

## Movement of Children Between Medicaid and CHIP, 2005–2007<sup>1</sup>

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**T**he Children's Health Insurance Program (CHIP) provides health insurance coverage to millions of children whose families are unable to obtain employer-sponsored insurance or purchase private non-group coverage but whose incomes are above the limits that would qualify their children for Medicaid. Family incomes are fluid, however, and many children who receive coverage through CHIP were covered by Medicaid earlier or will shift their coverage to Medicaid later. In this issue brief, we use data from a new source—Medicaid administrative records that have been unduplicated and linked over time—to examine the movement of children between Medicaid and CHIP from 2005 through 2007. Among children ever enrolled in M-CHIP over this period, 78.4 percent were enrolled in regular Medicaid at some point, and among children ever enrolled in S-CHIP, 62.8 percent were also enrolled in regular Medicaid during the three years. Much smaller fractions of children who ever enrolled in regular Medicaid were observed with enrollment in M-CHIP (15.8 percent) or S-CHIP (12.2 percent), where such programs existed. These findings provide perspective on potential transitions in coverage among low-income adults once the Affordable Care Act is fully implemented.

### Background

States have the option to administer CHIP through a Medicaid expansion program (M-CHIP), which provides full Medicaid benefits; a separate state program (S-CHIP) that offers a different package of benefits; or a combination of the two. More states have elected to establish S-CHIP than M-CHIP programs, although a number of states have set up combined programs. With a combined program, a state uses M-CHIP to extend Medicaid eligibility to children with family incomes above the levels that would otherwise qualify them for Medicaid coverage. S-CHIP then extends coverage to children with family incomes above the M-CHIP ceilings.

Because the benefit packages differ between S-CHIP and Medicaid (including M-CHIP), movement between the two programs

### About This Series

The MAX Medicaid policy issue brief series highlights the essential role MAX data can play in analyzing the Medicaid program. MAX is a set of annual, person-level data files on Medicaid eligibility, service utilization, and payments that are derived from state reporting of Medicaid eligibility and claims data into the Medicaid Statistical Information System (MSIS). MAX is an enhanced, research-friendly version of MSIS that includes final adjudicated claims based on the date of service, and data that have undergone additional quality checks and corrections. CMS produces MAX specifically for research purposes. For more information about MAX, please visit: [http://www.cms.gov/MedicaidData-SourcesGenInfo/07\\_MAXGeneralInformation.asp](http://www.cms.gov/MedicaidData-SourcesGenInfo/07_MAXGeneralInformation.asp).

has implications for the continuity of coverage. Children moving between Medicaid (regular or M-CHIP) and S-CHIP may lose access to particular providers or find that they are no longer covered for services they received previously. They may also lose coverage temporarily. Movement between regular Medicaid and either M-CHIP or S-CHIP has implications for the state as well. In addition to the administrative burden, there are more significant cost implications because the federal government reimburses state expenditures for CHIP at a higher rate than those for regular Medicaid.

### Data

States are required to submit quarterly enrollment and claims records to the Centers for Medicare & Medicaid Services (CMS) through the Medicaid Statistical Information System (MSIS) for all individuals enrolled in regular Medicaid and M-CHIP. The reporting of S-CHIP enrollment data is optional. The data submitted through MSIS are the ultimate source of the data used in this analysis, but extensive processing conducted in several stages was required to transform the MSIS submissions

into the analytical data used here. Annual Medicaid Analytic Extract (MAX) files are produced by aggregating the quarterly MSIS submissions into calendar year files, and a variety of corrections and enhancements are applied to improve the usefulness of the files for research. However, the application of MAX data to national-level and longitudinal research has been limited by the fact that the files do not identify records belonging to the same individual, either over time or across states. To address this limitation, CMS contracted with Mathematica Policy Research to design and construct unduplicated research files, which appropriately reconciled duplicate Medicaid enrollment records in MAX 2005, 2006, and 2007. An unduplicated research file containing one record per unique enrollee per state was produced for each of the three years. The analysis presented here uses the unduplicated data linked across years within states, but not across states.

A total of 33 states had M-CHIP programs that were in operation through 2007, and 42 states had S-CHIP programs. Of these 42 states, 22 did not report their S-CHIP enrollment data into MSIS or grossly underreported their caseloads. These 22 states were excluded from the analysis of movement between Medicaid and S-CHIP. Half of these states—11 in all—had no M-CHIP programs, so they were excluded from all analyses. In addition, Missouri was excluded from the S-CHIP analysis because its program was introduced in the final quarter of 2007 and provided too little data on movement between Medicaid and S-CHIP.

## Findings

The findings from this research cover four areas: (1) how often children were enrolled in both Medicaid and CHIP within the same calendar year, (2) how often children were enrolled in both Medicaid and CHIP over a two- to three-year period, (3) the extent to which the enrollment of children in both regular Medicaid and CHIP over a period of time reflects disproportionate movement in one direction versus the other, and (4) how often a child's enrollment in both regular Medicaid and CHIP was interrupted by a period of time without either Medicaid or CHIP coverage.

### Enrollment in Two Programs in the Same Calendar Year

Children who were enrolled in CHIP at any point in 2007, whether through Medicaid or a separate state program, had a substantial likelihood of being enrolled in regular Medicaid at some time during the same year. Depending on the state,

anywhere from 17.1 percent to 82.4 percent of the children who were enrolled in M-CHIP were also enrolled in regular Medicaid during the year, and between 10.7 and 66.9 percent of the children who were enrolled in S-CHIP were also enrolled in regular Medicaid during the year (Table 1). In all but three of the thirteen states that had a combined program, offering both M-CHIP and S-CHIP, the likelihood that a child who was ever enrolled in S-CHIP was also enrolled in regular Medicaid during the year was lower than the probability that a child who was ever enrolled in M-CHIP was also enrolled in regular Medicaid. For instance, in Illinois 53.4 percent of the children who were ever enrolled in M-CHIP and 35.5 percent of the children who were ever enrolled in S-CHIP were ever enrolled in regular Medicaid during the year. We observe this pattern because an M-CHIP program creates a band of eligibility between regular Medicaid and S-CHIP, which means that a family's income must drop farther to make an S-CHIP child eligible for regular Medicaid than to make an M-CHIP child eligible for regular Medicaid.

When a state offers both M-CHIP and S-CHIP, we see children enrolled in both programs during the year, but this tends to occur less often than children enrolled in either of these programs and regular Medicaid. In the 13 states that offered both programs in 2007 and had sufficiently complete S-CHIP reporting into MSIS, between 6.4 and 20.9 percent of the children who were ever enrolled in M-CHIP were also enrolled in S-CHIP during the year, and between 1.2 and 89.4 percent of the children who were ever enrolled in S-CHIP during the year were also enrolled in M-CHIP.

Because regular Medicaid enrolls substantially more children in every state than M-CHIP or S-CHIP, the children who were enrolled in both regular Medicaid and either CHIP program during the same year were a smaller fraction of the regular Medicaid enrollees than of the M-CHIP or S-CHIP enrollees. Of the children who were ever enrolled in regular Medicaid in 2007, the fraction who were also enrolled in CHIP during the year ranged from near zero for both CHIP programs to 19.0 percent for M-CHIP and 10.7 percent for S-CHIP. For states with combined programs, the fraction of regular Medicaid enrollees who were ever enrolled in M-CHIP tended to be higher than the fraction ever enrolled in S-CHIP, although three states (New Hampshire, North Carolina, and North Dakota) were exceptions.

**Table 1. Enrollment of Children in Both Regular Medicaid and CHIP in 2007, by State<sup>a</sup>**

State	Percentage of Medicaid Enrollees		Percentage of M-CHIP Enrollees		Percentage of S-CHIP Enrollees	
	Ever Enrolled in M-CHIP	Ever Enrolled in S-CHIP	Ever Enrolled in Medicaid	Ever Enrolled in S-CHIP	Ever Enrolled in Medicaid	Ever Enrolled in M-CHIP
Alaska	12.9		60.9			
Arizona		4.8			35.0	
Arkansas	5.8		26.2			
California	3.7		58.5			
Colorado		9.2			33.1	
Delaware	0.1		65.6			
District of Columbia	4.5		48.7			
Florida	0.1		55.3			
Georgia		3.9			11.8	
Hawaii	7.7		34.4			
Idaho	7.7	7.3	50.5	18.0	52.8	20.0
Illinois	7.2	3.7	53.4	10.9	35.5	14.1
Indiana	11.2	2.6	69.0	10.4	44.2	29.1
Iowa	8.2		66.8			
Kentucky	6.3	2.6	45.2	14.2	31.0	23.5
Louisiana	10.5		43.1			
Maine	13.0	2.9	77.1	6.4	45.3	16.6
Maryland	11.0	0.4	29.2	9.3	10.7	89.4
Massachusetts	16.9	5.9	63.5	13.7	31.5	19.5
Michigan	0.6		48.5			
Minnesota	0.0		82.4			
Missouri	11.7		58.0			
Montana		7.2			21.8	
Nebraska	19.0		58.8			
New Hampshire	0.3	6.3	40.4	20.9	45.2	1.2
New Jersey	3.9	3.3	32.3	10.6	16.4	6.4
New Mexico	3.6		64.4			
North Carolina	3.7	6.1	48.3	6.9	32.6	2.8
North Dakota	0.9	7.3	17.1	9.8	44.1	3.3
Ohio	12.9		57.9			
Oklahoma	15.3		56.0			
Oregon		10.7			45.3	
Rhode Island	8.8		49.3			
South Carolina	8.0		62.1			
South Dakota	11.0	2.3	55.6	11.2	36.4	35.6
Tennessee	2.1		36.0			
Utah		7.0			23.8	
Vermont		6.5			66.9	
Virginia	7.3	4.5	53.5	11.5	29.1	10.1
Wisconsin	7.6		59.3			

Note: The children included were born after 1988.

<sup>a</sup>Eleven states are excluded from the analysis because they did not have M-CHIP programs and did not submit S-CHIP enrollment data.

## Enrollment in Two Programs Across Multiple Calendar Years

Over a period of just a year, potential movement between Medicaid and CHIP is limited. With the unduplicated data, however, it is possible to link enrollment records across years and examine Medicaid and CHIP enrollment over a longer period of time—up to three full years. From 2005 through 2007 between 40.4 and 92.9 percent of the children who were ever enrolled in M-CHIP and between 35.4 and 88.2 percent of the children who were ever enrolled in S-CHIP were also enrolled in regular Medicaid at some point (Table 2). Of the children who were ever enrolled in Medicaid over the three years, the percentage who were also enrolled in CHIP at some point ranged from zero to 34.3 percent for M-CHIP and from 2.1 to 21.9 percent for S-CHIP. For states with combined programs, between 10.5 and 52.7 percent of the children who were ever enrolled in M-CHIP were also enrolled in S-CHIP at some point, and between 2.3 and 80.3 percent of those who were ever enrolled in S-CHIP were also enrolled in M-CHIP.

Because of the considerable variation across states, it is useful to summarize the patterns of joint enrollment in Medicaid and CHIP with the median value across the states. Comparing medians, the increased movement across programs as the period of observation increases from one to three years is striking. The median percentage of M-CHIP enrollees ever enrolled in regular Medicaid increased from 54.4 to 78.4 percent between one and three years, and the median percentage of S-CHIP enrollees ever enrolled in regular Medicaid increased from 34.5 to 62.8 percent (Table 3).<sup>2</sup> Similarly, the median percentage of M-CHIP enrollees ever enrolled in S-CHIP increased from 10.7 to 21.2 percent while the percentage of S-CHIP enrollees ever enrolled in M-CHIP increased from 16.7 to 31.2 percent. Lastly, the percentage of regular Medicaid enrollees ever enrolled in M-CHIP increased from 7.6 to 15.8 percent, and the percentage ever enrolled in S-CHIP increased from 4.7 to 12.2 percent.

### Direction of Movement

While we do not always observe the start of a spell of Medicaid or CHIP enrollment, it is nevertheless useful to examine the direction of movement between programs.<sup>3</sup> Such movement need not be symmetrical—that is, the flow of children from, say, Medicaid to CHIP need not be equal to the flow from CHIP to Medicaid. The relative magnitudes of the opposing flows are of interest because they carry information about the nature of the family income changes that underlie children’s movement between programs. They may also carry information about the avenues of entry to public coverage as well. Given the high percentage of M-CHIP children enrolled in both regular Medicaid

and M-CHIP over a three-year period, where they were enrolled first is informative in a general way about the circumstances under which they came to be enrolled in public coverage.

Overall, there was a modest asymmetry to the transitions between regular Medicaid and M-CHIP, with transitions from Medicaid to M-CHIP occurring more often than transitions in the reverse direction. Specifically, 56.3 percent of the transitions were from regular Medicaid to M-CHIP (data not shown; see the full report). Similarly, transitions from regular Medicaid to S-CHIP were somewhat more dominant than the reverse flows, accounting for 60.3 percent of the total transitions between the two programs. However, transitions from M-CHIP to S-CHIP were slightly less common than transitions from S-CHIP to M-CHIP, representing 48 percent of the total transitions between the two programs. In addition, there was more back-and-forth movement between regular Medicaid and M-CHIP than between any other pair of programs. On average, a child who moved between regular Medicaid and M-CHIP had 1.61 transitions between the two programs over the three years. Children who moved between regular Medicaid and S-CHIP had an average of 1.27 transitions between the two programs while children who moved between M-CHIP and S-CHIP had an average of just one transition.

### Breaks in Enrollment

Another aspect of children’s movement between public health insurance programs that is of interest is whether such movement occurs without a break in enrollment or whether children disenroll from public coverage before returning to enroll in a different program than the one they left. Nationally, 12.7 percent of the transitions from regular Medicaid to M-CHIP and 11.3 percent of the transitions from M-CHIP to regular Medicaid occurred with a gap in enrollment (data not shown; see the full report). Gaps in enrollment were much more frequent for transitions between regular Medicaid and S-CHIP; gaps occurred in 42 percent of the transitions from Medicaid to S-CHIP and 26 percent of the reverse transitions. Transitions between M-CHIP and S-CHIP resembled the transitions between regular Medicaid and M-CHIP: 18.4 percent of the transitions from M-CHIP to S-CHIP and 10.7 percent of the transitions from S-CHIP to M-CHIP were accompanied by gaps in enrollment.

Gaps of just one month in length are notable because they almost certainly involve some form of administrative churning. Such short gaps were relatively rare, however, occurring in just two to three percent of the transitions between regular Medicaid and M-CHIP, four to seven percent of the transitions between regular Medicaid and S-CHIP, and two to four percent of the transitions between M-CHIP and S-CHIP.

**Table 2. Enrollment of Children in Both Regular Medicaid and CHIP, 2005 to 2007, by State<sup>a</sup>**

State	Percentage of Medicaid Enrollees		Percentage of M-CHIP Enrollees		Percentage of S-CHIP Enrollees	
	Ever Enrolled in M-CHIP	Ever Enrolled in S-CHIP	Ever Enrolled in Medicaid	Ever Enrolled in S-CHIP	Ever Enrolled in Medicaid	Ever Enrolled in M-CHIP
Alaska	26.1		80.2			
Arizona		8.1			64.4	
Arkansas	17.6		92.8			
California	7.3		81.6			
Colorado		18.9			60.6	
Delaware	0.2		83.4			
District of Columbia	9.8		78.2			
Florida	0.2		75.6			
Georgia		14.6			42.0	
Hawaii	17.6		62.7			
Idaho	13.9	8.4	70.4	19.1	69.7	31.2
Illinois	15.5	8.8	70.6	21.2	59.3	31.1
Indiana	22.4	7.1	88.2	19.3	71.8	49.4
Iowa	15.3		84.2			
Kentucky	16.9	7.9	76.9	27.6	63.6	48.8
Louisiana	20.5		67.4			
Maine	25.2	7.7	92.9	15.0	73.2	38.8
Maryland	25.8	2.1	57.7	10.5	35.4	80.3
Massachusetts	30.9	15.0	82.6	25.2	64.9	40.8
Michigan	1.1		84.4			
Minnesota	0.0		75.5			
Missouri	23.0		72.4			
Montana		15.8			43.2	
Nebraska	34.3		79.0			
New Hampshire	0.5	13.6	63.3	52.7	71.0	2.3
New Jersey	10.1	9.6	58.3	22.7	38.2	15.6
New Mexico	9.7		85.7			
North Carolina	6.6	17.3	79.0	45.2	61.9	13.6
North Dakota	3.0	12.9	40.4	18.3	68.8	7.3
Ohio	25.2		81.0			
Oklahoma	30.8		80.1			
Oregon		21.9			74.8	
Rhode Island	18.2		75.3			
South Carolina	19.6		86.7			
South Dakota	21.3	6.0	75.9	19.3	61.8	55.9
Tennessee	7.5		73.3			
Utah		16.2			47.5	
Vermont		13.6			88.2	
Virginia	15.7	11.5	78.4	22.7	57.1	22.5
Wisconsin	15.8		81.2			

Note: This table includes children born after 1988 but before 2006.

<sup>a</sup> Eleven states are excluded from the analysis because they did not have M-CHIP programs and did not submit S-CHIP enrollment data.

**Table 3. Average (Median) State Percentages Enrolled in Both Regular Medicaid and CHIP in the Same Year, over Two Years, and over Three Years, 2005 to 2007**

Number of Years	Percentage of Medicaid Enrollees		Percentage of M-CHIP Enrollees		Percentage of S-CHIP Enrollees	
	Ever Enrolled in M-CHIP	Ever Enrolled in S-CHIP	Ever Enrolled in Medicaid	Ever Enrolled in S-CHIP	Ever Enrolled in Medicaid	Ever Enrolled in M-CHIP
One year <sup>a</sup>	7.6	4.7	54.4	10.7	34.5	16.7
Two years <sup>b</sup>	12.3	9.0	71.0	17.8	51.4	25.3
Three years	15.8	12.2	78.4	21.2	62.8	31.2

<sup>a</sup>Estimates in this row are a simple average of median state percentages calculated separately for each of the three years.

<sup>b</sup>Estimates in this row are a simple average of median state percentages calculated separately for 2005 to 2006 and 2006 to 2007.

Enrollment gaps in excess of one month are more likely to reflect interim losses of eligibility than administrative churning, and this is even more likely for gaps exceeding three months. Between 9 and 10 percent of the transitions between regular Medicaid and M-CHIP included enrollment gaps in excess of one month in length, and about 6 percent included gaps in excess of three months in length. By contrast, nearly 35 percent of the transitions from regular Medicaid to S-CHIP included gaps of more than a month in length, and 25 percent included gaps in excess of three months. Transitions in the reverse direction were less likely to include gaps of more than a month (22 percent) or more than three months (17 percent), but these frequencies were still more than double those for transitions between regular Medicaid and M-CHIP. Gaps beyond a month were much less common for transitions between M-CHIP and S-CHIP than between regular Medicaid and S-CHIP. About 14 percent of the transitions from M-CHIP to S-CHIP had enrollment gaps of a month or more, and 9 percent had gaps of three months or more. Only 8 percent of the reverse transitions—from S-CHIP to M-CHIP—had gaps of one month or more, and just 6 percent had gaps of three months or more, which is similar to regular Medicaid and M-CHIP.

### Implications for Health Care Reform

Beginning January 1, 2014, the Affordable Care Act (ACA) will expand health insurance coverage options for nonelderly, non-disabled adults. Eligibility for Medicaid will be increased from present levels to 133 percent of poverty. A combination of tax credits and premium subsidies on a sliding scale will be made available to those with incomes between the new Medicaid limit and 250 percent of poverty, with sliding scale tax credits continuing to 400 percent of poverty. These subsidies and credits are intended to enable individuals and families without access to affordable health insurance to purchase such coverage through health insurance exchanges that will be established by the states.

In all but a handful of states, only parents are eligible for the Medicaid benefit package currently.<sup>4</sup> In 13 additional states, other adults (and parents above the Medicaid income limits) are eligible for a more limited benefit package. Although the benefit packages that states ultimately adopt under the ACA may not be as comprehensive as the current Medicaid benefit package, extending Medicaid eligibility to 133 percent of poverty represents a substantial expansion of coverage in most states, even for parents. An added wrinkle with implications for movement between types of coverage is that people who apply for coverage through the health insurance exchanges will be routed to Medicaid if their incomes are below the Medicaid eligibility limits; and those who apply for coverage through Medicaid will be routed to the exchanges if their incomes are above the Medicaid limits. Changes in income that move people above or below the current or expanded Medicaid income limits will affect the coverage for which they are eligible.

Researchers have used survey data to try to predict the frequency of changes in eligibility for these alternative coverage options, but measurement error can be a significant factor in survey estimates and create the false appearance of change. The frequency of changes in eligibility is probably overestimated with survey data. Administrative data from the Medicaid program capture true changes in eligibility and provide an alternative source for estimating how often eligibility changes over time in a population of Medicaid enrollees. Our analysis of changes in children's enrollment in regular Medicaid, M-CHIP, and S-CHIP between 2005 and 2007 provides evidence of the frequency of movement through ranges of income that are most relevant to eligibility for premium subsidies in the health insurance exchanges, for Medicaid coverage under the expansions, and for regular Medicaid for parents. Our findings of high rates of movement among children who were ever enrolled in M-CHIP over a three-year period but much lower rates for children ever enrolled in regular Medicaid provide additional perspective on potential transitions in coverage among adults once ACA is fully implemented.

## Limitations

There are a number of limitations to the analysis presented here—some of which will be addressed in future research. The most significant limitation derives from the fact that three-quarters of S-CHIP enrollment is excluded from the analysis because a number of states do not report or only partially report S-CHIP enrollment data into MSIS. Transitions involving S-CHIP cannot be estimated for these states and, therefore, the estimates of movement between regular Medicaid and S-CHIP and between M-CHIP and S-CHIP that are presented here are substantially incomplete.

The estimates of movement among regular Medicaid, M-CHIP, and S-CHIP presented in this issue brief were limited to changes in coverage that occurred within the same state. While there is reason to believe that within-state changes in coverage dominate the changes that are associated with migration between or among states, and the identification of cross-state changes is less reliable than the identification of within-state changes in coverage, the cross-state changes are needed to assemble a complete picture of children's movement among regular Medicaid, M-CHIP, and S-CHIP. A forthcoming study will use the unduplicated research files to examine the migration of Medicaid enrollees—both children and adults—between pairs of states.

Another limitation concerns the movement of children out of and back into coverage through Medicaid or CHIP. In this study the complete loss of public coverage was identified only when it occurred between spells of different types of public coverage—that is, when it interrupted movement among regular Medicaid, M-CHIP, or S-CHIP. A follow-on study will use the unduplicated research files to estimate the volume and frequency of children's movement into and out of Medicaid and CHIP coverage more generally—that is, without restricting the analysis to cases involving transitions between different types of coverage.

Lastly, the estimates of children's movement presented here reflect a specific period in time and may not be representative of children's movement in the future. In particular, the analysis covers a period when unemployment rates were considerably lower than they are now, and the U.S. economy was growing at a more rapid rate. It is likely that the onset of the great recession increased the frequency of children's movement between CHIP and regular Medicaid, but at this point one can only speculate about the impact of a weak economy on movement between programs.

## Conclusion

Using data developed from Medicaid administrative records submitted to CMS by the 50 states and the District of Columbia, this issue brief has documented the volume of children's movement among regular Medicaid, M-CHIP, and S-CHIP over the period 2005 through 2007, in 39 states and the District of Columbia. Because these programs provide different packages of services and entitle the states to different federal matching rates, this movement of children among programs presents challenges to families and caretaker adults seeking to maintain continuity in their children's health care and introduces complexities into the states' management and funding of Medicaid and CHIP. When the adult Medicaid expansions, tax credits, and premium subsidies provided in the ACA are implemented, the movement of adults among regular Medicaid, the Medicaid expansion, and private non-group coverage purchased with differing amounts of subsidies and tax credits will introduce even greater administrative challenges to the states and present new complexities for adults seeking to maintain regular health care through changing economic circumstances.

## Endnotes

- <sup>1</sup> The full report on which this issue brief is based is available at [https://www.cms.gov/MedicaidDataSourcesGenInfo/11\\_MAXEM.asp](https://www.cms.gov/MedicaidDataSourcesGenInfo/11_MAXEM.asp).
- <sup>2</sup> The one-year estimates are an average of median values calculated separately for 2005, 2006, and 2007.
- <sup>3</sup> If a child was enrolled in Medicaid or CHIP at the beginning of 2005, the program that we observe first may not have been the first program in which the child enrolled to start the current spell. This will not bias our estimates of the relative frequency of movement into or out of particular programs, however.
- <sup>4</sup> Kaiser Commission on Medicaid and the Uninsured. "Where Are States Today? Medicaid and CHIP Eligibility Levels for Children and Non-Disabled Adults." Publication 7993-02, February 2011. Available at <http://www.kff.org/medicaid/7993.cfm>.

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