

# Adolescents' Preventive Care Experiences Before Entry Into the State Children's Health Insurance Program (SCHIP)

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**ABSTRACT.** *Background.* Adolescence has traditionally been thought of as a time of good health. However, adolescents comprise an important group with unique needs among State Children's Health Insurance Program (SCHIP) enrollees. Throughout the 1990s, there was increasing evidence of unacceptably high morbidity and mortality among adolescents from injuries, suicide, sexually transmitted diseases, substance abuse, and other conditions associated with risk behaviors. The establishment of relationships with the health care system can ensure prompt treatment and help promote healthy behaviors, assuming that the adolescent feels comfortable seeking help for his or her health-related concerns. However, health care systems typically are not designed to ensure that adolescents receive the primary and preventive care that might ameliorate the negative consequences of health-damaging behaviors.

*Objectives.* The purpose of this study was to examine the following hypotheses. 1) Adolescents with special health care needs, those engaging in risk behaviors, and those who were insured before program enrollment would be more likely than those who were healthy and those not engaging in risk behaviors to have a preventive care visit in the year preceding the interview. No differences would be observed in the odds of preventive care visits based on age, race/ethnicity, and gender. 2) No differences would be observed in the receipt of risk-behavior counseling for those with a preventive care visit based on the adolescents' sociodemographic and health characteristics. 3) Adolescents who were older would be more likely to engage in risk behaviors than younger adolescents. There would be no differences in reports of risk behaviors based on gender, race/ethnicity, and children with special health care needs status.

*Methods.* Adolescents 12 to 19 years old and newly enrolled in SCHIP were eligible for the study. Telephone interviews were conducted within 3 months after enrollment with parents of adolescents to obtain sociodemographic information and information about the adolescents' health by using the Children with Special Health Care Needs screener. Interviews also were conducted with the adolescents themselves to obtain information about the adolescents' risk behaviors and experiences with preventive care before SCHIP enrollment.

*Results.* Interviews were completed with 1872 par-

ents. In addition, a total of 918 interviews were completed with adolescents. Approximately 73% of adolescents reported engaging in at least one risk behavior. Approximately 69% reported having a primary care visit during the last year with 46% of those reporting that the visit was private. Of those reporting a primary care visit, between 41% and 53% reported receiving counseling along 1 of the 5 content dimensions of anticipatory guidance. Older adolescents were more likely to engage in risk behaviors than younger adolescents. Hispanic adolescents were ~30% less likely than white non-Hispanic adolescents to report engaging in risk behaviors. In terms of having a preventive care visit, adolescents with a special need were twice as likely to have a visit when compared with their healthy counterparts. Hispanics and black non-Hispanics were half as likely to have a preventive care visit (odds ratios of 0.59 and 0.54, respectively) than white non-Hispanics. Those engaging in risk behaviors were almost 50% less likely to report private preventive care visits than those reporting no risk behaviors. Privacy during the preventive care visit was associated with a greater odds of receiving counseling for risk behaviors in general, sexual activity, and emotional health and relationships. Depending on the type of counseling, those with private preventive care visits were 2 to 3 times more likely to receive the counseling than those whose visits were not private. In addition, those engaging in risk behaviors were 1.45 to almost 2 times more likely to receive counseling than those not engaging in any risk behaviors.

*Conclusions and Implications.* Based on our findings, health plans and providers involved in SCHIP are likely to serve adolescents who have had limited opportunities for private preventive care visits and counseling during such visits. The most underserved are likely to be black and Hispanic adolescents who may have had no preventive care at all compared with their white non-Hispanic counterparts. State agencies, health plans, and providers need to follow established guidelines for adolescent health care that emphasize the provision of counseling for risk behaviors for all adolescents, not just those engaging in risk behaviors or those with special health care needs. Moreover, providers need to seek opportunities to ensure privacy for the adolescents during their preventive care visits so that much-needed counseling can be provided. Particular attention needs to be given to adolescents from minority groups to encourage them to seek preventive care. *Pediatrics* 2003;112:e533–e541. URL: <http://www.pediatrics.org/cgi/content/full/112/6/e533>; *adolescents, risk behaviors, SCHIP, preventive care.*

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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; STD, sexually transmitted disease; CSHCN, children with special health care needs; FPL, federal poverty level; USC, usual source of care; YAHCS, Young Adult Health Care Survey.

The State Children's Health Insurance Program (SCHIP), enacted in 1997, expanded health insurance coverage to children with family incomes too high to qualify for Medicaid. States were given great flexibility in designing their programs with 16 states expanding their Medicaid programs to increase children's coverage and 35 states creating separate programs either alone or in combination with their Medicaid programs.<sup>1</sup> Little information was available about new enrollees' health status and prior health care experiences so that states could plan effectively. Such information is essential for program planning to ensure adequate provider networks and program financing to meet the new enrollees' health care needs.

Adolescence has traditionally been thought of as a time of good health. However, adolescents comprise an important group with unique needs among SCHIP enrollees. Throughout the 1990s, there was increasing evidence of unacceptably high morbidity and mortality among adolescents from injuries, suicide, sexually transmitted diseases (STDs), substance abuse, and other conditions associated with risk behaviors.<sup>2,3</sup> At this same time, studies emerged demonstrating that emergency department use increases during adolescence<sup>4</sup> and that many adolescents have no or inadequate health insurance.<sup>5</sup> For those adolescents visiting a physician, few are screened or receive information about health risks such as unsafe sexual practices, alcohol, tobacco, and drug use, and other risk behaviors.<sup>6</sup>

All of these findings suggest that adolescents entering SCHIP are likely to be underserved in terms of health care in general and to have received little or no screening for and counseling about risk behaviors. The establishment of relationships with the health care system can ensure prompt treatment and help promote healthy behaviors, assuming that the adolescent feels comfortable seeking help for his or her health-related concerns. However, health care systems typically are not designed to ensure that adolescents receive the primary and preventive care that might ameliorate the negative consequences of health-damaging behaviors.<sup>7</sup>

The results reported in this article are part of a larger study designed to assess the relationship between the organizational characteristics of an SCHIP initiative and adolescents' health care use patterns and parental and adolescent satisfaction with care. The purpose of this component of the larger study was twofold. First, we wanted to examine the relationship between adolescents' sociodemographic and health characteristics and the presence of risk behaviors. Second, we wanted to examine the screening and counseling that adolescents (12 to 19 years old) received during preventive care visits before their enrollment in SCHIP. Specifically, we examined the relationship between adolescents' race and ethnicity, age, gender, reported risk behaviors, presence of special health care needs, usual source of care (USC), and prior insurance with whether they had a primary care visit in the year preceding program enrollment and, if they had a visit, whether that visit was conducted privately without a parent present.

For those with a primary care visit, we then examined how health and sociodemographic factors and whether the visit was private changed the likelihood of receiving different types of counseling during the visit. These types of counseling include those involving: 1) risk behaviors such as smoking, chewing tobacco, drinking, drunk driving, using street drugs or steroids, helmet use, sexual/physical abuse, or the use of guns or violence, 2) sexual activity and STDs; 3) diet and exercise; and 4) emotional health and relationships.

Although information is available documenting that adolescents in general are at risk for inadequate preventive care, little is known about the specific characteristics and needs of adolescents entering SCHIP. This study documents the preventive care experiences of these adolescents pre-SCHIP enrollment. This information can be used to identify adolescents who may be most underserved based on sociodemographic characteristics and to work with health plans and providers to ensure that adolescents receive preventive care and anticipatory guidance while in SCHIP.

## STUDY HYPOTHESES

We hypothesized the following.

1. Adolescents with special health care needs, those engaging in risk behaviors, and those who were insured before program enrollment would be more likely than those who were healthy and those not engaging in risk behaviors to have a preventive care visit in the year preceding the interview. No differences would be observed in the odds of preventive care visits based on age, race/ethnicity, and gender.
2. No differences would be observed in the receipt of risk-behavior counseling for those with a preventive care visit based on the adolescents' sociodemographic and health characteristics.
3. Adolescents who were older would be more likely to engage in risk behaviors than younger adolescents. There would be no differences in reports of risk behaviors based on gender or race/ethnicity or whether they are children with special health care needs (CSHCN).

## METHODS

### Study Setting

The setting for this study was the Florida Healthy Kids Program. In 1990, the nonprofit Florida Healthy Kids Corporation was established to administer a comprehensive health insurance program for uninsured children. By 1998 it became the largest component of Florida's SCHIP initiative. As of September 30, 2002, 252 565 children were enrolled in the program. Families at <200% of the federal poverty level (FPL) with children between 5 and 19 years old are offered subsidized premiums of \$15.00 per month regardless of the number of children enrolled. Families at >200% FPL can enroll their children, but they must pay the full premium price of ~\$85.00 per child per month. Children cannot enroll in the Healthy Kids Program if they are Medicaid-eligible.

The Healthy Kids Program benefit package covers preventive care with no copayment and other outpatient care, inpatient care, rehabilitative services, mental health care, and emergency services with minimal copayments. The Healthy Kids Corporation selects commercially licensed health plans through a competitive-bid process to form provider networks and deliver care in counties

throughout the state. All participating health plans are required to have the same subsidized premium, comprehensive benefit package, and copayments.

## Sample Selection

The University of Florida Health Sciences Center Institutional Review Board granted approval for this study. The unit of analysis was the adolescent. Therefore, adolescents enrolled in the Healthy Kids Program for <3 months were randomly selected for possible participation in a telephone survey about their preventive care experiences. If >1 adolescent was enrolled in the program from a particular family, only one adolescent from that family was randomly selected for possible inclusion in the sample. The parents of the adolescents were contacted first and asked if they would participate in an interview about their adolescents' health care before enrollment in Healthy Kids Program. Those parents who completed an interview then were asked if they would allow their adolescent to participate in a telephone survey about the adolescents' preventive care experiences and counseling received about risk behaviors such as tobacco, seat-belt safety, sexual activity, and alcohol and drug use. If the parent agreed, the adolescent was contacted within 7 days of the parent interview and asked to participate in a survey.

A random sample of 3124 parents was selected for possible participation in an interview. Of these, 27% could not be located with the available contact information. A total of 2277 families were located, 18% of which refused to participate in the interview. There were a total of 1872 completed parent interviews. Fifty percent of the parents agreed to let their adolescents participate in an interview. Once the parent agreed that the adolescent could be interviewed, only 2% of the adolescents refused to participate in the survey. A total of 918 interviews were completed with adolescents enrolled in the Healthy Kids Program for <3 months. All surveys were completed between March and July 2001.

Information about adolescent age, gender, and income was available for all families in the random sample and whether they agreed to participate in the parent interview. No significant differences were noted in any of these sociodemographic characteristics between those who were and were not located and between those parents who participated and those who refused to participate.

However, significant differences were noted between those parents who allowed their adolescent to participate in an interview compared with those who refused. A higher percentage of adolescents participating in the interviews were Hispanic (28% vs 15%) or black non-Hispanic (19% vs 16%) and a lower percentage were white non-Hispanic (49% vs 66%) when compared with those not participating ( $\chi^2 = 45.71$ ;  $P < .001$ ). No significant differences were noted between adolescents who did and did not participate in the interviews in terms of mean family income, adolescent age, or adolescent gender. No statistically significant differences were noted between adolescents who agreed to participate versus those who refused with respect to age, gender, family income, and race and ethnicity.

## Data Sources

Three data sources were used: 1) results from the survey administered to adolescents; 2) results from the survey administered to parents; and 3) information from the Healthy Kids Program enrollment files about the adolescents' age and gender.

The 45-item Young Adult Health Care Survey (YAHCS) was used to assess adolescents' reports of their health-related behaviors and provision of preventive counseling by their health care provider.<sup>5</sup> The YAHCS has been widely tested among adolescents enrolled in both public and private insurance programs and has good reliability and validity. The items comprising the YAHCS are tiered such that questions assessing risk behaviors apply to all who take the survey, and questions regarding the provision of anticipatory (preventive) counseling by their provider apply to adolescents who had a preventive care visit within the previous 12 months. Five of the YAHCS measurement scales were used in these analyses: 1) preventive screening and counseling on risk behavior; 2) preventive screening and counseling on sexual activity and STDs; 3) preventive screening and counseling on weight, healthy diet, and exercise; 4) preventive screening and counseling on emotional health and relationship issues; and 5) private and confidential care.

To be assigned a score for each of these screening measures, the adolescent had to answer 75% of the items in the measure. All the items comprising the measures were answered by either "yes" or "no." For the analyses, each of the 5 counseling measures were dichotomized into yes/no scores such that the measure reflected whether the adolescent received counseling in each of the areas.

In addition, the following 5 items from the YAHCS were used to characterize the number of risk behaviors in which the adolescents reported engaging: 1) Have you ever felt sad as though there is nothing to look forward to? 2) Have you ever smoked cigarettes? 3) Have you ever had sexual intercourse? 4) How many days in the last 30 days have you had at least one drink? 5) How often do you wear a seat belt when riding or driving in a car?

To count the number of risk behaviors, the last 2 items were converted into yes/no questions: 1) Have you had at least one drink in the last 30 days? and 2) Have you not worn a seat belt when riding or driving in a car? For the analyses, the number of risk behaviors was converted into a dichotomous variable indicating whether the adolescent had any risk behaviors.

Information from the parent survey was used to characterize the adolescents' race and ethnicity. In addition, parent responses to the CSHCN screener were used to indicate whether the adolescent had a special health care need. The CSHCN screener was designed to identify CSHCN based on the consequences they are experiencing as a result of their conditions. The CSHCN screener has 5 questions and 15 items and addresses the child's: 1) dependence on medications; 2) need for or use of increased medical care beyond what is normally expected; and 3) the presence of any functional limitations.<sup>9</sup> A child is considered to have a special health care need if he or she is experiencing one or more of these consequences. The National Commission for Quality Assurance has adopted the CSHCN screener as the recommended screening instrument for managed care plans to use in identifying children with chronic conditions.

## Predictor Variables

Age, gender, race and ethnicity (characterized as white non-Hispanic, black non-Hispanic, Hispanic, and other), whether the adolescent had a special health care need, prior insurance (yes/no), USC before enrollment (yes/no), and whether the adolescent reported engaging in risk behaviors (yes/no) were used in the statistical models as predictor variables. In the model predicting receipt of counseling, we also included whether the visit was private and confidential (yes/no).

## Outcome Variables

The first analysis predicted the odds of risk behavior. In addition, 6 outcomes related to the adolescents' preventive care visits were assessed. First, we assessed the odds that the adolescent had a preventive care visit in the 12 months before SCHIP enrollment. For those adolescents who had a preventive care visit, we then assessed the preventive counseling they received for 1) general risk behaviors; 2) sexual activity, STDs, and birth control; 3) diet and exercise; and 4) emotional health and relationships. In addition, we assessed the adolescents' perceptions of whether the counseling was provided privately.

## Data Analysis

SAS (SAS Institute, Cary, NC) was used for all analyses. Logistic regression was used to predict the odds of engaging in risk behavior based on sociodemographic characteristics, the presence of special health care needs, prior insurance, and a USC. The probability of a preventive care visit was predicted by controlling for demographic characteristics, the presence of special health care needs, prior insurance, USC, and engagement in risk behaviors. For those who reported a preventive care visit, logistic regression was used to predict the odds of counseling by using the same predictors as those used in the analysis to predict the odds of a preventive care visit as well as whether the visit was private and confidential.

## RESULTS

### Sample Characteristics

A description of demographic and health status characteristics of the adolescents who completed the

**TABLE 1.** Sample Characteristics

Characteristics	Healthy Kids, Adolescents ( <i>n</i> = 918)
Gender	
Male	47.54%
Female	52.46%
Mean income	\$22,794 ± 8,811
Mean age	14.27 ± 1.6
Age	
12 years	15.50%
13 years	19.32%
14 years	18.12%
15 years	18.01%
16 years	17.58%
17 years	11.46%
Race/ethnicity	
White non-Hispanic	53.13%
Black non-Hispanic	17.89%
Hispanic	26.02%
Other	2.96%
Special health care needs	17.57%
Engaging in risk behaviors	72.67%
Prior insurance	27.60%
USC	81.22%
Preventive care visit in year prior to SCHIP	68.79%
Receiving private and confidential visits	45.60%
Receiving counseling during preventive care visit	
General risk behaviors	45.15%
Sexual activities and STDs	40.94%
Diet and exercise	52.94%
Emotional health	44.48%

survey are provided in Table 1. As seen in the table, slightly more than half of the sample was female. Adolescents were on average ~14.27 years old. They were primarily white non-Hispanic, although ~26% were Hispanic and 18% were black non-Hispanic. All the adolescents were between 100% and 200% of the FPL. Approximately 18% of the adolescents reported having a special health care need. During the past 12 months, ~28% had prior insurance, and 81% reported having a USC. Approximately 69% reported having a primary care visit during the last year with 46% of those reporting that the visit was private. Of those reporting a primary care visit, between 41% and 53% reported receiving counseling along 1 of the 5 content dimensions of anticipatory guidance.

#### Factors Related to Engaging in Risk Behavior

Table 2 presents the results of logistic regression conducted to examine the odds of engaging in risk behavior based on sociodemographic, prior health care, and health status characteristics. There was a significant relationship between age and the presence of risk behavior, with older adolescents more likely to engage in risk behavior than younger adolescents. Hispanic adolescents were ~30% less likely than white non-Hispanic adolescents to report engaging in risk behaviors. No significant differences in the odds of engaging in risk behaviors were noted between white and black non-Hispanic adolescents. Adolescents with special health care needs had significantly higher odds of risk behavior when com-

**TABLE 2.** Influence of Demographic Characteristics, Health Status, and Previous Health Care on Odds of Risk Behavior

Factor (Reference)	Parameter Estimate	<i>P</i> Value	Odds Ratio
Child Age (13–14 years)			
11–12 years	−0.302	.206	0.740
15–18 years	0.643	.011	1.902
Race/ethnicity (white/non-Hispanic)			
Hispanic	−0.353	.049	0.702
Black non-Hispanic	0.049	.823	1.050
Other	−0.264	.551	0.768
Gender (female)			
Male	0.288	.062	1.334
Prior insurance (no)			
Yes	−0.240	.166	0.787
USC (no)			
Yes	0.173	.379	1.188
CSHCN (no)			
Yes	0.631	.017	1.880

**TABLE 3.** Influence of Demographic Characteristics, Health Status, Prior Health Care, and Risk Behaviors on Odds of Preventive Care Visit in Year Prior to SCHIP Enrollment

Factor (Reference)	Parameter Estimate	P Value	Odds Ratio
Child age (13–14 years)			
11–12 years	–0.058	.757	0.944
15–18 years	0.104	.572	1.110
Race/ethnicity (white non-Hispanic)			
Hispanic	–0.526	.003	0.591
Black non-Hispanic	–0.610	.002	0.544
Other	–0.327	.461	0.721
Gender (female)			
Male	0.001	.997	1.001
Prior insurance (no)			
Yes	0.017	.921	1.018
USC (no)			
Yes	0.514	.006	1.672
CSHCN (no)			
Yes	0.656	.010	1.927
Risk behavior (no)			
Yes	0.104	.541	1.110

pared with those who were healthy. Gender, prior insurance, and having a USC were not significantly related to risk behavior.

#### Factors Related to Receiving a Preventive Care Visit

No significant differences were noted in the odds of an adolescent reporting a preventive care visit in the year before entering the Healthy Kids Program based on age, gender, prior insurance, or risk behaviors (Table 3). Adolescents with a special health care need and those who were white and non-Hispanic were most likely to have a preventive care visit. Adolescents with a special need were twice as likely to have a preventive care visit when compared with their healthy counterparts. Hispanics and black non-Hispanics were half as likely to have a preventive care visit (odds ratios of 0.59 and 0.54, respectively) than white non-Hispanics. Those who reported hav-

ing a USC in the year before enrollment were more likely to have a preventive care visit than those who reported not having a USC.

#### Factors Related to Reporting Privacy During a Preventive Care Visit

Some health and sociodemographic characteristics were significantly related to privacy during preventive care visits in the year before SCHIP enrollment. In terms of age, adolescents who were 13 to 14 years old were more likely than younger and less likely than older adolescents to have private and confidential counseling (Table 4). Adolescents with special health care needs were more than twice as likely as their healthy counterparts to report privacy during a preventive care visit. However, those engaging in risk behaviors were almost 50% less likely to report private preventive care visits than those reporting no

**TABLE 4.** Influence of Demographic Characteristics, Health Status, Prior Health Care, and Risk Behaviors on Odds of Privacy During Preventive Care Visit

Factor (Reference)	Parameter Estimate	P Value	Odds Ratio
Child age (13–14 years)			
11–12 years	–0.800	.001	0.449
15–18 years	0.676	.001	1.965
Race/ethnicity (white non-Hispanic)			
Hispanic	0.095	.674	1.100
Black non-Hispanic	0.212	.401	1.236
Other	0.243	.640	1.275
Gender (female)			
Male	–0.199	.274	0.820
Prior insurance (no)			
Yes	–0.228	.268	0.796
USC (no)			
Yes	0.246	.325	1.279
CSHCN (no)			
Yes	0.793	.002	2.210
Risk behavior (no)			
Yes	–0.488	.020	0.614

risk behaviors. Gender, race and ethnicity, prior insurance status, and having a USC were not significantly related to the private preventive care visits.

### Content of Preventive Care Visits for Adolescents With a Preventive Care Visit in the Year Before SCHIP Enrollment

Table 5 presents the logistic regression analyses examining the factors contributing to the receipt of health counseling during preventive care visits. Having prior insurance and a USC were not significantly related to any of the 5 outcome measures. However, having had a private preventive care visit was associated with greater odds of receiving counseling for risk behaviors in general, sexual activity, and emotional health and relationships. Depending on the type of counseling, those with private preventive care visits were 2 to 3 times more likely to receive the counseling than those whose visits were not private.

Several health and sociodemographic characteristics were related to the receipt of counseling. Age, race and ethnicity, and gender were associated with counseling. Blacks and Hispanics were almost 2 times more likely to receive preventive counseling for diet and exercise than whites. Blacks were also more likely than whites to receive preventive counseling on emotional health and relationships. Compared with females, males were less likely to receive counseling related to sexual activity. Adolescents with special health care needs, in comparison to those with no reported special health care needs, had greater odds of receiving preventive counseling on diet and exercise as well as counseling related to emotional health and relationships.

With respect to risk behavior, adolescents engaging in risk behavior were more likely to receive counseling for risk behaviors in general, counseling specific to sexual activity, and counseling related to emotional health and relationships when compared with those who were not engaging in risk behaviors. Depending on the type of counseling, those engaging in risk behaviors were 1.45 to almost 2 times more likely to receive counseling than those not engaging in any risk behaviors.

### DISCUSSION

Little is known about the health care needs of children and adolescents entering SCHIP. Adolescents represent a particularly vulnerable group who are at high risk for morbidity and mortality related to behaviors such as substance abuse, unsafe sexual practices, and injuries to name a few. Although each of the aforementioned behaviors has many complex antecedents that are difficult to modify, physicians are a valuable source of health care information for adolescents.<sup>10</sup> Documenting adolescents' specific health care experiences and the sociodemographic and health-related factors related to those experiences could be useful to states when working with provider panels to ensure that adolescent preventive care guidelines are met. Such information also can be used to assess unmet health care needs among this group so that states can be prepared to address those needs after program entry.

**TABLE 5.** Effects of Demographic Characteristics, Health Status, Prior Health Care, and Risk Behavior on YAHCS Anticipatory Care Measures

Factor (Reference)	Preventive Counseling on Risk Behaviors ( <i>n</i> = 553)			Preventive Counseling on Sexual Activity and STDs ( <i>n</i> = 551)			Preventive Counseling on Diet and Exercise ( <i>n</i> = 550)			Preventive Counseling on Emotional Health and Relationships ( <i>n</i> = 553)		
	Parameter Estimate	P Value	Odds Ratio	Parameter Estimate	P Value	Odds Ratio	Parameter Estimate	P Value	Odds Ratio	Parameter Estimate	P Value	Odds Ratio
Age (13–14 years)	0.227	.313	1.254	-0.129	.580	0.879	-0.155	.485	0.856	0.300	.193	1.350
11–12 years	-0.153	.478	0.858	0.274	.206	1.315	0.080	.711	1.083	-0.167	.450	0.846
15–18 years												
Race/ethnicity (white non-Hispanic)	0.120	.586	1.128	0.006	.979	1.006	0.541	.015	1.719	-0.049	.829	0.952
Hispanic	0.175	.478	1.191	0.363	.145	1.438	0.522	.035	1.685	0.559	.027	1.749
Black non-Hispanic	-0.270	.610	0.763	-0.273	.614	0.761	-0.191	.710	0.827	-0.171	.754	0.843
Other												
Gender (female)	-0.346	.052	0.707	-0.486	.008	0.615	-0.150	.398	0.861	0.023	.899	1.023
Male												
Prior insurance (no)	0.221	.271	1.247	0.136	.506	1.146	-0.090	.654	0.914	0.042	.840	1.043
Yes												
USC (no)	0.025	.917	1.026	0.040	.875	1.040	0.468	.053	1.597	-0.291	.240	0.748
Yes												
CSHCN (no)	0.328	.185	1.389	-0.199	.431	0.819	0.535	.036	1.708	0.602	.018	1.825
Yes												
Risk behavior (no)	0.517	.014	1.676	0.639	.003	1.894	0.369	.073	1.446	0.545	.011	1.725
Yes												
Visit was private and confidential (no)	0.786	<.0001	2.194	0.743	<.0001	2.102	0.310	.093	1.363	1.109	<.0001	3.032
Yes												

Adolescent preventive care guidelines contain specific recommendations about comprehensively screening adolescents for risk behaviors and providing health guidance to promote overall health.<sup>11,12</sup> Despite these recommendations, adolescents may not receive such screening and counseling during preventive care visits. Nationally, ~72% of adolescents report visiting a physician at least once annually. The percentages of adolescents who are screened and receive counseling during these visits vary. In one study, only one-third of physicians reported counseling adolescents about weight, STDs, and smoking cessation.<sup>13</sup> In another study, <50% of physicians reported providing counseling about substance abuse or sexual activity.<sup>14</sup> Both of these studies were based on physician, not adolescent, reports. Nonetheless, a substantial percentage of adolescents nationally are not receiving anticipatory guidance during preventive care visits as recommended in national guidelines.

Our hypothesis about factors influencing the receipt of preventive care was confirmed only partially. Adolescents with special health care needs were significantly more likely than healthy adolescents to have a preventive care visit before enrolling in the Healthy Kids Program. Prior insurance and engaging in risk behaviors were not important factors in receiving preventive care. However, black and Hispanic adolescents were only about half as likely as white non-Hispanic adolescents to have had any preventive care visits at all.

We also hypothesized that older adolescents would be more likely to engage in risk behaviors than younger adolescents and that there would be no differences in reports of risk behaviors based on gender, race/ethnicity, and CSHCN status. As expected, older adolescents had higher odds of engaging in risk behaviors than younger adolescents. However, Hispanic adolescents reported fewer risk behaviors than non-Hispanic adolescents, and those with special needs had higher odds of risk behaviors than their healthy counterparts. The reasons for the differences in risk behaviors based on ethnicity are not certain. For those with special health care needs, it is possible that they are more familiar with discussing their health and health care needs than other adolescents and perhaps were more likely to disclose their risk behaviors during the interview. However, both findings about the ethnicity and the health status warrant additional investigation.

We also hypothesized that counseling during preventive care visits would be provided to all adolescents regardless of their socioeconomic or health characteristics. In our study, age, race, gender, and ethnicity all were significantly related to the receipt of counseling during preventive care visits. More importantly, few adolescents received any risk-behavior counseling at all. Although 69% of Healthy Kids Program adolescent enrollees indicated that they had a preventive care visit in the year before SCHIP enrollment, only ~50% of them received any of the recommended counseling during preventive care visits. This finding was obtained despite the fact that 73% of adolescents overall reported engaging in

at least one risk behavior. Moreover, only 46% of the adolescents who had a preventive care visit reported that the visit was private.

Privacy during preventive care visits was significantly related to the receipt of counseling in each of the areas assessed in this study. Ironically, those engaging in risk behaviors were almost 50% less likely than those not engaging in such behaviors to report receiving private preventive care visits. Yet, privacy during preventive care visits was significantly related to the receipt of counseling for risk behaviors in general, sexual activity, STDs and birth control, and emotional health and relationships. Thus, before SCHIP enrollment, those at the greatest risk for health problems because of their actual risk behaviors were the least likely to receive preventive care visits in a private atmosphere most conducive for them to receive needed counseling.

The importance of privacy during the preventive care visit cannot be emphasized enough. Those who had such privacy were 2 to 3 times more likely to receive needed counseling than those without private visits. In addition, several sociodemographic and health-related characteristics were significantly related to adolescents' preventive care experiences. Males were at particular risk for not receiving counseling related to sexual activity and STDs. However, adolescents with special health care needs were more likely to receive counseling on risk behaviors, sexual activity, STDs and birth control, and emotional health and private counseling than their healthy counterparts.

Adolescents reporting risk behaviors were more likely to receive general preventive counseling on risk behaviors as well as targeted counseling for issues related to sexual activity and emotional health than those reporting no risk behaviors. Based on our findings, health care providers may be providing specific counseling to adolescents who report risk behaviors or to those they may perceive as being more vulnerable to health problems because of the presence of special health care needs. However, adolescent preventive care guidelines consistently indicate that all adolescents should receive screening and counseling on a range of risk behaviors, not just those reporting risk behaviors or those with special needs, or on selected risk behaviors.

The impact of such counseling on reducing risk behaviors is not known from the baseline data alone. However, the adolescents in this study were followed longitudinally and interviewed 1 year post-enrollment. When these data are available, analyses will be conducted to examine whether there were changes in risk behaviors pre- and postprogram enrollment and, if so, what factors such as counseling may have contributed to the changes in reported risk behaviors.

Our study provides the first in-depth information about the risk behaviors and preventive care experiences of adolescents entering SCHIP. Our findings are consistent with those obtained from other studies demonstrating that few adolescents receive recommended preventive care counseling during physician visits despite the potential benefits associated

with such counseling. Our findings also are consistent with those of other studies indicating that black and Hispanic adolescents are the most underserved in that they are less likely than white non-Hispanic adolescents to have a preventive care visit at all.

This study has 3 major limitations. First, it is based on findings from one state only, and the results may not be generalizable to other states. However, our findings are similar to those obtained in studies conducted with other adolescent populations. Therefore, it is likely that state SCHIP administrators and health care providers in other states either are or will be serving adolescents who have many unmet health care needs related to preventive care and health care counseling.

Second, information about risk behaviors and the counseling provided during physician visits is based on adolescent self-report. Several studies have documented bias in self-reported behaviors among adolescents based on gender and social class differences.<sup>3</sup> Moreover, the setting for data gathering is likely to influence reporting of risk behaviors with higher prevalence estimates found with school-based compared with household-based surveys.<sup>15</sup> Our study was household-based. Adolescents were contacted separately after their parents had given consent and were given the opportunity to schedule a time to complete the interview when it was convenient for them. Despite these efforts, adolescents may not have had sufficient privacy to answer all the questions honestly. However, our finding that 73% of the adolescents engaged in one or more risk behaviors is similar to the findings of Bethell et al,<sup>8</sup> who found that 69% of adolescents in their sample engaged in one or more risk behaviors as reported on the YAHCS using both mail and telephone administration.

It also is possible that adolescents did not report on the preventive care counseling they received accurately. Perhaps adolescents engaging in risk behaviors were more likely to remember and report receiving counseling about such behaviors than other adolescents. However, Bethell et al found that the YAHCS was a feasible, reliable, and valid method for assessing the provision of adolescent preventive care.

Third, parents who agreed to allow their adolescents to participate in the telephone survey were more likely to be black non-Hispanic or Hispanic than those who did not allow their adolescents to participate. Thus, the findings more strongly reflect the experiences of adolescents from these minority groups before SCHIP enrollment than those of white non-Hispanic adolescents.

### CONCLUSIONS AND POLICY IMPLICATIONS

Based on our findings, health plans and providers involved in SCHIP are likely to serve adolescents who have had limited opportunities for private preventive care visits and counseling during such visits. The most underserved are likely to be black and Hispanic adolescents who may have had no preventive care at all compared with their white non-Hispanic counterparts. Health plans and providers need

to follow established guidelines for adolescent health care that emphasize the provision of counseling for risk behaviors for all adolescents, not just those engaging in risk behaviors or those with special health care needs. State health agencies need to promote and facilitate the use of these guidelines through strategies such as financial incentives and contract requirements with health plans.

Moreover, providers need to seek opportunities to ensure privacy for adolescents during their preventive care visits so that much-needed counseling can be provided. State health agency administrators and health plans should ensure that providers are aware of and educated about state minor consent and confidentiality laws.<sup>16</sup> There is a large range of awareness and knowledge among providers about confidentiality issues, which may influence providers' willingness to see adolescents privately even if state law allows them to do so. In addition, health plans should inform adolescent enrollees about what health care services they are able to seek without parental consent.

Finally, particular attention needs to be given to adolescents from minority groups to encourage them to seek preventive care. States and their participating health plans should consider options such as school-based clinics and health care clinics located in the adolescents' communities to reduce barriers to seeking preventive care.

This study provides valuable information about the specific experiences of adolescents entering SCHIP and can be used to work with health care providers to address adolescents' preventive care needs. As part of this work we are following these adolescents longitudinally and will examine whether their preventive care experiences change after program enrollment and what, if any, impact this has on their risk behaviors.

### ACKNOWLEDGMENTS

This study, funded through a cooperative agreement from the Agency for Healthcare Research and Quality (HS10463), is part of the Child Health Insurance Research Initiative, which is cofunded by Agency for Healthcare Research and Quality, the David and Lucile Packard Foundation, and the Health Resources Services Administration.

We thank the following people for thoughtful feedback and comments on this and earlier versions of the paper: Cindy Brach, Gene Lewit, Karen VanLandeghem, Cindy Mann, Steve Berman, and Peter Szilagyi. We also thank Virginia Shaffer and Jana Col for assistance with the manuscript.

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