Editor’s Note: This online data supplement contains information that was not included with the published article by Andrew W. Dick et al., “SCHIP’s Impact in Three States: How Do the Most Vulnerable Children Fare?” *Health Affairs* 23, no. 5 (2004): 63-75, online at content.healthaffairs.org/cgi/content/abstract/23/5/63

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SCHIP Impact in Three States: How Do the Most Vulnerable Children Fare?

Appendix A
Data and Methods Technical Appendix

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DATA AND METHODS

The study methods reflect a high level of collaboration among three projects that participate in the Child Health Insurance Research Initiative (CHIRI™). CHIRI™, sponsored by the Agency for Healthcare Research and Quality (AHRQ), The David and Lucile Packard Foundation, and the Health Resources and Services Administration (HRSA), consists of nine research projects on public child health insurance programs and health care delivery systems that are designed to provide information to policy makers.¹

Setting: This study uses longitudinal data from evaluations of separate free-standing SCHIP programs in Kansas, New York and Florida. New York and Florida have large and mature programs that had prototype programs in place before the SCHIP legislation was enacted. Together these two states accounted for 25% of SCHIP enrollees in 2001.² Kansas has a smaller program that was established as a result of the SCHIP legislation. Each state offers a distinct set of SCHIP features and environments under which the programs operate. Exhibit 1 summarizes SCHIP program characteristics in the three states.
Study Design: Details about the data and methods of the three state studies are described elsewhere. All used a pre-post (T1-T2) longitudinal design in which samples were drawn from newly enrolled children. Comprehensive telephone interviews about the child’s experiences during the 12 months prior to enrollment were conducted 2-7 months after the child’s SCHIP enrollment (T1), and again 13 months after enrollment about the 12 months following enrollment (T2). The New York study also included a control sample drawn from new SCHIP enrollees at the time of the second interview (T2) to investigate secular trends in “pre-enrollment” measures. An analysis of these data found that only 3 of 75 measures showed any evidence of differences between periods (data available upon request).

Sampling: Study teams drew random samples (one child per family) from lists of children newly enrolled in SCHIP between July 2000 and March 2001. Both Kansas and New York stratified their samples by age (Kansas through age 17 and New York through age 18) and geographic region or urbanicity. New York also stratified by race/ethnicity (white non-Hispanic, black non-Hispanic, and Hispanic) and excluded children of “other” race. Florida, which did not stratify, sampled only adolescents (age 12 to 17 years).
Sampling weights were constructed and applied to adjust for unequal sampling probabilities and non-response in each of the studies, and all analyses that follow account for the complex sampling strategies. Children in the New York sample who were 18 were dropped from this study for comparability.

Survey Response: Of the 1,258 new SCHIP enrollees randomly selected for inclusion in the Kansas sample, 751 completed T1 interviews (59.8%), and of these 434 completed T2 interviews (58%). The overwhelming majority (94%) of incomplete interviews were due to failure to locate families rather than refusal to participate in the study. In Florida, a random sample of 3,124 adolescents was selected from the set of adolescents who newly enrolled in Healthy Kids. Of these, 1,872 completed T1 parent interviews (60%), and 940 completed T2 interviews (50%). The majority of incomplete interviews were due to failure to locate families (68%). In the New York Study, 9,101 new enrollees were identified, of whom 7,293 were successfully contacted (80%); 4,528 were ineligible because they had died or moved, or because of age, race, or enrollment criteria. Of the 3,658 eligible children, 2,644 T1
interviews (72%) and 2,290 T2 interviews (87%) were successfully completed.

Measures: As part of CHIRITM, the three studies included a set of common core measures. Exhibit 2 displays descriptive statistics on all independent measures used. Key measures of vulnerability included race/ethnicity (non-Hispanic black, and Hispanic), the presence of special health care needs, and being long-term uninsured – uninsured for the entire 12 months prior to enrollment. Other demographic and socioeconomic measures included child’s age, gender, race/ethnicity, single-parent household, household size, family income, maximum parental education, parental employment status, and urbanicity. Dependent measures of access, utilization, and satisfaction included the presence of a usual source of health care (USC), the presence of any unmet health care need, any use of preventive care, and overall rating (on a scale of 1 to 10) of the health care children received from all sources.

Analyses: Only those children for whom interviews were completed in both periods were included in the analyses. There were important differences in the T2 interviews across the three state studies that we adjust for in the
analyses. In Kansas interviewers asked about experiences during the 12 months after enrollment, including any period during which children were not enrolled in SCHIP. In Florida the T2 core interview questions were asked only of adolescents who were enrolled in SCHIP at the time of the T2 survey. In New York T2 interview questions addressed experiences during the time the child was enrolled in SCHIP. We limited analyses in New York to children and adolescents who remained enrolled for at least 12 months in order to be comparable to Florida, but were unable to do the same in Kansas because of small sample size. The Kansas results presented here, therefore, were estimated using the full sample. Additional analyses of the New York data were conducted on the sample of adolescents for comparison to Florida’s results. Sample size limitations prevented adolescent-only analyses with the Kansas data.

Analyses were performed to assess SCHIP’s impact on each of the 3 groups of vulnerable children and adolescents, and to assess differences between vulnerable and other SCHIP enrollees both before and after SCHIP. Multivariate population average random effect logistic regressions for USC, any unmet need, and use of preventive care, and population average random effect regression models for
rating of care were used to generate “adjusted” rates that eliminate the effects of differences in characteristics of the population subgroups, thereby allowing for “fair” comparisons of the outcomes within states. The model specifications included all independent variables described above (see measures) and summarized in Exhibit 2. We also included time (before versus after SCHIP) interactions with each independent variable. We excluded interaction terms, one at a time, if they were not statistically significant at the P=.20 level. We did not exclude any interaction terms with measures that identified the vulnerable populations.

To calculate “adjusted” rates, we used model estimates to generate predictions for each child in our samples, and then calculated the mean of the predictions for each state. To estimate before-enrollment (T1) adjusted rates for a given subgroup, we set the subgroup indicators appropriately and the time indicator to T1 for all observations before calculating the predictions. We repeated this process for all combinations of time (T1 and T2), for all subgroups, and for each state sample. All adjusted rates are state specific (e.g. the Kansas adjusted rates are influenced more by non-metropolitan children than
either Florida or New York). Bootstrapped standard errors of the differences in the adjusted rates before and after SCHIP enrollment were used to perform statistical tests. Tests of the equivalence of the adjusted outcomes across vulnerable subgroups were performed using Wald tests of the appropriate model restrictions. All analyses were performed using STATA 8.0.

REFERENCES


6. The alternative to long-term uninsured includes children who were insured as little as 1 month in the year prior to SCHIP enrollment, and it includes both Medicaid and private insurance.

7. Unmet needs measures were developed from a series of questions (by service category) about need for care and whether that need was met. This structure is
different from other national surveys such as the NHIS. New York studies asked if the needed care was delayed or not gotten; the Kansas study asked if care was postponed or not gotten; and the Florida study asked whether the needed care was subsequently received. We defined unmet need to be a need for care without subsequent use in Florida, and delayed/postponed or lack of receipt of needed care in Kansas and New York., and "any" unmet need as the aggregation of unmet needs over service categories.


9. We did not pool data across states for estimation or calculation of adjusted rates.

10. We control for "other" race but do not report their results because they were excluded from the New York sample.

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