

**Movement of Children Between
Medicaid and CHIP, 2005 to 2007**

Final Report

January 31, 2012

John L. Czajka



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Policy Research

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EXECUTIVE SUMMARY

The 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 report, we use data from a new source—Medicaid administrative records that have been unduplicated and linked over time—to examine children's movement between Medicaid and CHIP from 2005 through 2007.

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 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 and 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 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 is 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.

Analysis

Our analysis of movement between regular Medicaid and CHIP has four components. First, we examine the frequency of enrollment in both Medicaid and CHIP within the same calendar year. Second, we examine enrollment in both Medicaid and CHIP across multiple calendar years. Third, we examine 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. Fourth, we examine how often a child's enrollment in both regular Medicaid and CHIP over a period of one to three years was interrupted by a period of time without either Medicaid or CHIP coverage.

Enrollment in Two Programs in the Same Calendar Year

Because of the variation across states, it is useful to summarize the patterns of joint enrollment in Medicaid and CHIP during a year with averages calculated across the states. Based on medians, between 7.5 and 7.6 percent of children who were ever enrolled in regular Medicaid during the year were also enrolled in M-CHIP, and between 4.0 and 5.4 percent were ever enrolled in S-CHIP. Among children ever enrolled in M-CHIP, between 53.2 and 55.3 percent were ever enrolled in regular Medicaid during the year and between 9.9 and 11.3 percent were ever enrolled in S-CHIP. Among children ever enrolled in S-CHIP, between 32.4 and 37.2 percent were ever enrolled in regular Medicaid and about half as many (between 16.6 and 16.8 percent) were ever enrolled in M-CHIP.

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 period of two to three full years, which we did. The median percentage of M-CHIP enrollees ever enrolled in regular Medicaid increased from 54 to 78 percent between one and three years, and the median percentage of S-CHIP enrollees ever enrolled in regular Medicaid increased from 34 to 63 percent. Similarly, the percentage of M-CHIP enrollees ever enrolled in S-CHIP increased from 11 to 21 percent while the percentage of S-CHIP enrollees ever enrolled in M-CHIP increased from 17 to 31 percent. Lastly, the percentage of regular Medicaid enrollees ever enrolled in M-CHIP increased from 8 to 16 percent, and the percentage ever enrolled in S-CHIP increased from 5 to 12 percent.

Direction of Movement

To examine the direction of movement between programs, we need to identify and count individual transitions. A child may have had more than one transition over the three-year period, and with the unduplicated data we can count all such transitions. Overall, there is 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. On average, a child who moved between the two programs had 1.61 transitions over the three years. 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. The average number of transitions per child was 1.27 over the three years. 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. On average, each child with a transition had just one.

Breaks in Enrollment

Another aspect of children's movement between 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. Gaps in enrollment were much more frequent for transitions between regular Medicaid and S-CHIP: 42 percent of the transitions from Medicaid to S-CHIP and 26 percent of the reverse transitions included gaps. 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 had 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.

Enrollment gaps in excess of one month are more likely to reflect interim losses of eligibility rather than administrative churning, and this is even more true of 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 this is more than double what we observe 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 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.

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 program participants. 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 provides additional perspective on potential transitions in coverage among adults once ACA is fully implemented.

I. INTRODUCTION

The 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 a short time earlier or will shift their coverage to Medicaid a short time later. In this report, we use data from a new source—Medicaid administrative records that have been unduplicated and linked over time—to examine children's movement between Medicaid and CHIP from 2005 through 2007. In Chapter II, we provide background on the phenomenon of movement between types of public medical assistance and the data used in our analysis. In Chapter III, we present our empirical analysis of children's movement between programs. We discuss implications and limitations of our findings and summarize our conclusions in Chapter IV.

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II. BACKGROUND

States have the option to administer CHIP through a Medicaid expansion program (M-CHIP), which provides full Medicaid benefits, a separate state program designed by the state (S-CHIP), or a combination of the two. With a separate state program, states can offer a different package of benefits than they are required to offer under Medicaid as long as they meet certain minimum requirements. This feature has been appealing to states because it allows them the flexibility to develop benefit packages tailored to children—with potentially lower costs per enrollee than the Medicaid package. With a lower unit cost than for adults, states can extend coverage to a greater number of children than would otherwise be the case. 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 enable them to obtain (or retain) Medicaid coverage. S-CHIP then extends coverage—with a different package of benefits—to children with family incomes above the M-CHIP ceilings. States have also been allowed to apply a different definition of countable income to determine eligibility for CHIP. Some states have used this flexibility to extend CHIP eligibility beyond the nominal ceiling of 200 percent of poverty by disregarding a greater share of income than they do in determining eligibility for regular Medicaid.

States are required to submit quarterly enrollment and claims records through the Medicaid Statistical Information System (MSIS) for all individuals enrolled in regular Medicaid and M-CHIP, but the submission of data for S-CHIP is optional, and many states with separate child health programs choose not to submit data on these programs. The data submitted through MSIS are the ultimate source of the data used in this analysis, but extensive processing conducted in several stages is required to transform the MSIS submissions into the analytical data used here.

Below, we discuss the development and significant features of these data. First, however, we explain why the information the data provide on the movement of children between Medicaid and CHIP is important.

A. Relevance of Movement Between Programs

Because the benefit packages differ between S-CHIP and Medicaid (including M-CHIP), movement between the two has implications for the continuity of coverage. Children moving between regular Medicaid or M-CHIP on the one hand and S-CHIP on the other may lose access to particular providers or find that they are no longer covered for services that 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 posed by changes in eligibility there are more significant cost implications because the federal government reimburses state expenditures for CHIP at a higher rate than expenditures for regular Medicaid.¹

B. Medicaid Data

To provide health policy researchers with access to Medicaid administrative data in a form suitable for research, the Centers for Medicare & Medicaid Services (CMS) has funded and overseen the development of an annual Medicaid Analytic Extract (MAX). MAX includes enrollment and claims information for each person enrolled in Medicaid—including M-CHIP—and, as explained above, a subset of those enrolled in S-CHIP. To produce the annual MAX

¹ The federal reimbursement rate for all services (except family planning) provided under the regular Medicaid program, or the Federal Medical Assistance Percentage (FMAP), is determined by a formula that assigns higher matching rates to states with lower per capita incomes. FMAP varies from 50 percent to a theoretical maximum of 83 percent. For FY 2007 the maximum FMAP was 75.89 percent, which applied to Mississippi (Federal Register, Vol. 70, No. 229, November 30, 2005). Twelve states received the minimum 50 percent FMAP. Federal reimbursement for CHIP expenditures is based on an alternative, “enhanced FMAP” (or e-FMAP), which is designed in such a way that it exceeds FMAP in every state. The e-FMAP varies from 65 percent to a theoretical maximum of 85 percent. For FY 2007 the maximum e-FMAP was 83.12 percent—also for Mississippi. The 12 states with FMAPs of 50 percent had e-FMAPs of 65 percent. Both match rates are recalculated on a regular basis. Total federal financing for CHIP through FY 2013 was determined using an allotment formula.

files, quarterly state MSIS submissions are aggregated into calendar year files, and retroactive records, correction records, and adjustments are applied. Other corrections and enhancements are also made to improve the usefulness of the files for research. While the MAX data have supported extensive research on state Medicaid programs and enabled detailed cross-state comparisons, their application 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 of the MAX data, 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 for each unique enrollee per state was produced for each of the three years. Each file includes an identifier that can be used to link records across states and over time; a subset of variables from the MAX Person Summary (PS) files; and several variables created explicitly for the unduplicated file. These last variables include monthly indicators identifying the type of enrollment—none, Medicaid, M-CHIP, S-CHIP or a combination of the three.² These enrollment indicators played a prominent role in our analysis.

The analysis presented here uses the unduplicated data linked across years within states but not across states. Linkages across states are potentially less reliable than linkages within states. The within-state linkages are based primarily on a state-assigned Medicaid ID, which was designed for exactly the purpose for which we use it: to uniquely identify enrollees within a state's Medicaid program. The cross-state linkages are based primarily on Social Security numbers (SSNs) combined with gender and date of birth. In theory, each SSN identifies a

² The MAX enrollment indicators from which the research file indicators were constructed identify enrollment in only one program in a given month. When Mathematica combined duplicate records as part of the within-state unduplication process, the records that were combined may have indicated enrollment in different programs in the same month. All such enrollment was coded in the research file enrollment indicators.

unique individual as well, but the SSNs are not verified with the Social Security Administration, so we cannot be as confident that the SSN on an enrollee's record was assigned to that individual by the SSA. Even when a cross-state linkage correctly identifies the same individual in two states, however, Medicaid, or especially CHIP eligibility, may differ between the two states. Thus a transition between Medicaid in one state and CHIP in another state could occur without any change in family income.

C. Coverage of M-CHIP and S-CHIP in the Unduplicated MAX Data

As we noted in discussing the MSIS data from which MAX and the unduplicated research files were derived, states are not required to submit their individual enrollment and claims records for children enrolled in S-CHIP, and a number of states do not do so. States *do* submit counts of children ever enrolled in M-CHIP and S-CHIP—both quarterly and annually—through the Statistical Enrollment Data System (SEDS). For S-CHIP, the SEDS counts provide a way of assessing what is actually missing from MSIS and, ultimately, MAX.

A total of 33 states had M-CHIP programs that were in operation throughout 2007, and 42 states had S-CHIP programs. A number of states added or terminated CHIP programs during the three years that are covered by the unduplicated research files. Arkansas established an M-CHIP program in 2006 while continuing to maintain a small S-CHIP program. Louisiana added a small S-CHIP program to supplement a much larger M-CHIP program in 2007. Maryland dropped its S-CHIP program in 2007 but continued to operate its much larger M-CHIP program.³ Missouri added an S-CHIP program to supplement its M-CHIP program in the final calendar quarter of 2007. New York phased out a small M-CHIP program between 2005 and 2006 while maintaining a very large S-CHIP program, whereas North Carolina established an M-CHIP program in 2006 while also maintaining a very large S-CHIP program.

³ Both SEDS and the unduplicated research file show S-CHIP enrollment in Maryland for 2007, however.

In Table II.1, we present both SEDS and the research file enrollment counts for M-CHIP programs by state in 2005, 2006, and 2007. The SEDS numbers represent the number of persons ever enrolled in a fiscal year while the research file numbers represent the number of persons ever enrolled in a calendar year. The SEDS numbers were produced by each state, whereas the research file numbers were derived from person-level administrative records submitted to CMS by the states, processed by Mathematica into MAX records, and then unduplicated as part of the research file construction. The final tabulations were produced by Mathematica for this report.

While the enrollment counts differ between the two sources, they nearly always agree on whether there was nonzero enrollment in M-CHIP in a given state and year. Three states provide exceptions. The research files have no M-CHIP enrollment data for New York for the two years that the program was being phased out. Likewise, SEDS has no M-CHIP enrollment report for 2005 but does have one for 2006. North Carolina started an M-CHIP program in 2006, and both SEDS and the research files show enrollment in 2006 and 2007, but the research files show a very small number of M-CHIP enrollees in CY 2005 (which includes the first quarter of FY 2006 and excludes the first quarter of FY 2005). Lastly, Tennessee introduced both M-CHIP and S-CHIP programs in 2007 according to SEDS, so there are no SEDS data for either program for 2005 or 2006. The research files show M-CHIP enrollment in Tennessee in all three years, however, and the 2005 and 2006 enrollment counts are a good deal larger than the 2007 enrollment counts, which is puzzling as well.

Table II.1. M-CHIP Enrollment Among Children by State, 2005 to 2007: SEDS and Unduplicated Research Files

State	SEDS			Unduplicated Research Files		
	FY 2005	FY 2006	FY 2007	CY 2005	CY 2006	CY 2007
Alabama						
Alaska	22,322	20,432	17,558	18,778	16,816	15,446
Arizona						
Arkansas		85,798	85,863		65,172	84,548
California	181,017	214,216	265,057	180,094	223,175	266,657
Colorado						
Connecticut						
Delaware	150	172	145	167	183	131
District of Columbia	6,631	6,332	6,566	6,566	6,074	7,244
Florida	1,942	1,877	1,594	3,275	3,205	2,623
Georgia						
Hawaii	20,602	22,031	23,958	19,997	20,761	21,823
Idaho	18,639	17,858	19,019	18,688	17,111	21,675
Illinois	120,582	139,565	157,120	131,870	159,211	176,273
Indiana	93,666	97,213	95,836	96,036	99,096	98,620
Iowa	16,453	17,756	17,926	24,718	26,728	27,904
Kansas						
Kentucky	41,180	42,156	43,470	63,364	64,336	59,599
Louisiana	146,347	142,389	151,953	138,895	146,472	150,410
Maine	21,806	22,167	21,966	20,391	18,915	20,094
Maryland	106,471	112,123	120,357	128,015	131,107	143,794
Massachusetts	119,268	129,387	93,922	108,752	112,519	123,704
Michigan	33,965	61,214	60,508	4,599	11,108	12,703
Minnesota	107	97	62	105	91	91
Mississippi						
Missouri	115,355	106,577	81,764	136,093	114,542	111,904
Montana						
Nebraska	44,706	44,981	46,199	44,278	44,415	46,305
Nevada						
New Hampshire	707	671	621	693	647	654
New Jersey	43,435	49,994	49,286	63,913	64,301	64,882
New Mexico	24,310	25,155	16,525	25,278	20,806	17,292
New York	0 ^a	51,576		0 ^a	0 ^a	
North Carolina		53,180	67,197	22	60,583	69,093
North Dakota	1,936	1,889	1,808	2,207	2,118	1,992
Ohio	216,495	221,643	231,538	216,180	220,063	234,315
Oklahoma	108,100	116,012	117,084	112,694	116,898	118,711
Oregon						
Pennsylvania						
Rhode Island	25,609	24,028	24,234	16,426	17,110	16,858
South Carolina	80,646	68,870	59,920	79,771	67,765	61,250
South Dakota	10,843	11,254	11,561	13,875	13,915	14,668
Tennessee			35,589	57,249	54,611	40,375
Texas						
Utah						
Vermont						
Virginia	57,815	65,536	68,075	59,234	65,271	66,735
Washington						
West Virginia						
Wisconsin	57,165	57,034	56,904	54,530	55,419	55,966
Wyoming						
United States	1,738,270	2,031,183	2,051,185	1,846,753	2,040,544	2,154,339

^a New York phased out its M-CHIP program between April 2005 and March 2006 but did not report M-CHIP enrollment to SEDS for 2005 and did not identify any enrollees in MSIS as M-CHIP in either year.

Of the 42 states with S-CHIP programs operating in FY 2007, 23 states submitted S-CHIP enrollment data to MSIS, according to what we observe in the 2007 research file (Table II.2). According to the SEDS, the 19 states that did not report S-CHIP enrollment in MSIS included the three largest S-CHIP programs (located in California, New York, and Texas), which had a combined enrollment of 2.6 million children for FY 2007. The remaining 16 states that did not report their S-CHIP enrollment into MSIS had another 1.0 million enrollees in FY 2007. In addition, some of the states that did report their S-CHIP enrollment in MSIS did not report all of it. In Illinois, the CY 2007 research file count is 50,000 below what the state reported in SEDS for FY 2007. In Georgia, the CY 2007 research file count is 20,000 below the FY 2007 SEDS total. Most striking, Nevada reported nearly 42,000 S-CHIP enrollees in SEDS for FY 2007 but has fewer than 60 in the research file for CY 2007, and Minnesota reported 5,300 enrollees in SEDS for FY 2007 but has fewer than 300 in the CY 2007 research file.

A small number of states have substantially more S-CHIP enrollees in the research files than they reported in SEDS. In Kentucky the research file numbers range from 35,000 to 36,000 over the three years, but in SEDS they run 23,000 to 25,000. In South Dakota, the research file enrollment counts range from 4,300 to 4,600 compared to 3,200 to 3,400 in SEDS. In North Dakota the discrepancy between the research file numbers and those reported in SEDS grows from just 400 in 2005 to 2,200 in 2007. In addition, as we noted above, Missouri launched an S-CHIP program in the final quarter of calendar year 2007, and enrollment counts appear in the 2007 research file, but with its fiscal year reference period, SEDS has no S-CHIP enrollment reported in 2007.

For the country as a whole, reported M-CHIP enrollment is similar between SEDS and the research files, with the latter running five to six percent higher nationally in 2005 and 2007

Table II.2. S-CHIP Enrollment Among Children by State, 2005 to 2007: SEDS and the Unduplicated Research Files

State	SEDS			Unduplicated Research Files		
	FY 2005	FY 2006	FY 2007	CY 2005	CY 2006	CY 2007
Alabama	81,856	84,257	106,691	0	0	0
Alaska						
Arizona	88,005	96,669	104,209	0	62,266	98,854
Arkansas	1,214	3,440	3,779	0	0	0
California	1,042,458	1,177,189	1,273,359	0	0	0
Colorado	59,530	69,997	84,649	60,815	76,360	90,209
Connecticut	22,289	23,301	23,632	0	0	0
Delaware	10,204	10,579	10,998	0	0	0
District of Columbia						
Florida	382,859	301,718	321,935	4,248	3,584	0
Georgia	306,733	343,690	356,285	308,528	338,661	336,576
Hawaii						
Idaho	3,200	6,869	14,041	3,441	5,861	19,555
Illinois	160,850	177,216	188,456	100,000	131,842	135,462
Indiana	35,878	36,483	34,532	36,729	37,062	35,303
Iowa	30,109	31,819	32,312	0	0	0
Kansas	47,323	48,934	49,536	0	0	0
Kentucky	22,548	23,134	25,306	35,370	34,872	36,160
Louisiana			1,710			129
Maine	8,848	8,947	9,071	7,569	7,841	7,743
Maryland	13,845	23,911	12,530	15,015	17,614	15,023
Massachusetts	43,411	71,650	90,561	39,902	73,002	86,947
Michigan	55,292	57,287	53,517	0	0	0
Minnesota	4,969	5,246	5,346	296	329	293
Mississippi	79,352	83,359	81,565	0	0	0
Missouri						25,921 ^a
Montana	15,841	17,304	20,115	15,604	17,538	20,122
Nebraska						
Nevada	39,316	39,317	41,862	0	0	57
New Hampshire	11,185	11,722	11,467	11,188	11,678	11,640
New Jersey	86,156	92,811	100,991	92,621	105,278	107,760
New Mexico						
New York	618,973	636,786	651,853	0	0	0
North Carolina	196,181	195,186	172,955	195,697	158,869	167,407
North Dakota	3,789	4,429	3,661	4,214	5,533	5,935
Ohio						
Oklahoma						
Oregon	52,722	59,039	63,090	52,606	57,599	62,759
Pennsylvania	179,807	188,765	227,367	0	0	0
Rhode Island	1,535	1,464	1,833	0	0	0
South Carolina						
South Dakota	3,195	3,330	3,421	4,297	4,414	4,633
Tennessee			5,774			0
Texas	526,406	585,461	710,690	0	0	0
Utah	43,931	51,967	44,785	47,726	50,778	47,613
Vermont	6,614	6,519	6,132	6,704	6,524	6,399
Virginia	66,240	71,646	76,088	65,925	71,467	76,612
Washington	15,547	15,000	14,734	0	0	0
West Virginia	38,614	39,855	38,582	0	0	0
Wisconsin			5,619			0
Wyoming	6,120	7,715	8,570	0	0	0
United States	4,412,945	4,714,011	5,093,609	1,108,495	1,278,972	1,399,112

^a S-CHIP was introduced in the final quarter of calendar year 2007, so there was no enrollment during the SEDS reference period.

(Table II.3). If overall enrollment is trending upwards, the calendar year research file numbers will tend to run higher than the fiscal year SEDS numbers, other things being equal. For the most part, this is consistent with what we see. Differences are much larger for selected states, however. Compared to SEDS, the M-CHIP enrollment counts in the research files are about 70 percent higher in Florida, about 50 percent higher in Iowa and Kentucky, and about 30 percent higher in New Jersey and South Dakota. On the other hand, M-CHIP enrollment counts in the research files are about 80 percent lower than the SEDS counts in Michigan, about 30 percent lower in Rhode Island, and about 10 to 15 percent lower in Alaska and Maine. In addition, the M-CHIP enrollment counts in the research files are about 10 percent lower than the SEDS counts in Massachusetts in 2005 and 2006 but 32 percent higher in 2007.

Nationally, the research files capture only 25 to 27 percent of the total S-CHIP enrollment reported in SEDS. Most of this difference is due to the 19 states that in 2007 did not report any S-CHIP enrollment into MSIS. In two states, however—Louisiana and Minnesota—the research file counts of S-CHIP enrollment are less than 10 percent of the SEDS enrollment counts.

Obviously, we cannot analyze data that the states do not report. It was necessary, therefore, that we restrict our analysis of movement into and out of S-CHIP to states that reported their S-CHIP enrollment into MSIS. Beyond this basic restriction, we also limited our analysis to states that appeared to provide a relatively complete accounting of their S-CHIP enrollees, based on a comparison with SEDS data. We recognize that the SEDS data have issues as well, so we excluded only the two states—Louisiana and Minnesota—that were clear outliers with respect to how well their research file enrollment estimates compared to SEDS estimates.

Table II.3. Ratio of Unduplicated Research File to SEDS Enrollment in CHIP, 2005 to 2007

State	M-CHIP			S-CHIP		
	2005	2006	2007	2005	2006	2007
Alabama				0.00	0.00	0.00
Alaska	0.84	0.82	0.88			
Arizona				0.00	0.64	0.95
Arkansas		0.76	0.98	0.00	0.00	0.00
California	0.99	1.04	1.01	0.00	0.00	0.00
Colorado				1.02	1.09	1.07
Connecticut				0.00	0.00	0.00
Delaware	1.11	1.06	0.90	0.00	0.00	0.00
District of Columbia	0.99	0.96	1.10			
Florida	1.69	1.71	1.65	0.01	0.01	0.00
Georgia				1.01	0.99	0.94
Hawaii	0.97	0.94	0.91			
Idaho	1.00	0.96	1.14	1.08	0.85	1.39
Illinois	1.09	1.14	1.12	0.62	0.74	0.72
Indiana	1.03	1.02	1.03	1.02	1.02	1.02
Iowa	1.50	1.51	1.56	0.00	0.00	0.00
Kansas				0.00	0.00	0.00
Kentucky	1.54	1.53	1.37	1.57	1.51	1.43
Louisiana	0.95	1.03	0.99			0.08
Maine	0.94	0.85	0.91	0.86	0.88	0.85
Maryland	1.20	1.17	1.19	1.08	0.74	1.20
Massachusetts	0.91	0.87	1.32	0.92	1.02	0.96
Michigan	0.14	0.18	0.21	0.00	0.00	0.00
Minnesota	0.98	0.94	1.47	0.06	0.06	0.05
Mississippi				0.00	0.00	0.00
Missouri	1.18	1.07	1.37			
Montana				0.99	1.01	1.00
Nebraska	0.99	0.99	1.00			
Nevada				0.00	0.00	0.00
New Hampshire	0.98	0.96	1.05	1.00	1.00	1.02
New Jersey	1.47	1.29	1.32	1.08	1.13	1.07
New Mexico	1.04	0.83	1.05			
New York		0.00		0.00	0.00	0.00
North Carolina		1.14	1.03	1.00	0.81	0.97
North Dakota	1.14	1.12	1.10	1.11	1.25	1.62
Ohio	1.00	0.99	1.01			
Oklahoma	1.04	1.01	1.01			
Oregon				1.00	0.98	0.99
Pennsylvania				0.00	0.00	0.00
Rhode Island	0.64	0.71	0.70	0.00	0.00	0.00
South Carolina	0.99	0.98	1.02			
South Dakota	1.28	1.24	1.27	1.34	1.33	1.35
Tennessee			1.13			0.00
Texas				0.00	0.00	0.00
Utah				1.09	0.98	1.06
Vermont				1.01	1.00	1.04
Virginia	1.02	1.00	0.98	1.00	1.00	1.01
Washington				0.00	0.00	0.00
West Virginia				0.00	0.00	0.00
Wisconsin	0.95	0.97	0.98			0.00
Wyoming				0.00	0.00	0.00
United States	1.06	1.00	1.05	0.25	0.27	0.27

To summarize, 33 states had M-CHIP programs in 2007, and all 33 were included in our analysis of movement between regular Medicaid and M-CHIP (Table II.4). Two of these states—Arkansas and North Carolina—did not start their M-CHIP programs until 2006, and one state—Tennessee—did not start its program until 2007 (although it had MAX data for 2005 and 2006). A total of 43 states had S-CHIP programs in 2007, and in all but two of these states these programs were in place for all three years. Of these 43 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. Missouri, which had S-CHIP enrollment data in the research file for 2007 but no SEDS data, was also excluded because the state’s S-CHIP program was introduced in the final quarter of the year, which was insufficient to provide meaningful data on movement between Medicaid and S-CHIP.

D. Medicaid and CHIP Eligibility

CHIP programs vary by state in how much they expand coverage beyond regular Medicaid, and this contributes to differences among states in the volume of movement we observe between Medicaid and CHIP and what such movement implies about changes in income. A useful measure of coverage expansion that can be compared across states is the number of children ever enrolled in the specific CHIP program (M-CHIP or S-CHIP) during a given year divided by the number of children ever enrolled in regular Medicaid over that same time period. These ratios for 2007, along with the counts of ever enrolled children from which they were calculated, are reported for the states in our study sample in Table II.5. The data are based on the 2007 unduplicated research file, but they exclude S-CHIP estimates from the states for which we determined that these estimates were much too low.

Table II.4. States Included in M-CHIP and S-CHIP Analyses

State	States Included in M-CHIP	States Included in S-CHIP	S-CHIP States Excluded from Analyses	States Excluded from All Analyses
Alabama			X	X
Alaska	X			
Arizona		X ^a		
Arkansas	X ^a		X	
California	X		X	
Colorado		X		
Connecticut			X	X
Delaware	X		X	
District of Columbia	X			
Florida	X		X	
Georgia		X		
Hawaii	X			
Idaho	X	X		
Illinois	X	X		
Indiana	X	X		
Iowa	X		X	
Kansas			X	X
Kentucky	X	X		
Louisiana	X		X	
Maine	X	X		
Maryland	X	X		
Massachusetts	X	X		
Michigan	X		X	
Minnesota	X		X	
Mississippi			X	X
Missouri	X		X ^b	
Montana		X		
Nebraska	X			
Nevada			X	X
New Hampshire	X	X		
New Jersey	X	X		
New Mexico	X			
New York			X	X
North Carolina	X ^a	X		
North Dakota	X	X		
Ohio	X			
Oklahoma	X			
Oregon		X		
Pennsylvania			X	X
Rhode Island	X		X	
South Carolina	X			
South Dakota	X	X		
Tennessee	X		X	
Texas			X	X
Utah		X		
Vermont		X		
Virginia	X	X		
Washington			X	X
West Virginia			X	X
Wisconsin	X		X	
Wyoming			X	X

^a State is included for 2006 and 2007 only.^b S-CHIP was introduced in the final quarter of calendar year 2007.

Table II.5. Relative Size of CHIP and Regular Medicaid Enrollment of Children, 2007: States with M-CHIP or S-CHIP Enrollment in the Unduplicated Research File

State	Ever Enrolled in Regular Medicaid	Ever Enrolled in M-CHIP	Ever Enrolled in S-CHIP	Ratio of M-CHIP to Regular Medicaid	Ratio of S-CHIP to Regular Medicaid
Alaska	73,134	15,446	0	0.211	
Arizona	717,791	0	98,854		0.138
Arkansas	383,095	84,548	0	0.221	
California	4,198,151	266,657	0	0.064	
Colorado	324,505	0	90,209		0.278
Delaware	84,895	131	0	0.002	
District of Columbia	78,623	7,244	0	0.092	
Florida	1,522,782	2,623	0	0.002	
Georgia	1,003,649	0	336,576		0.335
Hawaii	98,100	21,823	0	0.222	
Idaho	141,561	21,675	19,555	0.153	0.138
Illinois	1,308,702	176,273	135,462	0.135	0.104
Indiana	605,510	98,620	35,303	0.163	0.058
Iowa	227,970	27,904	0	0.122	
Kentucky	427,253	59,599	36,160	0.139	0.085
Louisiana	616,643	150,410	0	0.244	
Maine	119,552	20,094	7,743	0.168	0.065
Maryland	382,818	143,794	15,023	0.376	0.039
Massachusetts	465,297	123,704	86,947	0.266	0.187
Michigan	1,038,875	12,703	0	0.012	
Minnesota	387,470	91	0	0.000	
Missouri	557,268	111,904	0 ^a	0.201	
Montana	61,261	0	20,122		0.328
Nebraska	143,441	46,305	0	0.323	
New Hampshire	83,518	654	11,640	0.008	0.139
New Jersey	542,604	64,882	107,760	0.120	0.199
New Mexico	310,841	17,292	0	0.056	
North Carolina	891,948	69,093	167,407	0.077	0.188
North Dakota	35,994	1,992	5,935	0.055	0.165
Ohio	1,047,387	234,315	0	0.224	
Oklahoma	433,711	118,711	0	0.274	
Oregon	265,372	0	62,759		0.236
Rhode Island	94,951	16,858	0	0.178	
South Carolina	474,338	61,250	0	0.129	
South Dakota	74,005	14,668	4,633	0.198	0.063
Tennessee	692,799	40,375	0	0.058	
Utah	162,507	0	47,613		0.293
Vermont	65,782	0	6,399		0.097
Virginia	491,056	66,735	76,612	0.136	0.156
Wisconsin	437,779	55,966	0	0.128	

^a Missouri began enrolling children in S-CHIP in the final quarter of calendar year 2007; we exclude this fourth quarter enrollment because it covers only a small part of the year.

Of the 33 states with M-CHIP programs in 2007, 10 expanded Medicaid coverage for children by more than 20 percent. These states were led by Maryland, which had an M-CHIP enrollment that was 37.6 percent as large as its regular Medicaid enrollment. Nebraska's M-CHIP program also expanded coverage for children by more than 30 percent. Another 12 states had M-CHIP programs that increased coverage by 10 to 20 percent, but 4 states—Delaware, Florida, Minnesota, and New Hampshire—had M-CHIP programs that expanded coverage by less than one percent.

Of the 20 states that reported reasonably complete S-CHIP enrollment into MSIS, five expanded children's coverage by more than 20 percent, with Georgia and Montana topping 30 percent. Another nine expanded coverage by 10 to 20 percent while the state with the smallest S-CHIP program relative to regular Medicaid was Maryland, which had the largest M-CHIP program. Maryland's S-CHIP program expanded regular Medicaid coverage by four percent. In combination, the two CHIP programs expanded Maryland's regular Medicaid coverage by 41.5 percent. Massachusetts and New Jersey had combined programs that expanded regular Medicaid coverage by more than 30 percent. In all, six states expanded regular Medicaid coverage for children by more than 30 percent with CHIP programs either alone or in combination.

III. ANALYSIS OF MOVEMENT BETWEEN PROGRAMS

Our analysis of movement between regular Medicaid and CHIP has four components. First we examine the frequency of enrollment in both Medicaid and CHIP within the same calendar year. Second, we examine enrollment in both Medicaid and CHIP across multiple calendar years—specifically years two and three. Third, we examine the extent to which the enrollment of children in both regular Medicaid and CHIP over a period of time is the result of disproportionate movement in one direction versus the other. That is, do more children move from CHIP to regular Medicaid than move from regular Medicaid to CHIP? Fourth, we examine how often a child’s enrollment in both regular Medicaid and CHIP over a period of one to three years is interrupted by a period of time without either Medicaid or CHIP coverage.

A. Enrollment in Medicaid and CHIP Within the Same Calendar Year

If CHIP enrollment is large in comparison to regular Medicaid enrollment, CHIP eligibility probably covers a broad income range, and if it does, then a family with a child enrolled in CHIP may be able to experience a relatively large decline in income before the child becomes Medicaid eligible. On the other hand, when CHIP eligibility covers a very narrow income range, even a very small decline in family income may be sufficient to make a child eligible for regular Medicaid. Thus we might expect to find that the ratio of children enrolled in both Medicaid and CHIP to the number ever enrolled in CHIP tends to decline as the relative size of a state’s CHIP program increases.

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 III.1). In all but three states, when a state 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 (recall Table II.5), 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 M-CHIP or S-CHIP enrollees. These percentages range from near zero for both CHIP programs to 19.0 percent for M-CHIP and 10.7 percent for S-CHIP. Again, for states with combined programs, the fraction of regular Medicaid enrollees who were ever enrolled in

Table III.1. Enrollment of Children in Both Regular Medicaid and CHIP in 2007

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.

M-CHIP tends to be higher than the fraction ever enrolled in S-CHIP, although three states were exceptions.

Because of the variation across states, it is useful to summarize the patterns of joint enrollment in Medicaid and CHIP during a year with averages calculated across the states. In Table III.2, we present medians and unweighted means of state estimates for 2005, 2006, and 2007. We find a striking level of consistency across the three years—particularly for combinations involving regular Medicaid and M-CHIP. Based on medians, between 7.5 and 7.6 percent of children who were ever enrolled in regular Medicaid during the year were also enrolled in M-CHIP, and between 4.0 and 5.4 percent were ever enrolled in S-CHIP. Among children ever enrolled in M-CHIP, between 53.2 and 55.3 percent were ever enrolled in regular Medicaid during the year and between 9.9 and 11.3 percent were ever enrolled in S-CHIP. Among children ever enrolled in S-CHIP, between 32.4 and 37.2 percent were ever enrolled in regular Medicaid and about half as many (between 16.6 and 16.8 percent) were ever enrolled in M-CHIP. Unweighted means were generally within two to three tenths of a percent of the medians.

Table III.2. Average State Percentages Enrolled in Both Regular Medicaid and CHIP in the Same Year, 2005 to 2007

Year	Percent of Medicaid Enrollees		Percent of M-CHIP Enrollees		Percent 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
Medians						
2005	7.5	4.0	53.2	9.9	37.2	16.6
2006	7.6	4.6	54.7	11.3	32.4	16.8
2007	7.6	5.4	55.3	10.9	34.0	16.6
Three-year average	7.6	4.7	54.4	10.7	34.5	16.7
Unweighted Means						
2005	7.3	4.5	52.5	10.5	35.3	18.9
2006	7.1	4.9	51.2	10.7	34.5	15.9
2007	7.2	5.2	52.1	11.8	34.6	20.9
Three-year average	7.2	4.9	51.9	11.0	34.8	18.6

B. Enrollment in Medicaid and CHIP Across Calendar Years

Over a period of just a year, potential movement between Medicaid and CHIP is limited. With the unduplicated research data, however, it is possible to link enrollment records across years and examine Medicaid and CHIP enrollment over a period of two to three full years. We linked records across the three years within each state and tabulated the frequency of joint enrollment in each pair of programs relative to the total enrollment in each of the three programs.

In Table III.3, we report medians and unweighted means of state estimates of enrollment in both Medicaid and CHIP over one- (the three-year averages from Table III.2), two-, and three-year periods. In each column, we see a progression in the percentage of children enrolled in two programs as the observation period increases from one to three years. For example, the median percentage of M-CHIP enrollees ever enrolled in regular Medicaid increases from 54 to 78 percent between one and three years, and the median percentage of S-CHIP enrollees ever enrolled in regular Medicaid increases from 34 to 63 percent. Similarly, the percentage of M-CHIP enrollees ever enrolled in S-CHIP increases from 11 to 21 percent while the percentage of S-CHIP enrollees ever enrolled in M-CHIP increases from 17 to 31 percent. Lastly, the percentage of regular Medicaid enrollees ever enrolled in M-CHIP increases from 8 to 16 percent, and the percentage ever enrolled in S-CHIP increases from 5 to 12 percent. Unweighted means show the same pattern with only modest differences from the medians.

In Table III.4, we report the results by state for the three-year observation period. For the percent of M-CHIP enrollees ever enrolled in regular Medicaid, the lowest frequency is now 40 percent (North Dakota) while the next lowest is 58 percent (Maryland and New Jersey). Arkansas and Maine are highest at 93 percent. For the percent of S-CHIP enrollees ever enrolled in regular Medicaid, the lowest frequency is 35 percent (Maryland), followed by 38 percent (New Jersey). The highest is 88 percent (Vermont). Because of the states with very small numbers of children enrolled in M-CHIP, the percent of regular Medicaid enrollees ever enrolled

in M-CHIP is below one percent in Delaware, Florida, Minnesota, and New Hampshire. In three states, however, this fraction exceeds 30 percent (Massachusetts, Nebraska, and Oklahoma), and it is above 20 percent in eight others. For the percent of regular Medicaid enrollees ever enrolled in S-CHIP, the lowest fraction is 2 percent in Maryland, followed by 6 percent in South Dakota, while Oregon is highest at 22 percent. Even movement between M-CHIP and S-CHIP occurs at high frequencies in a number of states. The proportion of M-CHIP enrollees ever enrolled in S-CHIP is 53 percent in New Hampshire and 45 percent in North Carolina. The proportion of S-CHIP enrollees ever enrolled in M-CHIP reaches 80 percent in Maryland and exceeds 40 percent in four other states.

Table III.3. Average State Percentages Enrolled in Both Regular Medicaid and CHIP over Multiple Years, 2005 to 2007

Year	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
Medians						
Three-year average	7.6	4.7	54.4	10.7	34.5	16.7
2005 to 2006	12.2	8.8	71.9	17.9	51.6	24.7
2006 to 2007	12.4	9.2	70.1	17.7	52.2	26.0
2005 to 2007	15.8	12.2	78.4	21.2	62.8	31.2
Unweighted Means						
Three-year average	7.2	4.9	51.9	11.0	34.8	18.6
2005 to 2006	11.9	8.5	69.0	20.8	51.6	26.5
2006 to 2007	12.2	9.1	69.3	18.4	51.2	27.7
2005 to 2007	15.4	11.9	76.2	24.5	60.9	33.7

C. Direction of Movement

If children were enrolled in both Medicaid and CHIP over a period of time, they moved from one program to the other. Such movement need not be symmetrical—that is, the flow of

Table III.4. Enrollment of Children in Both Regular Medicaid and CHIP, 2005 to 2007

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.

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 avenues of entry to public coverage as well as the nature of the family income changes that underlie children's movement between programs. Given the high fraction 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.

To examine the direction of movement between programs, we need to identify and count the individual transitions. A child may have had more than one transition over the three-year period, and with the unduplicated research files we can count all such transitions. This enables us to answer an additional question about the dynamics of public coverage: How often did children move between programs? We address both the direction and frequency of transitions for each pair of programs: regular Medicaid and M-CHIP, regular Medicaid and S-CHIP, and M-CHIP and S-CHIP.

1. Transitions Between Regular Medicaid and M-CHIP

Overall, there is 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. Nationally, children made 2.5 million transitions from regular Medicaid to M-CHIP and 1.9 million transitions from M-CHIP to regular Medicaid between 2005 and 2007 (Table III.5). Thus 56.3 percent of the transitions were from regular Medicaid to M-CHIP.

The degree of asymmetry varied by state. In five states—Delaware, Florida, New Hampshire, South Carolina, and Tennessee—the transitions from M-CHIP to regular Medicaid exceeded the transitions from regular Medicaid to M-CHIP, although in the last two states the

Table III.5. Transitions Between Regular Medicaid and M-CHIP, 2005 to 2007

State	Children Ever Enrolled in Both	Transitions from:		Percentage of Transitions into M-CHIP	Ratio of Transitions to Enrollment
		Regular Medicaid to M- CHIP	M-CHIP to Regular Medicaid		
Alaska	23,738	20,064	19,156	51.2	1.65
Arizona	0	0	0	--	--
Arkansas	83,727	85,414	12,843	86.9	1.17
California	366,996	328,537	265,075	55.3	1.62
Colorado	0	0	0	--	--
Delaware	186	191	258	42.5	2.41
District of Columbia	8,717	6,859	4,598	59.9	1.31
Florida	3,106	3,241	3,833	45.8	2.28
Georgia	0	0	0	--	--
Hawaii	19,812	16,606	11,584	58.9	1.42
Idaho	23,002	18,164	10,170	64.1	1.23
Illinois	219,445	162,845	147,913	52.4	1.42
Indiana	156,298	170,290	137,291	55.4	1.97
Iowa	41,824	42,934	35,117	55.0	1.87
Kentucky	83,956	73,500	58,027	55.9	1.57
Louisiana	147,514	118,201	77,000	60.6	1.32
Maine	34,512	33,949	33,101	50.6	1.94
Maryland	115,075	100,078	63,584	61.1	1.42
Massachusetts	183,997	162,257	142,722	53.2	1.66
Michigan	17,264	16,709	3,908	81.0	1.19
Minnesota	142	156	96	61.9	1.77
Missouri	151,225	132,972	106,912	55.4	1.59
Montana	0	0	0	--	--
Nebraska	57,880	69,254	52,625	56.8	2.11
New Hampshire	496	396	555	41.6	1.92
New Jersey	63,476	47,045	32,214	59.4	1.25
New Mexico	34,458	31,583	28,717	52.4	1.75
North Carolina	62,851	51,287	24,438	67.7	1.20
North Dakota	1,408	859	855	50.1	1.22
Ohio	328,983	324,206	241,382	57.3	1.72
Oklahoma	152,900	153,077	137,417	52.7	1.90
Oregon	0	0	0	--	--
Rhode Island	21,580	19,235	15,348	55.6	1.60
South Carolina	109,080	87,072	89,807	49.2	1.62
South Dakota	18,021	15,866	11,469	58.0	1.52
Tennessee	60,263	44,029	46,346	48.7	1.50
Utah	0	0	0	--	--
Vermont	0	0	0	--	--
Virginia	90,603	82,549	58,440	58.5	1.56
Wisconsin	81,130	84,587	69,028	55.1	1.89
United States	2,763,665	2,504,012	1,941,829	56.3	1.61

split was nearly 50-50. At the opposite end of the distribution, transitions from regular Medicaid to M-CHIP accounted for more than 80 percent of all transitions between the two programs in Arkansas and Michigan. In Michigan, M-CHIP enrollees were just one percent of the number of regular Medicaid enrollees among children, but in Arkansas the M-CHIP enrollment was 22 percent as large as regular Medicaid enrollment, which is one of the larger state shares (recall Table II.5). That both states should have such excessive movement in the same direction is difficult to explain. Delaware, Florida, and New Hampshire had among the smallest M-CHIP programs relative to regular Medicaid, and in all three of these states the movement of children from M-CHIP to regular Medicaid dominated the movement in the reverse direction. Clearly, the relative sizes of the M-CHIP and regular Medicaid programs do not determine the dominant direction of movement between the two programs.

Lastly, the ratio of total transitions between the two programs to the number of children who were ever enrolled in both programs provides a measure of the average number of transitions per child. For transitions between regular Medicaid and M-CHIP this ratio is 1.61. A ratio of this magnitude could mean that 61 percent of the children who were ever enrolled in both programs had two transitions over the three years while the remaining children had only one. More likely than not, some children had more than two transitions, which would raise the fraction with only one transition above the minimum 39 percent. Regardless, it appears likely that more than half of the children enrolled in both programs moved back and forth between the two programs during the three years. For these children, the direction of movement is irrelevant because they moved in both directions.

The ratio varies by state. In three states—Delaware, Florida, and Nebraska—the average number of transitions per child exceeded 2, while in two states—Arkansas and Michigan—the average number of transitions was below 1.2.

2. Transitions Between Regular Medicaid and S-CHIP

For transitions between regular Medicaid and S-CHIP the flows from regular Medicaid to S-CHIP were somewhat more dominant than the flows from regular Medicaid to M-CHIP, accounting for 60.3 percent of the total transitions between the regular Medicaid and S-CHIP programs (Table III.6). In just two states—Illinois and Indiana—did the flows from S-CHIP to regular Medicaid exceed the reverse flows. Most states were close to the 60 percent figure with just two states—Arizona and Idaho—showing much greater dominance of the flows from regular Medicaid to S-CHIP.

The ratio of total transitions to the total children ever enrolled in both programs was much lower at 1.27 than the ratio for transitions between regular Medicaid and M-CHIP. In one state, Maryland, the ratio was below one, which implies that we may not be counting all of the transitions recorded by children enrolled in both programs. Maryland has an M-CHIP program, however, so children who were enrolled in both regular Medicaid and S-CHIP may not have moved directly from the one program to the other. Rather, they could have moved first from regular Medicaid to M-CHIP and then from M-CHIP to S-CHIP—or the reverse.

3. Transitions Between M-CHIP and S-CHIP

Transitions between M-CHIP and S-CHIP were almost evenly balanced across the dozen states with MAX data on both programs; transitions from M-CHIP to S-CHIP represent 48 percent of the total transitions between the two programs (Table III.7). The states vary substantially, however. In three states, the transitions from M-CHIP to S-CHIP account for more than 70 percent of the total transitions while in another state they account for as little as 21 percent. On average, total transitions are about equal to total enrollment in both programs, with a ratio of 1.01. Five states have ratios below one, however, suggesting that some transitions

Table III.6. Transitions Between Regular Medicaid and S-CHIP, 2005 to 2007

State	Children Ever Enrolled in Both	Transitions from:		Percentage of Transitions into S-CHIP	Ratio of Transitions to Enrollment
		Regular Medicaid to S-CHIP	S-CHIP to Regular Medicaid		
Alaska	0	0	0	--	--
Arizona	65,682	65,897	20,817	76.0	1.32
Arkansas	0	0	0	--	--
California	0	0	0	--	--
Colorado	74,722	63,593	37,392	63.0	1.35
Delaware	0	0	0	--	--
District of Columbia	0	0	0	--	--
Florida	0	0	0	--	--
Georgia	185,467	158,329	79,680	66.5	1.28
Hawaii	0	0	0	--	--
Idaho	13,416	11,735	2,886	80.3	1.09
Illinois	126,918	59,992	98,151	37.9	1.25
Indiana	48,697	28,314	32,211	46.8	1.24
Iowa	0	0	0	--	--
Kentucky	38,427	26,833	17,882	60.0	1.16
Louisiana	0	0	0	--	--
Maine	10,705	7,417	5,213	58.7	1.18
Maryland	9,073	4,738	2,829	62.6	0.83
Massachusetts	83,260	60,732	30,884	66.3	1.10
Michigan	0	0	0	--	--
Minnesota	0	0	0	--	--
Missouri	0	0	0	--	--
Montana	11,627	10,105	5,821	63.4	1.37
Nebraska	0	0	0	--	--
New Hampshire	13,454	11,862	8,823	57.3	1.54
New Jersey	57,489	39,708	25,779	60.6	1.14
New Mexico	0	0	0	--	--
North Carolina	176,458	128,668	84,717	60.3	1.21
North Dakota	5,890	5,907	2,709	68.6	1.46
Ohio	0	0	0	--	--
Oklahoma	0	0	0	--	--
Oregon	73,077	71,580	46,072	60.8	1.61
Rhode Island	0	0	0	--	--
South Carolina	0	0	0	--	--
South Dakota	4,990	3,034	2,266	57.2	1.06
Tennessee	0	0	0	--	--
Utah	35,085	30,989	15,687	66.4	1.33
Vermont	10,078	10,462	8,534	55.1	1.88
Virginia	64,301	46,053	29,321	61.1	1.17
Wisconsin	0	0	0	--	--
United States	1,108,816	845,948	557,674	60.3	1.27

Table III.7. Transitions Between M-CHIP and S-CHIP, 2005 to 2007

State	Children Ever Enrolled in Both	Transitions from:		Percentage of Transitions to S-CHIP	Ratio of Transitions to Enrollment
		M-CHIP to S-CHIP	S-CHIP to M-CHIP		
Alaska	0	0	0	--	--
Arizona	0	0	0	--	--
Arkansas	0	0	0	--	--
California	0	0	0	--	--
Colorado	0	0	0	--	--
Delaware	0	0	0	--	--
District of Columbia	0	0	0	--	--
Florida	0	0	0	--	--
Georgia	0	0	0	--	--
Hawaii	0	0	0	--	--
Idaho	6,062	4,464	1,016	81.5	0.90
Illinois	64,973	21,232	44,025	32.5	1.00
Indiana	33,119	19,556	7,477	72.3	0.82
Iowa	0	0	0	--	--
Kentucky	30,015	20,711	14,946	58.1	1.19
Louisiana	0	0	0	--	--
Maine	5,586	1,502	1,809	45.4	0.59
Maryland	20,522	10,776	18,136	37.3	1.41
Massachusetts	51,831	28,330	19,517	59.2	0.92
Michigan	0	0	0	--	--
Minnesota	0	0	0	--	--
Missouri	0	0	0	--	--
Montana	0	0	0	--	--
Nebraska	0	0	0	--	--
New Hampshire	413	456	0	--	--
New Jersey	24,148	14,548	10,076	59.1	1.02
New Mexico	0	0	0	--	--
North Carolina	36,016	8,310	30,820	21.2	1.09
North Dakota	626	495	209	70.3	1.12
Ohio	0	0	0	--	--
Oklahoma	0	0	0	--	--
Oregon	0	0	0	--	--
Rhode Island	0	0	0	--	--
South Carolina	0	0	0	--	--
South Dakota	4,570	2,905	2,136	57.6	1.10
Tennessee	0	0	0	--	--
Utah	0	0	0	--	--
Vermont	0	0	0	--	--
Virginia	25,898	14,317	9,109	61.1	0.90
Wisconsin	0	0	0	--	--
United States	303,779	147,602	159,276	48.1	1.01

among children enrolled in both programs are not being counted. In all of these states and in some of the others, however, most of the children who were enrolled in both M-CHIP and S-CHIP over the three years were also enrolled in regular Medicaid. Therefore, the fact that they were enrolled in both M-CHIP and S-CHIP does not imply that they moved directly between these two programs. They could have been enrolled in regular Medicaid between their spells of enrollment in M-CHIP and S-CHIP, and in that case we would observe no transition between M-CHIP and S-CHIP.

D. Disenrollment and Re-enrollment

Another aspect of children's movement between 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 program different from the one they left. Breaks in enrollment could reflect administrative churning rather than real gains in family income that make children ineligible for both Medicaid and CHIP for a period of time. The length of the break in enrollment is the critical factor. Administrative churning is associated with very brief breaks in coverage—as short as a month. Breaks in enrollment that are due to increases in income would tend to run much longer because family income first has to drop sufficiently, and then the child has to re-establish eligibility.

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 (Table III.8). In most states, the fractions were very close to these national averages, but in Minnesota, more than half of the transitions included a gap in enrollment as did more than half of the transitions from M-CHIP to Medicaid in Arkansas. In North Dakota, nearly 30 percent of the transitions included a gap in enrollment, while in Arkansas and California more than 20 percent

Table III.8. Percentage of Transitions with a Gap in Enrollment, by Type of Transition, 2005–2007

State	Medicaid to M-CHIP	M-CHIP to Medicaid	Medicaid to S-CHIP	S-CHIP to Medicaid	M-CHIP to S-CHIP	S-CHIP to M-CHIP
Alaska	34.1	30.2	--	--	--	--
Arizona	--	--	76.0	33.5	--	--
Arkansas	21.8	55.9	--	--	--	--
California	25.9	15.8	--	--	--	--
Colorado	--	--	48.1	28.7	--	--
Delaware	7.3	23.6	--	--	--	--
District of Columbia	13.7	11.6	--	--	--	--
Florida	5.9	19.0	--	--	--	--
Georgia	--	--	55.7	22.1	--	--
Hawaii	15.5	7.8	--	--	--	--
Idaho	11.9	14.8	19.9	12.4	16.4	7.5
Illinois	10.1	10.8	34.2	11.3	24.5	7.5
Indiana	3.9	9.9	14.7	18.3	9.4	8.8
Iowa	9.1	11.2	--	--	--	--
Kentucky	12.5	11.0	15.9	27.3	9.4	14.5
Louisiana	6.6	8.0	--	--	--	--
Maine	4.4	3.3	18.8	21.6	15.6	17.7
Maryland	13.3	13.8	36.5	28.3	26.4	7.9
Massachusetts	12.3	9.2	16.6	14.9	21.9	23.5
Michigan	13.3	17.0	--	--	--	--
Minnesota	66.0	53.1	--	--	--	--
Missouri	9.7	13.5	--	--	--	--
Montana	--	--	66.2	17.0	--	--
Nebraska	8.1	11.1	--	--	--	--
New Hampshire	2.3	11.5	29.7	10.1	18.2	--
New Jersey	12.2	11.0	34.7	16.1	31.8	12.1
New Mexico	15.8	16.6	--	--	--	--
North Carolina	19.8	15.4	17.6	19.0	10.7	3.7
North Dakota	29.6	28.9	22.6	23.0	29.7	19.6
Ohio	9.3	9.4	--	--	--	--
Oklahoma	10.8	10.4	--	--	--	--
Oregon	--	--	100.0	100.0	--	--
Rhode Island	10.4	6.7	--	--	--	--
South Carolina	14.9	5.8	--	--	--	--
South Dakota	9.7	11.8	13.2	18.8	7.2	9.2
Tennessee	0.7	5.8	--	--	--	--
Utah	--	--	35.2	23.9	--	--
Vermont	--	--	10.9	13.8	--	--
Virginia	7.6	8.2	21.1	22.9	15.2	20.6
Wisconsin	15.8	14.2	--	--	--	--
United States	12.7	11.3	42.0	26.0	18.4	10.7

of the transitions from Medicaid to M-CHIP included gaps in enrollment. These states were counter-balanced by a handful of others, with very low incidence of gaps in enrollment. In Tennessee less than one percent of the transitions from regular Medicaid to M-CHIP and less than 6 percent of the reverse transitions included gaps in enrollment. In Indiana, Louisiana, Maine, Ohio, and Virginia, less than 10 percent of the transitions of either type included gaps in enrollment while this was true of one or the other (but not both) types of transitions in several other states.

Gaps in enrollment were much more frequent for transitions between regular Medicaid and S-CHIP. Over all of the states with S-CHIP enrollment data in MAX, 42 percent of the transitions from Medicaid to S-CHIP and 26 percent of the reverse transitions included gaps. For Oregon, all of the transitions between regular Medicaid and S-CHIP included gaps in enrollment. For Arizona and Montana, the gaps exceeded 65 percent among transitions from regular Medicaid to S-CHIP. In no state did the frequency of gaps for either type of transition fall below 10 percent.

Transitions between M-CHIP and S-CHIP were more like the transitions between regular Medicaid and M-CHIP. For transitions from M-CHIP to S-CHIP, 18.4 percent had gaps in enrollment while 10.7 percent of the transitions from S-CHIP to M-CHIP had gaps in enrollment. In Indiana and South Dakota, enrollment gaps occurred in less than 10 percent of the transitions of either type.

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 III.9). Alaska and Arkansas were at the high

Table III.9. Percentage of Transitions with a One-Month Gap in Enrollment, by Type of Transition, 2005–2007

State	Medicaid to M-CHIP	M-CHIP to Medicaid	Medicaid to S-CHIP	S-CHIP to Medicaid	M-CHIP to S-CHIP	S-CHIP to M-CHIP
Alaska	10.1	9.3	--	--	--	--
Arizona	--	--	8.8	7.4	--	--
Arkansas	8.8	29.9	--	--	--	--
California	4.9	3.3	--	--	--	--
Colorado	--	--	9.1	6.9	--	--
Delaware	2.1	3.1	--	--	--	--
District of Columbia	3.2	3.2	--	--	--	--
Florida	2.4	3.2	--	--	--	--
Georgia	--	--	12.7	4.4	--	--
Hawaii	4.1	1.8	--	--	--	--
Idaho	2.5	3.0	4.0	2.5	3.6	1.7
Illinois	1.7	2.1	6.0	2.1	4.5	1.2
Indiana	1.5	1.8	3.6	2.8	2.3	1.5
Iowa	2.5	2.0	--	--	--	--
Kentucky	3.4	2.7	4.3	5.4	2.9	3.7
Louisiana	1.0	1.2	--	--	--	--
Maine	1.0	0.9	4.9	6.8	4.6	8.2
Maryland	2.7	2.3	12.6	5.8	11.5	1.8
Massachusetts	3.1	2.4	3.0	2.8	4.4	4.7
Michigan	1.7	4.7	--	--	--	--
Minnesota	9.6	1.0	--	--	--	--
Missouri	2.2	1.7	--	--	--	--
Montana	--	--	29.1	2.7	--	--
Nebraska	1.8	2.1	--	--	--	--
New Hampshire	1.0	2.2	16.5	1.2	11.0	--
New Jersey	3.2	2.6	6.2	3.1	6.9	2.5
New Mexico	4.3	4.0	--	--	--	--
North Carolina	5.0	4.5	4.6	3.7	3.0	0.5
North Dakota	4.9	6.1	9.6	5.2	13.1	3.8
Ohio	2.0	1.8	--	--	--	--
Oklahoma	2.2	2.0	--	--	--	--
Oregon	--	--	4.0	3.1	--	--
Rhode Island	2.8	1.0	--	--	--	--
South Carolina	2.7	0.6	--	--	--	--
South Dakota	2.4	2.6	3.4	4.2	2.3	2.4
Tennessee	0.4	0.6	--	--	--	--
Utah	--	--	7.0	3.9	--	--
Vermont	--	--	5.3	4.5	--	--
Virginia	1.7	1.8	5.0	5.4	3.8	6.0
Wisconsin	6.9	3.2	--	--	--	--
United States	3.0	2.4	7.4	3.8	4.5	2.3

end for transitions between Medicaid and M-CHIP, as was Minnesota for transitions between regular Medicaid and M-CHIP. Georgia, Maryland, Montana, and New Hampshire had particularly high frequencies of one-month gaps for transitions from regular Medicaid to S-CHIP, but no state had comparably high one-month gaps for the reverse transitions. While all of Oregon's transitions between regular Medicaid and S-CHIP had gaps, very few of these gaps (four percent or less) were just a month in length. Maryland, New Hampshire, and North Dakota had double-digit frequencies of one-month gaps for transitions from M-CHIP to S-CHIP, but no state was as high for transitions from S-CHIP to M-CHIP.

Enrollment gaps in excess of one month are more likely to reflect interim losses of eligibility rather than simply administrative churning; and losses of eligibility are even more likely to explain gaps exceed 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 (Table III.10), and about 6 percent included gaps in excess of three months in length (Table III.11). 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 are more than double what we observe 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. Just eight percent of the transitions from S-CHIP to M-CHIP had gaps of one month or more, and just six percent had gaps of three months or more, which makes these transitions very similar to those between regular Medicaid and M-CHIP.

Table III.10. Percentage of Transitions with a Gap in Enrollment Exceeding One Month, by Type of Transition, 2005–2007

State	Medicaid to M-CHIP	M-CHIP to Medicaid	Medicaid to S-CHIP	S-CHIP to Medicaid	M-CHIP to S-CHIP	S-CHIP to M-CHIP
Alaska	24.1	20.9	--	--	--	--
Arizona	--	--	67.2	26.1	--	--
Arkansas	13.0	25.9	--	--	--	--
California	21.0	12.4	--	--	--	--
Colorado	--	--	39.0	21.9	--	--
Delaware	5.2	20.5	--	--	--	--
District of Columbia	10.5	8.5	--	--	--	--
Florida	3.5	15.8	--	--	--	--
Georgia	--	--	43.0	17.7	--	--
Hawaii	11.3	6.0	--	--	--	--
Idaho	9.4	11.8	15.9	9.9	12.9	5.8
Illinois	8.4	8.7	28.3	9.2	20.0	6.3
Indiana	2.4	8.1	11.1	15.5	7.0	7.3
Iowa	6.7	9.2	--	--	--	--
Kentucky	9.2	8.3	11.7	21.9	6.5	10.8
Louisiana	5.6	6.9	--	--	--	--
Maine	3.4	2.4	13.9	14.8	11.1	9.5
Maryland	10.6	11.4	23.9	22.5	14.9	6.1
Massachusetts	9.2	6.8	13.6	12.1	17.4	18.8
Michigan	11.6	12.3	--	--	--	--
Minnesota	56.4	52.1	--	--	--	--
Missouri	7.5	11.8	--	--	--	--
Montana	--	--	37.1	14.2	--	--
Nebraska	6.3	9.0	--	--	--	--
New Hampshire	1.3	9.4	13.2	8.9	7.2	--
New Jersey	9.0	8.4	28.5	13.0	25.0	9.7
New Mexico	11.5	12.6	--	--	--	--
North Carolina	14.8	10.8	12.9	15.3	7.7	3.2
North Dakota	24.7	22.8	13.0	17.8	16.6	15.8
Ohio	7.3	7.6	--	--	--	--
Oklahoma	8.6	8.4	--	--	--	--
Oregon	--	--	96.0	96.9	--	--
Rhode Island	7.6	5.7	--	--	--	--
South Carolina	12.2	5.2	--	--	--	--
South Dakota	7.3	9.2	9.8	14.7	4.9	6.8
Tennessee	0.2	5.1	--	--	--	--
Utah	--	--	28.3	20.0	--	--
Vermont	--	--	5.6	9.4	--	--
Virginia	5.9	6.5	16.1	17.4	11.4	14.7
Wisconsin	8.9	11.0	--	--	--	--
United States	9.6	8.9	34.6	22.2	13.8	8.4

Table III.11. Percentage of Transitions with a Gap in Enrollment Exceeding Three Months, by Type of Transition, 2005–2007

State	Medicaid to M-CHIP	M-CHIP to Medicaid	Medicaid to S-CHIP	S-CHIP to Medicaid	M-CHIP to S-CHIP	S-CHIP to M-CHIP
Alaska	11.8	9.8	--	--	--	--
Arizona	--	--	51.5	9.5	--	--
Arkansas	4.5	4.2	--	--	--	--
California	15.1	8.5	--	--	--	--
Colorado	--	--	27.1	13.3	--	--
Delaware	1.0	14.7	--	--	--	--
District of Columbia	7.3	5.6	--	--	--	--
Florida	1.1	11.5	--	--	--	--
Georgia	--	--	25.2	10.9	--	--
Hawaii	6.8	4.1	--	--	--	--
Idaho	6.6	8.7	11.1	6.8	8.8	4.3
Illinois	6.1	6.1	20.8	6.6	14.9	4.5
Indiana	1.6	5.8	7.4	11.3	4.5	5.1
Iowa	4.8	7.2	--	--	--	--
Kentucky	5.8	5.7	7.6	15.6	3.9	7.1
Louisiana	4.2	5.1	--	--	--	--
Maine	2.4	1.6	9.7	10.5	7.6	6.1
Maryland	7.7	8.4	12.8	15.8	7.8	3.8
Massachusetts	5.9	4.0	9.8	8.7	12.3	13.2
Michigan	9.4	7.8	--	--	--	--
Minnesota	34.6	52.1	--	--	--	--
Missouri	5.1	9.3	--	--	--	--
Montana	--	--	20.2	10.6	--	--
Nebraska	4.2	6.5	--	--	--	--
New Hampshire	0.3	6.3	7.5	6.4	4.6	--
New Jersey	5.9	5.6	18.1	9.1	14.7	6.7
New Mexico	7.3	8.4	--	--	--	--
North Carolina	10.0	6.6	8.6	10.9	5.0	2.6
North Dakota	18.4	17.8	7.1	11.7	8.1	10.0
Ohio	5.1	5.4	--	--	--	--
Oklahoma	5.8	6.0	--	--	--	--
Oregon	--	--	90.9	93.0	--	--
Rhode Island	5.1	4.2	--	--	--	--
South Carolina	8.0	4.0	--	--	--	--
South Dakota	4.9	6.4	7.0	10.7	3.5	4.8
Tennessee	0.1	4.2	--	--	--	--
Utah	--	--	19.6	15.2	--	--
Vermont	--	--	3.2	6.6	--	--
Virginia	3.9	4.3	10.6	11.4	7.1	8.9
Wisconsin	5.3	7.8	--	--	--	--
United States	6.4	6.1	25.3	17.0	9.1	5.8

Among individual states, Minnesota stands out with more than half of its transitions between regular Medicaid and M-CHIP having gaps of more than a month. Likewise, 35 percent of the transitions from regular Medicaid to M-CHIP and 52 percent of the transitions from M-CHIP to regular Medicaid have enrollment gaps in excess of three months. For transitions between regular Medicaid and S-CHIP, Oregon stands out with at least 96 percent of the transitions in either direction having enrollment gaps of more than a month and more than 90 percent having enrollment gaps exceeding three months. Other states are outliers with respect to the frequency of enrollment gaps exceeding three months for transitions from regular Medicaid to S-CHIP: Arizona, Colorado, Georgia, Illinois, and Montana. No states have gaps in excess of three months with frequencies this high for any of the other transitions, however.

One pattern we note is that for transitions involving S-CHIP, the transitions into S-CHIP tend to have longer enrollment gaps than the transitions out of S-CHIP. The transitions into S-CHIP imply increases in family income, whereas the transitions in the reverse direction imply decreases in family income. It is plausible that families experiencing increases in income that take them out of regular Medicaid and M-CHIP are more likely to have interim increases that exceed even the S-CHIP eligibility limits than families experiencing reductions in income.

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IV. DISCUSSION

State expenditures for children enrolled in CHIP are reimbursed by the federal government at higher rates than expenditures for children enrolled in regular Medicaid. Also, children enrolled in CHIP through separate state programs, or S-CHIP, receive a different package of services than children enrolled through an expansion of the Medicaid program, or M-CHIP. As a result, the movement of children between programs introduces complexities into Medicaid management and funding and may disrupt the continuity of care that children are able to receive through these programs. These complexities are compounded when transitions between programs are interrupted by periods of time outside of the programs. In addition, the frequent movement between as well as into and out of these programs that we observe for children suggests we will observe a high volume of changes in coverage among adults when the Affordable Care Act (ACA) is fully implemented. Section A examines children's eligibility for regular Medicaid, M-CHIP, and S-CHIP by state and considers our findings regarding movement between programs in the context of this information on eligibility. Section B reviews the expanded coverage options that will be made available to adults in 2014 and assesses what our findings for children may have to say about the potential movement of adults between these different options. Section C discusses the limitations of these findings and identifies areas for further research, and Section D presents concluding comments.

A. Income Eligibility for Medicaid and CHIP

Table IV.1 shows income eligibility limits for regular Medicaid, M-CHIP, and S-CHIP for children by age for each of the states and the District of Columbia. Federal law mandates that Medicaid programs cover children under age 6 with family incomes up to 133 percent of poverty and children 6 to 18 with family incomes up to 100 percent of poverty. Most states exceed these

Table IV.1. Medicaid and CHIP Income Eligibility Limits as a Percentage of Poverty: Children, January 1, 2011

State	Regular Medicaid			M-CHIP			S-CHIP Under 19
	Infants	Ages 1 to 5	Ages 6 to 18	Infants	Ages 1 to 5	Ages 6 to 18	
Alabama	133	133	100				300
Alaska	150	150	150	175	175	175	
Arizona	140	133	100				200
Arkansas	133	133	100	200	200	200	
California	200	133	100				250
Colorado	133	133	100				250
Connecticut	185	185	185				300
Delaware	185	133	100	200			200
District of Columbia	185	133	100	300	300	300	
Florida	185	133	100	200			200
Georgia	200	133	100				235
Hawaii	185	133	100	300	300	300	
Idaho	133	133	100			133	185
Illinois	133	133	100	200		133	200
Indiana	200	133	100		150	150	250
Iowa	133	133	100	300		133	300
Kansas	150	133	100				241
Kentucky	185	133	100		150	150	200
Louisiana	133	133	100	200	200	200	250
Maine	133	133	125	200	150	150	200
Maryland	185	133	100	300	300	300	
Massachusetts	185	133	114	200	150	150	300
Michigan	185	150	150				200
Minnesota	275	275	275	280			
Mississippi	185	133	100				200
Missouri	185	133	100		150	150	300
Montana	133	133	100			133	250
Nebraska	150	133	100	200	200	200	
Nevada	133	133	100				200
New Hampshire	185	185	185	300			300
New Jersey	200	133	100			133	350
New Mexico	185	185	185	235	235	235	
New York	200	133	100				400
North Carolina	185	133	100	200	200		200
North Dakota	133	133	100				160
Ohio	150	150	150	200	200	200	
Oklahoma	133	133	100	185	185	185	
Oregon	133	133	100				300
Pennsylvania	185	133	100				300
Rhode Island	185	133	100	250	250	250	
South Carolina	150	150	150	200	200	200	
South Dakota	133	133	100	140	140	140	200
Tennessee	185	133	100				250
Texas	185	133	100				200
Utah	133	133	100				200
Vermont	225	225	225				300
Virginia	133	133	100			133	200
Washington	200	200	200				300
West Virginia	150	133	100				250
Wisconsin	300	185	100		300	300	
Wyoming	133	133	100				200

Source: State survey conducted by the Kaiser Commission on Medicaid and the Uninsured with the Georgetown University Center for Children and Families, 2011; data reported in Kaiser Commission on Medicaid and the Uninsured (2011).

limits for infants, and a few states do so for older children as well. All states have CHIP programs that expand income eligibility for health insurance coverage for one or more of these age groups. A number of states use M-CHIP to expand coverage with full Medicaid benefits, while nearly all states operate separate state programs that provide a somewhat different package of benefits to children in families with incomes above the regular Medicaid or M-CHIP limits. The movement of children among Medicaid, M-CHIP, and S-CHIP that we document in this report was usually the result of changes in family income that affected children's eligibility for individual programs. Depending on a child's age and state of residence, for example, an increase in family income above the poverty level could have rendered the child no longer eligible for regular Medicaid but made the child eligible to continue receiving the Medicaid benefit package under M-CHIP or to receive a different benefit package under S-CHIP.

In many if not most states, CHIP substantially increased the income eligibility limits for public coverage, often by a factor of two to three for children ages 6 to 18. With the income eligibility limits for CHIP being so high above the limits for regular Medicaid in most states, many of the children who lost eligibility for regular Medicaid because of increases in family income would have continued to be income-eligible for public coverage through either M-CHIP or S-CHIP. Our analysis does not show all losses of Medicaid coverage; nor does it show eligibility for CHIP except among those who enrolled. Therefore, the low proportions of Medicaid enrollees who were ever enrolled in M-CHIP or S-CHIP over a three-year period could reflect any of a number of possible circumstances. For many children, family income may have changed very little, so they remained Medicaid-eligible. Others may have become eligible for M-CHIP or S-CHIP, but their parents elected not to enroll them. This seems unlikely for M-CHIP but less so for S-CHIP, with its different benefit package. Still other children may have become covered under family health insurance plans that their parents were able to obtain

through an employer or the non-group market, making the children ineligible for Medicaid. Other children may have moved to another state, in which case our within-state analysis would not show their subsequent Medicaid or CHIP enrollment. Lastly, some children's parents may have experienced such large increases in income that the children were no longer eligible for any public coverage.

We would expect to see more movement between regular Medicaid and either M-CHIP or S-CHIP in states where these programs increased eligibility by large rather than small amounts. Comparing Table III.4 to Table IV.1 we find that the state with the highest proportions of regular Medicaid enrollees also enrolled in M-CHIP—Nebraska at 34 percent—had one of the larger expansions in eligibility through M-CHIP (from 100 percent of poverty to 200 percent of poverty for children ages 6 to 18, from 133 to 200 percent of poverty for children 1 to 5, and from 150 to 200 percent of poverty for infants). Yet seven other states had expansions at least as large with generally much smaller proportions of regular Medicaid enrollees also enrolled in M-CHIP. For example, in DC the upper limit for M-CHIP eligibility was 300 percent of poverty while the regular Medicaid limits were similar to Nebraska, yet only 10 percent of regular Medicaid enrollees were also enrolled in M-CHIP. At the same time, Massachusetts and Oklahoma had somewhat lower M-CHIP eligibility limits than Nebraska but comparable proportions of children enrolled in regular Medicaid who were ever enrolled in M-CHIP (31 percent in each case). Of course, all of the states with comparatively low M-CHIP income eligibility limits had correspondingly low proportions of Medicaid enrollees ever enrolled in M-CHIP. In these states, there was little possibility that a child whose family income rose above the Medicaid limit would qualify for M-CHIP; the difference in the income limits was simply too small.

B. Implications for Implementation of ACA

Beginning January 1, 2014, ACA will expand health insurance coverage options for nonelderly, non-disabled adults. Eligibility for coverage through Medicaid will be increased to 133 percent of poverty (plus a 5 percent disregard) based on a new income definition that for many families and individuals will count less income than do the definitions currently used by many states. A new benchmark benefit package, differing from current Medicaid benefits, will be provided to those made eligible by this expansion. 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.

Table IV.2 shows current Medicaid income eligibility limits for non-disabled adults by state. In all but a handful of states, only parents are eligible for the Medicaid benefit package. 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 may not be as comprehensive as the current Medicaid benefit package, extending Medicaid eligibility to 133 (effectively 138) 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 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.

Table IV.2. Medicaid Income Eligibility Limits as a Percentage of Poverty: Nondisabled Adults, January 1, 2011

State	Medicaid or Equivalent Benefit Package		More Limited Benefit Package	
	Parents	Other Adults	Parents	Other Adults
Alabama	24			
Alaska	81			
Arizona	106	110		
Arkansas	17			
California	106		200	200
Colorado	106			
Connecticut	191	56	306	310
Delaware	120	110		
District of Columbia	207	211		211
Florida	59			
Georgia	50			
Hawaii	100	100	200	200
Idaho	39			
Illinois	191			
Indiana	36		200	200
Iowa	83		250	250
Kansas	32			
Kentucky	62			
Louisiana	25			
Maine	200		300	300
Maryland	116			128
Massachusetts	133		300	300
Michigan	64			
Minnesota	215		275	250
Mississippi	44			
Missouri	37			
Montana	56			
Nebraska	58			
Nevada	88			
New Hampshire	49			
New Jersey	200			
New Mexico	67		408	414
New York	150	100		
North Carolina	49			
North Dakota	59			
Ohio	90			
Oklahoma	53			
Oregon	40		201	201
Pennsylvania	46		208	213
Rhode Island	181			
South Carolina	93			
South Dakota	52			
Tennessee	127			
Texas	26			
Utah	44		150	150
Vermont	191	160	300	300
Virginia	31			
Washington	74		200	200
West Virginia	33			
Wisconsin	200			200
Wyoming	52			

Source: State survey conducted by the Kaiser Commission on Medicaid and the Uninsured with the Georgetown University Center for Children and Families, 2011; data reported in Kaiser Commission on Medicaid and the Uninsured (2011).

Researchers have used survey data—in particular, the longitudinal Survey of Income and Program Participation (SIPP)—to try to predict the frequency of changes in eligibility. For example, in a widely cited article, Sommers and Rosenbaum (2011) used SIPP data to estimate that “within six months, more than 35 percent of all adults with family incomes below 200 percent of the federal poverty level will experience a shift in eligibility from Medicaid to an insurance exchange, or the reverse; within a year, 50 percent, or 28 million, will.” Measurement error can be a significant factor in survey estimates, however, and with longitudinal data, uncorrelated measurement error between survey waves creates the false appearance of change. More likely than not, the frequency of changes in eligibility is overestimated with survey data. Furthermore, survey data on income do not reflect all of the other factors that influence eligibility determinations.

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 program participants. Because regular Medicaid and M-CHIP are identified as distinct programs in the Medicaid administrative data, children’s movement between the two can be tracked. If states operate separate S-CHIP programs and submit their enrollment data to CMS through MSIS, the movement between S-CHIP and both regular Medicaid and M-CHIP can be tracked as well.

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. We find evidence 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. In

addition, about half of the children who were enrolled in both regular Medicaid and M-CHIP over a three-year period changed eligibility twice. These findings provide additional perspective on potential transitions in coverage among adults once ACA is fully implemented.

C. Limitations and Further Research

There are a number of limitations to the analysis presented here—some of which will be addressed in further 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, our estimates of movement between regular Medicaid and S-CHIP and between M-CHIP and S-CHIP are substantially incomplete.

The estimates of movement among regular Medicaid, M-CHIP, and S-CHIP presented in this report were limited to changes in coverage that occurred within the same state. Although we have reason to believe that within-state changes in coverage dominate the changes that are associated with migration between states, and we also believe 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 subsequent study will use the unduplicated research files to examine the migration of Medicaid enrollees—both children and adults—between 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. In a successor to this study, we will use the unduplicated research files to estimate the volume and frequency of

children's movement into and out of Medicaid or CHIP coverage without restricting the analysis to cases involving transitions between different types of coverage.

A lesser but nonetheless notable limitation involves potential consequences of our unduplication of children's records within the same state as part of the preparation of the research files. When we determined that two or more enrollment records in the same year represented the same individual, we combined the records. If the pooled records showed different types of enrollment in the same month (for example, both regular Medicaid and M-CHIP), we coded both types of enrollment. Our estimates of children enrolled in more than one type of program in the same year include these instances of simultaneous joint enrollment created by our methods of unduplication, but our estimates of transitions among regular Medicaid, M-CHIP, and S-CHIP exclude months with joint enrollment. So, for example, if a child was observed in one month with regular Medicaid and in the next month with both regular Medicaid and M-CHIP, we did not count this as a transition between regular Medicaid and M-CHIP. To confirm that a transition had occurred, we would have had to examine subsequent months to see if regular Medicaid ended while M-CHIP continued, thereby completing the transition. This would have introduced an additional level of complexity into what was already a complex estimation procedure—only to add a small number of extra transitions to our total. Given that we are not entirely certain of the accuracy of the indicated joint enrollment in every case, we elected to exclude these cases from our estimates of the number and characteristics of transitions.

We must note as well that the analysis presented here covers a period of time when unemployment rates were considerably lower than they are now, and the U.S. economy was growing at a more rapid rate. We can infer that the onset of the great recession increased the frequency of children's movement between CHIP and regular Medicaid, but beyond that we can

only speculate as to the impact of a weak economy on movement between programs, and we choose not to do so.

Lastly, we have drawn parallels between the observed changes in Medicaid enrollment among children and the potential future changes in adults' enrollment in Medicaid at current versus expanded levels and in private coverage that will be purchased with the aid of subsidies and tax credits and the additional incentives generated by an individual mandate. The findings for children are more suggestive than directly predictive of what will be observed among adults because our data provide no information on changes in children's family income beyond what little can be inferred from CHIP versus Medicaid eligibility levels, which differ by state and, more importantly, do not correspond in any case to the eligibility levels that will apply to adults. If anything, however, the observed movement among children is likely to understate what we can expect to see among adults because the new options among adults cover a broader range of incomes and a wider set of coverage choices.

D. Conclusion

Using data developed from Medicaid administrative records submitted to CMS by the 50 states and the District of Columbia, this report has documented the volume of children's movement among regular Medicaid, M-CHIP, and S-CHIP over the period 2005 through 2007. 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 parents 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 fluctuating economic circumstances. We hope the findings from this research will help to inform the planning for 2014 and later.

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