

# Changes in Reported Health Status and Unmet Need for Children Enrolling in the Kansas Children's Health Insurance Program

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To date, most work investigating the effect of the State Children's Health Insurance Program on uninsured children has focused on eligibility or insurability.<sup>1-5</sup> Few studies have analyzed its effect on children's health status or access to health care. Current literature discusses the experience of children newly covered by state or privately funded children's health insurance programs that existed before the Balanced Budget Act of 1997 that established the State Children's Health Insurance Program.<sup>6-10</sup> Recent work has summarized research studies that have showed the broader effect of having health insurance on health status and access to health care.<sup>11-14</sup>

In an effort to understand the effects of the Kansas State Children's Health Insurance Program—HealthWave—on newly insured children and a small number moving into the State Children's Health Insurance Program from Medicaid, researchers working with the state designed a survey to profile children's

health status, unmet medical needs, and access to services over the first year of the program. The questionnaire drew on standardized questions from national health surveys. Kansas HealthWave is a stand-alone State Children's Health Insurance Program plan with benefits patterned after the state employees' health insurance program. Most care is delivered through 1 statewide managed care organization under contract with the Kansas Department of Social and Rehabilitation Services.

## METHODS

Survey questionnaires were mailed to parents or guardians of all children who enrolled during the first 6 months of the program, January through June 1999. Of the continuously enrolled respondents, 60.9% returned surveys in 2000, allowing for a preenrollment and postenrollment comparison of the 1955 respondents who completed both surveys.

Because high attrition presented a potential bias, we used the binomial test statistic to compare aggregate administrative demographic data for nonrespondents with our final sample (Table 1). When compared with the other groups, the children in our sample were more likely to be White, slightly older, of somewhat higher income, and living outside metropolitan statistical areas.

Speculation exists on why the program experienced large attrition during its first year. Recent unpublished work by the Kansas Health Institute found that, despite legislative intent, many eligible children were not continuously enrolled.<sup>15,16</sup> This issue is still poorly understood, although problems with the automated eligibility system linking health insurance to social services in Kansas appear to have contributed to inadvertent movement between HealthWave and Medicaid.

## RESULTS

Both at baseline and after 1 year, self-reported health status, as measured by the range of excellent to poor, was lower for HealthWave enrollees than for Kansas children at large; 71.2% of the HealthWave en-

**TABLE 1—Demographic Characteristics of Children Enrolling in Kansas State Children's Health Insurance Program (HealthWave), January–June 1999, Comparing Survey Respondents With Universe**

	All Children, January–June 1999 (N = 12 432) <sup>a</sup>	Continuously Enrolled, 1999–2000, and Reenrolled in 2000 (n = 4107)	Respondents, 1999 and 2000 (n = 1955) <sup>a</sup>
Male	51.4%	53.1%	53.2%
Female	48.6%	46.9%	46.8%
Race/Ethnicity <sup>b</sup>			
White	71.8%	73.7%	76.7%
Black	11.9%	11.2%	7.3%
Hispanic	10.3%	8.9%	9.4%
Native American	1.4%	1.1%	1.2%
Southeast Asian	0.8%	0.7%	0.7%
Other	3.7%	4.6%	4.8%
Age (at 1999 enrollment), y			
<1	1.6%	0.9%	1.0%
1–5	19.0%	13.9%	14.3%
6–17	78.4%	85.2%	84.7%
18–19	1.1%	0.0%	0.0%
Average age (1999), y	9.2	9.5	10.4
Income category (1999)			
100%–150% of poverty	72.4%	71.4%	67.5%
151%–175% of poverty	18.1%	19.1%	22.1%
176%–200% of poverty	9.5%	9.5%	10.4%
Residence (1999)			
Rural	24.7%	27.7%	32.1%
Urban–suburban	75.3%	72.3%	67.9%

Note. Of the 4107 continuously enrolled children receiving a survey in 2000, 2503 surveys were returned (60.9% response rate). The final sample of 1955 respondents included children whose families returned completed surveys in both 1999 and 2000.

Source. Kansas Social and Rehabilitation Services State Children's Health Insurance Program Eligibility File.

<sup>a</sup>For comparisons of percentage within each category of respondents both years (column 3) with the "universe" (column 1), using the binomial test, race/ethnicity, age, income, and residence were each significantly different at  $P < .01$ .

<sup>b</sup>Race/ethnicity categories were based on coding in use by Kansas Social and Rehabilitation Services. "Hispanic" is considered a separate category for which enrollees had to self-identify.

the 6 months preceding the survey period and to 2.40 for children reporting no recent use at baseline. Although well and sick visits were not tracked separately, the number receiving a physical examination during the year rose from 60.5% to 76.7%. The use of hospital emergency departments as a usual source of care, although low initially (1%), declined 60% during the year. Emergency department and inpatient use increased only for those reporting no recent use at baseline; for others, it decreased. Because there were fewer young children in the sample—only 15.3% were younger than 6 years and only 1% of those younger than 12 months—the primary beneficiaries of this increased use appear to have been preschool- and school-aged children.

## DISCUSSION

Although the health status of continuously enrolled HealthWave enrollees still lagged behind the general population after 1 year, evidence suggests that improved access and increased use made possible by the program had a positive effect on the health of these children in Kansas. The shift toward use in primary care settings and the reduction in emergency department use, particularly by previous users, suggests a pattern of more appropriate use. Although enrolling and retaining State Children's Health Insurance Program–eligible children is ultimately critical to reducing the number of uninsured children in states, our findings suggest that the State Children's Health Insurance Program holds great promise in terms of improved health and access to care. ■

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rollees reported excellent to very good health at baseline and 75.7% a year later ( $P < .01$ ) (Table 2), compared with 91.8% of Kansas children younger than 18 years and 81% to 82% nationally.<sup>17–19</sup> The most marked difference between HealthWave and all Kansas children was the lower proportion of HealthWave children in "excellent" health—27.2% at baseline and 29.2% at 1 year compared with 69.6% for Kansas and 52.0% nationally in 2000.

The majority of HealthWave enrollees (51.1%) reported unmet health care need at baseline, compared with only 16.5% a year later ( $P < .001$ ). During their preenrollment

period, 40.1% of the children had an unmet need for dental services, 18.3% for medical care, 17.0% for eye care, and 14.1% for prescription medicine. After a year of coverage, unmet need had declined to 4% or less in all categories except dental care (11.5%).

The 91.9% of the children reporting a regular source of care at baseline compares favorably with the national average of 91.2%.<sup>18</sup> After HealthWave, this number rose to 95.6% ( $P < .001$ ), and 11.1% more were visiting a physician's office or clinic instead of multiple or casual sources of care.

The mean number of reported visits to doctor's offices rose from 1.62 to 3.26 for

**TABLE 2—Changes in Health Status and Unmet Need, Children Continuously Enrolled in Kansas CHIP (HealthWave), 1999–2000 (N = 1955)**

	At Enrollment, %	1 Year Postinsured, % or Mean	Percentage or Mean Change
<i>In general, would you say your child's health is</i>			
Excellent/very good	71.2	75.7***	4.5
Good/fair/poor	28.8	24.3	
<i>Compared with 1 year ago, would you say your child's health is now</i>			
Better	11.6	20.0***	8.4
About the same	88.4	80.0	
<i>During the past 12 months, about how many days did your child miss school because of illness or injury?</i>			
0–5	78.7	81.1*	2.4
6–10 or more	21.3	18.9	
<i>During the past 6 months, was there any time when your child needed but did not get the following services</i>			
Medical care	18.3	1.8***	-16.5
Dental care	40.1	11.5***	-28.6
Mental health care or counseling	4.2	1.1***	-3.1
Eye care	17.0	4.0***	-13.0
Prescription medicine	14.1	2.3***	-11.8
Received all care needed	48.9	83.5***	34.6
<i>All things considered, have you been satisfied or dissatisfied with the health care that your child has received during the past 6 months?</i>			
Somewhat/very satisfied	74.5	96.3***	21.8
Neutral; somewhat/very dissatisfied	25.5	3.7	
<i>About how long has it been since your child last visited a doctor for a physical examination or checkup or well baby/child checkup?</i>			
≤ 1 y	60.5	76.7***	16.2
> 1 y or never	39.5	23.3	
<i>About how long has it been since your child last visited a dentist?</i>			
≤ 1 y	48.2	70.7***	22.5
> 1 y or never	51.8	29.3	
<i>Is there a place your child usually goes when he or she is sick or you need advice about his or her health?</i>			
Yes	91.9	95.6***	3.7
<i>If your answer is "yes," what kind of a place is it? (please pick one)</i>			
Doctor's office or private clinic	79.0	90.1 <sup>a</sup> ***	11.1
Hospital outpatient department	1.0	1.0	0
Community health center or clinic	9.1	3.6	-5.5
Local/public health department	2.5	1.0	-1.5
Hospital emergency room	1.0	0.4	-0.6
Other place	1.7	0.9	-0.8
Multiple sources (checked more than one of the above)	5.7	2.9	-2.8

Continued

**Contributors**

M. H. Fox was the principal investigator for this work and directed all analysis, conceptualization, and writing. J. Moore performed the data analysis, contributed to the writing, and assisted in the discussion of findings. R. Davis assisted in the conceptualization and writing. R. Heintzelman assisted in data management, including survey design and data acquisition, and contributed to policy discussion.

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**Human Participant Protection**

This study complied with the requirements and policies established by the University of Kansas for protection of human subjects in research and was approved by the advisory committee on human experimentation.

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TABLE 2—Continued

<i>Does your child usually see the same doctor/nurse/provider each time he or she goes there?</i>			
Yes	85.3	91.9***	6.6
<i>During the past 6 months, not counting emergency room visits, how many visits did your child make to a doctor, clinic, or local health department?</i>			
Mean visits/child, all children	1.62	3.26***	1.64
Mean visits/child, children with no visits 6 months prior to enrollment	0	2.40***	2.4
Mean visits/child, children with at least 1 visit 6 months prior to enrollment	2.31	3.62***	1.31
<i>During the past 6 months, how many visits did your child make to a hospital emergency room?</i>			
Mean visits/child, all children	0.19	0.45***	0.26
Mean visits/child, children with no visits 6 months prior to enrollment	0	0.36***	0.36
Mean visits/child, children with at least 1 visit 6 months prior to enrollment	1.38	1.03***	-0.35
<i>During the past 6 months, how many different times did your child stay in any hospital overnight or longer as a patient?</i>			
Mean hospitalizations/child, all children	0.04	0.09***	0.05
Mean hospitalizations/child, children with no hospitalizations 6 months prior to enrollment	0	0.07***	0.07
Mean hospitalizations/child, children with at least 1 hospitalization 6 months prior to enrollment	1.41	0.90***	-0.51

Note. Behavioral Risk Factor Surveillance Survey 1997 used for Kansas health status of children; Medical Expenditure Panel Survey 1996 used for national data.

<sup>a</sup>Doctor's office or private clinic was compared with all others.

\* $P < .05$ ; \*\*\* $P < .001$ . Values computed with McNemar test with bivariate variables.

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