



How Well Is CHIP Addressing Primary and Preventive Care Needs and Access for Children?

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The authors declare that they have no conflict of interest.

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ABSTRACT

OBJECTIVE: To examine differences in primary care outcomes under the Children's Health Insurance Program (CHIP) compared to private coverage and being uninsured in 10 states.

METHODS: We used data from a survey of parents of recent and established CHIP enrollees conducted from January 2012 through March 2013. We compared the primary care experiences of established CHIP enrollees to the preenrollment experiences of previously uninsured and privately insured recent CHIP enrollees to estimate differences in care outcomes.

RESULTS: Parents of 4142 recent enrollees and 5518 established enrollees responded to the survey (response rates were 46% for recent enrollees and 51% for established enrollees). Compared to being uninsured, CHIP enrollees were more likely to have a well-child visit, receive a range of preventive care services, and have patient-centered care experiences. They were also more likely than uninsured children to have a regular

source of care or provider, an easy time making appointments, and shorter wait times for those appointments. Relative to privately insured children, CHIP enrollees received preventive care services at similar rates and to be more likely to receive effective care coordination services. However, CHIP enrollees were less likely than privately insured children to have a regular source of care or provider and nighttime and weekend access to a usual source of care.

CONCLUSIONS: CHIP continues to provide high levels of access to primary care, especially compared to uninsured children, and to provide benefits comparable to private insurance.

KEYWORDS: CHIP; health care access; health care utilization; primary care; public health insurance

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WHAT'S NEW

This study presents updated and expanded evidence on primary care outcomes for Children's Health Insurance Program (CHIP) enrollees compared to uninsured children, including access to flu vaccinations, preventive care screenings, and anticipatory guidance. It also shows that receipt of primary and preventive care is similar under CHIP and private insurance.

SINCE IT WAS signed into law in 1997, the Children's Health Insurance Program (CHIP) has grown to insure more than 8 million low-income children whose family income exceeds the cutoff for Medicaid eligibility. Early research on CHIP found it to be a highly successful program, increasing the numbers of low-income children with health insurance and improving access to preventive care and many other health care services for enrollees.^{1–5} CHIP has evolved considerably since its inception, and in the context of health care reforms, additional evidence is needed to inform impending decisions about the future of

CHIP and whether federal funding will be extended beyond September 2015.^{6,7}

Here we present updated and expanded evidence on CHIP enrollees' access to and use of primary care, a cornerstone to delivery of well-coordinated and comprehensive pediatric care. The analysis was conducted as part of an independent, comprehensive evaluation of CHIP called for in the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA). The evaluation was conducted by Mathematica Policy Research and its partner, the Urban Institute, on behalf of the Secretary of the US Department of Health and Human Services and overseen by the Office of the Assistant Secretary for Planning and Evaluation.⁸ This is one in a series of articles in this supplement that report on findings from a large 10-state household survey of CHIP enrollees and disenrollees conducted as part of the evaluation.

Several studies have documented greater access to care among children covered by CHIP relative to uninsured children, and that enrollment in CHIP is associated with greater likelihood of having access to a usual source of care (USC), receiving medical care, and using preventive

care services.^{1-5,9} We expanded on previous studies by examining a broad range of primary care outcomes, including access to a regular source of care, receipt of a well-child checkup, preventive care screenings and counseling, and the patient-centeredness of care received. We also compared primary care experiences of CHIP enrollees to the experiences of both uninsured and privately insured children.

We first present descriptive findings on the extent to which CHIP is meeting children's primary and preventive health care needs. We then estimate differences in primary care access and experiences among established CHIP enrollees compared to privately insured and uninsured children.

METHODS

DATA

The data for this study were drawn from a telephone-based survey of parents of 12,197 CHIP enrollees and disenrollees in 10 states fielded by Mathematica Policy Research from January 2012 through March 2013 as part of the CHIPRA-mandated evaluation of CHIP. The states included were Alabama, California, Florida, Louisiana, Michigan, New York, Ohio, Texas, Utah, and Virginia. These states were selected because they utilize diverse approaches to providing health insurance coverage for children, represent various geographic areas (including a mix of more rural and more urban states and a variety of races/ethnicities), and each contains a significant portion of uninsured children. In 2012, CHIP enrollees in these states represented approximately 57% of CHIP enrollees nationally.¹⁰

We used state eligibility and enrollment files to construct the sample frame for each state and randomly selected children (18 years or younger) in 3 strata in each state: 1) established enrollees (children who had been enrolled in CHIP for 12 or more consecutive months at the time of sampling), 2) recent enrollees (children who had been enrolled in CHIP for exactly 3 consecutive months, preceded by a gap in public coverage of at least 2 months, at the time of sampling), and 3) recent disenrollees (children who were disenrolled from the program for exactly 2 months, at the time of sampling, and who were previously enrolled for at least 3 months before the month of disenrollment).

Recent CHIP enrollees who transferred from Medicaid or who returned to CHIP after a short gap in public insurance coverage (3 months or less) were excluded from the sampling frame for 2 reasons. First, parents of such CHIP enrollees are often unaware of these coverage transitions and therefore are not able to reliably describe health care experiences before their (re)enrollment in CHIP. Second, because their coverage history reflects a period of public coverage, these children do not represent a useful comparison group for assessing how CHIP differs from private or no insurance coverage.

The final survey data included responses from parents of 5518 established enrollees, 4142 recent enrollees, and 2537 disenrollees. The overall survey response rate was 51% for established enrollees, 46% for recent enrollees,

and 43% for recent disenrollees. The survey included a wide range of questions related to the sampled child's current and prior health insurance, health status and needs, and health care use and experiences, many of which were adapted from other large surveys relevant to children's health. Additional details on the survey, including the questionnaire, are available elsewhere.¹¹ The study was reviewed and approved by the New England Institutional Review board (NEIRB 12-200).

STUDY DESIGN

We compared the experiences of established enrollees who had been on the program for at least 1 year to the pre-enrollment experiences of recent CHIP enrollees. Established enrollees were asked about their experiences during the last 12 months of enrollment, while recent enrollees were asked about their experiences during the 12 months before their enrollment in CHIP. We focused our analyses on comparisons between established enrollees and 2 subgroups of recent enrollees: first, recent enrollees who were uninsured for 5 to 12 months before enrollment, and second, recent enrollees who were privately insured for 12 months before enrollment. We used previously uninsured children to compare CHIP to being uninsured and children previously insured by a private plan to compare outcomes under CHIP to those under private coverage.

INDEPENDENT VARIABLES

Our key explanatory variable was the insurance status of enrollees during the 12-month recall period. We also included potentially confounding variables, including child's gender, age, and race/ethnicity; primary language and number of children in the household; parents' highest education level, employment status, and citizenship; and geographical location at the time of sampling (through a series of state-region dummies).

DEPENDENT VARIABLES

We examined outcome measures capturing 3 different aspects of children's primary medical care experiences. All measures are based on parent reports of care experiences over the 12-month reference period and dichotomized.

Access to primary care services.—Measures include presence of a USC or personal doctor or nurse; ease of getting appointments with a medical provider; typical wait time for care of less than 30 minutes; and accessibility of a provider at a USC at night and on weekends.

Receipt and content of care.—Measures include receipt of any preventive care or well-child checkup; a flu vaccination; key health screenings (height and weight measurement, vision screening, and developmental screening); and anticipatory guidance on key topics, including injury prevention, eating habits, exercise habits, and risks of secondary smoke. The developmental screening indicator was based on 3 measures in the 2007 National Survey of Children's Health (NSCH) designed to capture the use of standardized parent-completed screening tools recommended by the American Academy of Pediatrics.^{12,13}

Patient-centeredness of health care.—Measures include commonly used composite measures of whether the child obtained referrals when needed, received effective care coordination, and received family-centered care, based on survey items consistent with those contained in the 2011 NSCH.^{13,14}

STATISTICAL ANALYSIS

We used binary dependent variables and estimated linear probability models to generate regression-adjusted differences between established CHIP enrollees and recent enrollees who were previously uninsured and who were previously covered by private insurance. We also conducted a number of sensitivity analyses to address possible unobserved differences between recent and established enrollees. We considered different subsets of established enrollees who were more likely to have been uninsured or privately insured before entering the program. We also considered various subgroups of recent enrollees based on their reasons for enrolling and past service use in case their use of health care services during the year before enrollment was atypically high or low. Finally, we tested the sensitivity of our results to including different geographic control variables in the model, which address possible confounding due to differences in local health care markets. The results presented here are robust to these alternative specifications. All analyses used survey weights generated to account for the complex, multistage sampling design of the survey and nonresponse bias.¹¹

RESULTS

CHARACTERISTICS OF ESTABLISHED AND RECENT CHIP ENROLLEES

The established CHIP enrollees in the 10 survey states represented a diverse population of children primarily living in low-income households with working parents (Online Appendix Table 1). Over half of enrollees (53%) were Hispanic, reflecting the large Hispanic populations in several large sample states. A majority of enrollees lived in households with incomes less than 150% of the federal poverty level (60%) and with at least 1 working parent (88%). CHIP enrollees were largely healthy, but over one-fourth had at least 1 special health care need, and 7% of enrollees had fair or poor parent-reported overall health. The sociodemographic and health characteristics of established CHIP enrollees varied significantly across the 10 states in this study. For example, 74% of established CHIP enrollees in California were Hispanic compared to 5% in Alabama, and 16% of enrollees in Alabama lived in rural areas compared to 1% or less in California and Florida (Online Appendix Table 2). And 42% of established enrollees in Ohio had special health care needs compared to 19% of enrollees in California (Online Appendix Table 2).

Compared to established CHIP enrollees, previously uninsured recent enrollees tended to be younger and have lower income, and were more likely to be Hispanic (Online Appendix Table 1). Compared to established enrollees,

recent CHIP enrollees coming from private insurance tended to be younger, to be in better health, and to have more educated parents and higher incomes; they were also more likely to be non-Hispanic white and have parents who are US citizens. Our models controlled for these potentially confounding differences between the study groups.

PRIMARY CARE OUTCOMES AMONG ESTABLISHED CHIP ENROLLEES

Most CHIP enrollees (88%) had access to a regular source of care or provider (Table). Over 80% of CHIP enrollees' parents reported that it was usually or always easy to get their child an appointment with a medical provider. After arriving for an appointment, over half (56%) of CHIP enrollees waited for care for less than 30 minutes. However, accessibility to providers outside of office hours at enrollees' USC was more limited. Among CHIP enrollees with a USC over the last 12 months, only 28% had a USC with nighttime or weekend hours, with most enrollees' parents reporting that they were not able reach a provider at the USC outside of regular office hours (63%).

Four of 5 CHIP enrollees had had a well-child visit in the prior 12 months (Table). However, the proportions of CHIP enrollees who received immunizations and health screenings during primary care visits in the past year were lower. Roughly half (48%) of CHIP enrollees had received a flu vaccination. Rates for receipt of key health screenings varied considerably—92% of CHIP enrollees had their height and weight measured and 60% received a vision screening, but only 30% of parents with children under age 6 had completed a comprehensive developmental screening questionnaire. Rates of receipt of anticipatory guidance on key health-related topics also varied—roughly 60% of CHIP enrollees' parents recalled discussing the risks of secondary smoke and the child's eating and exercise habits with a provider, but only 42% recalled discussions on how to avoid child injuries.

Parents of CHIP enrollees reported positive care experiences with their child's providers at high rates on some, but not all, of these aspects of primary care delivery (Table). The majority of parents (74%) reported not having a problem getting referrals when needed and receiving effective care coordination across a number of care coordination elements (68%). A relatively high proportion of CHIP enrollees' parents also reported having positive, family-centered care interactions with their child's provider across the various dimensions of this care component. Specifically, approximately 65% to 80% reported that the provider usually spent enough time with the child, always listened carefully, was sensitive to family values/customs, provided needed information, and made the family feel like a partner (data not shown).¹⁵ However, only 47% of parents reported positive care experiences on all of these dimensions of family-centered care.

Within these overall findings, there were differences in primary care access and experiences across some subgroups of CHIP enrollees (data not shown).¹⁵ Relative to white enrollees, black and Hispanic enrollees were less likely to have a regular source of care or provider and (among those who

Table. Parental Reports of Primary Care Access, Use, and Patient Experiences of Children Enrolled in CHIP Compared to Uninsured and Privately Insurance 2012 (10-State Pooled)

Characteristic	Weighted Percentage or Percentage Point Difference (SE)		
	Percentage of CHIP Enrollees in 10 States, Unadjusted†	Percentage Point Difference Between CHIP and Other Coverage (Regression Adjusted)	
		CHIP Enrolled Versus Uninsured Before Enrollment‡§	CHIP Enrolled Versus Privately Insured Before Enrollment§
Access to primary care			
Had USC or personal doctor/nurse	87.8 (0.6)	9.5 (2.2)*	-7.4 (1.4)*
Usually or always easy to get appointments	82.6 (0.7)	17.7 (2.6)*	1.7 (2.1)
Wait time for care less than 30 min	56.0 (1.0)	9.4 (2.8)*	-1.3 (2.7)
USC has night or weekend office hours	27.8 (0.9)	1.5 (2.4)	-13.0 (3.0)*
Could reach doctor after hours	37.0 (1.0)	3.0 (2.6)	-23.4 (3.1)*
Receipt of preventive care services			
Any preventive care or checkup visit	79.7 (0.8)	25.3 (2.5)*	0.6 (2.2)
Received flu vaccination¶	48.4 (1.0)	11.7 (2.6)*	-8.9 (2.9)*
Had vision screening in last 12 mo	59.7 (0.9)	9.2 (2.6)*	2.2 (2.8)
Received developmental screening#	30.2 (2.6)	2.3 (6.6)	3.7 (5.6)
Had height/weight measured	91.9 (0.5)	17.6 (2.3)*	-1.5 (1.5)
Received anticipatory guidance on:			
How to avoid injury	41.6 (0.9)	14.8 (2.3)*	-0.9 (2.9)
Child's eating habits	58.2 (0.9)	16.1 (2.4)*	-2.9 (2.8)
Child's exercise habits	58.7 (0.9)	18.9 (2.5)*	-2.0 (2.8)
Risks of secondary smoke	61.6 (0.9)	14.7 (2.6)*	4.8 (2.8)
Patient centeredness of health care			
Obtained referrals when needed	73.8 (1.8)	37.5 (6.1)*	0.1 (5.6)
Received effective care coordination	68.5 (1.0)	22.8 (4.1)*	9.2 (3.4)*
Received family-centered care	46.6 (1.0)	11.8 (2.9)*	-4.8 (3.0)
Meet criteria for having a medical home	25.9 (0.8)	6.2 (2.2)*	-5.4 (2.7)**

CHIP indicates Children's Health Insurance Program; USC, usual source of care.

* $P < .01$.

** $P < .05$.

†Continuously enrolled in CHIP for ≥ 12 months at time of survey.

‡Uninsured for 5 to 12 months in the year before CHIP enrollment and enrolled in CHIP for 3 consecutive months at time of survey.

§Regression adjusted for child's age, gender, and race/ethnicity; parent or guardian's highest level of education, employment status, and US citizenship status; primary language and number of children in the household; and geographical region at the time of sampling. These columns reflect the regression-adjusted difference in the outcome for established enrollees versus recent enrollees who were uninsured 5 to 12 months during the year before CHIP enrollment or recent enrollees who had private insurance for the entire year before CHIP enrollment.

||Privately insured for 12 months in the year before CHIP enrollment and enrolled in CHIP for 3 consecutive months at time of survey.

¶Ages 18 months and older to ensure eligibility for flu immunization over full 12-month recall period.

#Ages 12 months to 5 years.

had a USC) were more likely to have difficulty reaching providers at their USC outside of business hours; they also tended to experience greater wait times for care. In contrast, there were few significant differences across racial and ethnic subgroups in receipt and content of primary and preventive care, with 2 exceptions. Black and Hispanic enrollees were more likely to have received a flu vaccination and anticipatory guidance on all 4 topics examined. However, parents of black and Hispanic enrollees were less likely to report positive family-centered care experiences. Where there were differences in primary care outcomes between whites and Hispanics, the differences tended to be larger for Hispanics whose primary language was Spanish. On most measures, differences between whites and Spanish-speaking Hispanics were also greater than between whites and non-Hispanic blacks.

CHIP enrollees whose parents had more education tended to have higher rates of access to and use of primary care services. Enrollees whose parents had some college education fared significantly better than enrollees whose

parents had not completed high school on all primary care outcomes examined, with the exception of developmental screening for children under age 6, anticipatory guidance, and obtaining referrals when needed. Parental education did not appear to be significantly associated with receipt of these preventive services.

Finally, CHIP enrollees with at least 1 special health care need and children who had asthma were more likely to have a USC or personal doctor or nurse and a USC with night or weekend hours. Children with a special health care need were also more likely to have had a well-child visit and to have received a flu vaccination and health screenings during primary care visits (with the exception of developmental screening for young children). They were also more likely to have received family-centered care services and to meet the criteria for having a medical home.

CHIP COMPARED TO BEING UNINSURED

Compared to being uninsured, children enrolled in CHIP had significantly better access to primary care (Table).

CHIP enrollees were more likely to have a regular source of care or provider, to have an easier time obtaining appointments, and to experience shorter wait times than uninsured children. CHIP enrollees were also more likely to receive important preventive care services than uninsured children, including a well-child checkup, flu vaccination, vision screening, and height/weight assessment, as well as anticipatory guidance on key topics (injury prevention, eating and exercise habits, and risk of secondary smoke). Among the measures examined here, the only preventive care service for which CHIP enrollment appeared to make little difference was receipt of a developmental screening for children under age 6.

Established CHIP enrollees were also more likely than uninsured children to receive patient-centered care consistent with medical home principles. Specifically, parents of established enrollees were more likely to have been able to obtain referrals for their child when needed, to receive effective care coordination services, and to have family-centered care interactions. These findings were robust to alternative specifications that account for potential differences between these 2 groups (aside from their health coverage) and generally persisted across the 10 states and demographic subgroups of children.¹⁵

CHIP COMPARED TO PRIVATE INSURANCE

Primary care outcomes for established CHIP enrollees were similar to those of privately insured children, with a few notable exceptions (Table). Relative to privately insured children, CHIP enrollees were less likely to have a regular source of care or provider and nighttime and weekend access to a USC. However, we found few significant differences in the receipt of preventive care between the 2 groups, and we found positive effects of CHIP enrollment on care coordination. As with the comparisons to uninsured children, these findings were robust to alternative specifications and largely consistent across the 10 states and subgroups of children.¹⁵

DISCUSSION

These findings suggest that CHIP programs continue to provide high levels of access to primary care. Most enrollees have a regular source of care or provider, an easy time making appointments with providers, and received an annual well-child checkup. However, despite high rates of well-child visits, parents of many children covered by CHIP reported that the child had not received flu vaccinations, recommended health and development screenings, and anticipatory guidance on a regular basis. This suggests that having a preventive care visit does not always ensure that children will receive recommended care, a finding reported elsewhere, and one that is not unique to CHIP.^{16,17} In addition, although most enrollees had a regular source of care or provider, few had access to their USC at nighttime and on weekends.

The majority of CHIP enrollees' parents reported positive care experiences on several components of patient-centered care, including obtaining referral assistance

when needed, effective care coordination, and individual measures of family-centered care (between approximately 65% and 80%; data not shown). These rates are generally consistent with those found for all US children (as well as publicly and privately insured children) in the 2011 NSCH, with one notable exception. Less than half of the parents of enrollees in our sample reported family-centered interactions with their child's provider on all aspects of this care component (compared to 67% for children nationally, 57% for publicly insured children, and 75% for privately insured children in the 2011 NSCH).¹³

Consistent with prior research on access under CHIP,¹⁻⁵ we found substantial evidence that CHIP enrollees had better access to health care than uninsured children. CHIP enrollees were much more likely to have a personal doctor or nurse; to have an easy time getting appointments; to receive an annual well-child visit, a flu vaccination, health screenings, and anticipatory guidance; and to obtain referrals and effective care coordination when needed. In contrast, and also generally aligned with prior studies comparing access under public and private coverage,^{9,17} the comparison of CHIP enrollees with privately insured children suggests that these 2 groups have relatively similar primary care access and experiences, with a few notable exceptions. Children in CHIP were less likely than privately insured children to have a regular source of care or provider and access to after-hours care from a usual source. However, CHIP enrollees were more likely to receive effective care coordination services than privately insured children.

The results of this study should be considered in the context of several strengths and limitations. One advantage of this study is that it explicitly distinguished CHIP enrollees from children with Medicaid coverage, which is often not possible on national surveys and thus can speak to the experiences of children with CHIP rather than children with public coverage more generally. Moreover, the use of pre-enrollment experiences of recent CHIP enrollees as a comparison helps to control for unobserved factors like motivation or perceived value of the program that might otherwise differ between CHIP enrollees and those with private or no insurance coverage. Despite this advantage, our results should not be interpreted as causal impacts of CHIP on the outcomes of interest. Although we performed several sensitivity analyses and accounted for many observable differences between established and recent enrollees, unmeasured factors that affect both the outcomes of interest and a child's insurance status are likely to remain. Unfortunately, as a result of their limited experience in the program, we could not compare the post-CHIP experience of recent enrollees to their own pre-CHIP experiences to more directly assess the impacts of the program. In addition to these limitations, our assessment of outcomes was dependent on parental report, making them subject to recall and other biases, which may be particularly problematic for recent enrollees who faced a longer recall period. Parent report is the only valid way to assess many experiences with care and has been shown to be reasonably accurate for reports of health care

utilization.¹⁸ Finally, the survey only included children from 10 states, potentially limiting the generalizability of the findings to other states. However, the states were chosen to represent a variety of CHIP features, and CHIP enrollees in these states represent over half of CHIP enrollees in the United States.

Taken together, the evidence presented here strongly suggests that CHIP provides better access to primary care than that available to uninsured low-income children. On most measures, CHIP also provides comparable access to that experienced by children with private insurance, but it is important to note that this study compares CHIP to private insurance options available when the survey was conducted in 2012, before Health Insurance Marketplaces (or insurance exchanges) and other reforms were introduced under the Affordable Care Act (ACA). As the future of CHIP is debated, it will be important to consider potential differences in the generosity and affordability of coverage under CHIP compared to new private coverage options under ACA's insurance exchanges, as such plans would be likely coverage alternatives for children in the absence of CHIP.

Research has consistently shown CHIP to be an important source of insurance for low-income children, providing affordable and high levels of access to health care, as well as positive care experiences overall.^{1–5,19} preventive health care in particular is a critical aspect of keeping children healthy, and this study confirms that CHIP generally provides excellent access to primary and preventive care services. Importantly, however, our results also suggest areas for improvement under both CHIP and private insurance. Access to after-hours and weekend care continues to be relatively limited under CHIP, an issue that has also been highlighted for children enrolled in Medicaid.¹⁷ Across both types of insurance, our findings indicate that many children are not receiving recommended preventive care services on a regular basis (including flu vaccinations, some health-related screenings, and anticipatory guidance) despite high rates of annual preventive care visits. In addition, a significant share of parents of children covered by both CHIP and private insurance reported that their experiences with the child's provider were not fully aligned with family-centered care principles.

Fortunately, implementation of CHIPRA and ACA have offered the CHIP and Medicaid programs unique opportunities to better measure, monitor, and improve quality of care, including the adoption of a core set of children's health care quality measures.²⁰ These and other efforts are helping to build a strong foundation for children's health care quality improvement, and it will be critical to continue and expand upon these efforts regardless of the outcome of the debate over CHIP.

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SUPPLEMENTARY DATA

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.acap.2015.02.012>.

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