligibility, or increase participation (ie, outreach and marketing) during times of fiscal crisis.

### CONCLUSIONS

As CHPlus evolved into SCHIP over the 7 years of this study, the characteristics of the enrolled children changed quite dramatically. Typical enrollees became older, were more racially diverse, had lower SES, and poorer measures of access to health care (longer periods without insurance before enrollment and lower rates of USC). This evolution is explained only partially by changes in the age- and income-eligible population during the period. The patterns of program maturity in New York State are explained best by 1) growth in information about SCHIP and the natural dissemination of this information and 2) changes in key program features, particularly dramatic expansions in outreach and marketing, and changes in the enrollment process.

### POLICY IMPLICATIONS

New York's SCHIP program provides insights into the evolution of a state SCHIP and the changes in the characteristics of enrollees as the program matured. Since the passage of SCHIP, states have been encouraged to implement program enhancements that expand coverage of low-income families and children and ensure that eligible families are enrolled in SCHIP.<sup>44</sup> Enhancements in New York's program including an expansion of the benefit package, adoption of broad outreach and marketing strategies, and the linking of the application processes for several public programs are consistent with large increases in program enrollment as well as changes in the characteristics of enrollees.

Our findings also underscore the role that outreach and marketing have had in informing families about SCHIP in New York. In our recent survey, outreach and media were cited as the primary source of information for >25% of enrollees. Word of mouth and physician referrals undoubtedly were enhanced by the outreach and marketing strategies as well. Efforts to engage providers in outreach may be particularly beneficial because of the continued large role physicians play as a source of SCHIP information.

Many children who enrolled in SCHIP were enrolled previously in Medicaid. Because of the important linkages between Medicaid and SCHIP for the poor and near-poor populations, enhancements that assure smooth transitions between these programs may be particularly important in guaranteeing continuity of coverage and care. New York's policy of facilitated enrollment, in which applications for Medicaid, SCHIP, WIC, and PCAP are combined, may be a valuable component of this. Facilitated enrollment provides a natural opportunity to determine SCHIP eligibility for children who have applied to the other programs. We also found that CHCs and NHCs were frequently identified as medical homes before SCHIP enrollment. Thus, adequate

inclusion of these centers in managed care provider networks may be another important requirement to assure continuity of care.

Our study of the evolution of New York's SCHIP program focuses on a period of economic strength. The ability of states to expand or enhance their programs may be limited by the current fiscal climate. If other states do experience similar patterns in the evolution of SCHIP, however, they may expand coverage to harder-to-reach children.

### ACKNOWLEDGMENTS

This work, funded by cooperative agreements from the Agency for Healthcare Research and Quality (AHRQ) (HS10450), the David and Lucile Packard Foundation, and the Health Resources and Services Administration, is part of the Child Health Insurance Research Initiative (CHIRI), which is funded by AHRQ.

We gratefully acknowledge the many contributors to this work including Cindy Brach (AHRQ CHIRI project officer), Eugene M. Lewit (The David and Lucile Packard Foundation CHIRI project officer), Karen VanLandeghem (AHRQ consultant on the CHIRI project), and Peter Budetti (Principal Investigator of the Northwestern University CHIRI project). We also thank Steve Berman and Cindy Mann for many insightful comments on an early draft.

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