

## ASPE BRIEF

### Data Sources for Modified Adjusted Gross Income (MAGI) Conversions

January 2013

#### I. Introduction

This paper is a technical companion to the State Health Official Letter on MAGI conversion released on December 28, 2012.<sup>1</sup> The paper provides states with technical specifications on data sources as they consider the MAGI conversion options. This paper includes the following four sections: an introduction; potential data sources for conversion; using the Survey of Income and Program Participation (SIPP); and information about methodological issues. The paper also explains how the SIPP data was coded to reflect Medicaid eligibility in the development of the Standardized MAGI Conversion Methodology.

As of January 1, 2014, states must use MAGI as the basis for determining income eligibility for most potential enrollees. This entails three main changes to current Medicaid and CHIP income eligibility determination methodologies. First, existing disregards, which differ by state and eligibility category, will be eliminated and replaced by a single disregard equivalent to five percentage points of the applicable Federal Poverty Guidelines (FPG). In addition, with certain statutory and regulatory exceptions, household composition and income counting rules will be those of section 36B of the Internal Revenue Code. Conversion of net income standards to equivalent adjusted gross income standards requires accounting for the change in the disregard component of MAGI discussed above. As noted in the SHO Letter, the Standardized MAGI Conversion Methodology does not require an adjustment for the household composition and income counting rules components of MAGI that differ from current Medicaid methods.

States that elect to follow the Standardized MAGI Conversion Methodology explained in the SHO Letter may choose either:

a) the Standardized MAGI Conversion Methodology in which HHS completes the conversion from the reweighted SIPP,

or

b) the Standardized MAGI Conversion Methodology in which the states complete the conversion with their own state data and receive technical assistance from HHS.

As explained in the SHO Letter, states also have the option to propose an alternative methodology instead of using the Standardized MAGI Conversion Methodology.

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<sup>1</sup> <http://www.medicaid.gov/Federal-Policy-Guidance/downloads/SHO12003.pdf>. The Letter explains how Section 1902(e)(14)A of the Social Security Act, for Medicaid, and Section 2102(b)(1)(B)(v) of the Act, for CHIP, will be implemented. Because MAGI conversions shall be done for both Medicaid and CHIP, all references to Medicaid in this ASPE Brief apply to CHIP as well unless the text specifically indicates otherwise.

## **II. Potential Data Sources for Conversion**

Outlined below are the different data sources that HHS reviewed and considered as part of its development of the Standardized MAGI Conversion Methodology.

### **A. State Medicaid and CHIP Data**

State Medicaid and CHIP data, if they contain the information needed for MAGI conversion, are a desirable data source because they contain information on the individuals and families that have actually been determined eligible by the state. In contrast, the use of other, non-state data sources requires estimating who would be eligible for Medicaid and CHIP. The number of records contained in state administrative data is also many times larger than the number obtained via surveys, making the state data less prone to random sampling error. The procedures to be followed by states choosing to carry out the disregard component from their own administrative data are discussed in a forthcoming ASPE brief.

Discussions with the ten pilot states in the HHS research project under which the conversion methodologies have been developed (Arizona, California, Indiana, Nebraska, New Hampshire, New York, Oregon, Tennessee, Virginia, and West Virginia), however, suggest that some states may not have all the state data needed for MAGI conversion. In particular, conversions will have to be done separately for different eligibility groups, and individuals within a household may be eligible under different eligibility categories with different disregard rules. As such, data on disregards will have to be attributable to each individual in the family separately. Some states, however, only collect or retain disregard data for the household as a whole. Other states may not retain disregard data at all, or in a format that is not amenable to data analysis.

HHS also recognizes that analysis of state data to complete MAGI conversion, even with the technical assistance available, may pose substantial burdens on states at a time when they are continuing to operate their Medicaid and CHIP programs under current rules and implementing other changes in response to the Affordable Care Act. HHS, therefore, is not requiring states to carry out the conversion from their own data.

Because states wishing to use their own administrative data may change their minds, or find that they are unable to complete the work, HHS will carry out the conversions using the reweighted SIPP over the same time period that the state is doing its work. All states will have access to the SIPP conversions performed by HHS.

## **B. The Survey of Income and Program Participation (SIPP)**

The SIPP is a Census Bureau longitudinal survey, which means that it collects data on a panel of individuals and households over a period of several years. Respondents are interviewed every four months and asked questions about each of the months since the previous interview. Data for the HHS research project under which the conversion methodologies were developed has come from the April 2010 Cross Section of the 2008 SIPP panel. As in any longitudinal survey, individuals move in and out of the sample depending on whether they complete the questionnaire in a particular month. April 2010 was chosen because its 88,087 surveyed individuals (see Table A.1) are the largest of any month in the 2008 panel.

The SIPP was selected for the research project, and for the Standardized MAGI Conversion Methodology, because it contains data on monthly (rather than annual) income, which is consistent with the income period states use to evaluate Medicaid and CHIP eligibility. Further, the SIPP provides data at the level of detail needed to distinguish income sources that may be treated in different ways under current rules and under MAGI rules and to model the disregards currently available for a given state and eligibility group. The SIPP also provides data on characteristics such as age and family relationships that are needed to place respondents in the appropriate eligibility categories.

Use of the SIPP also allows MAGI conversion in a timely manner while minimizing burden on states. The ability of the SIPP to simulate eligible-but-not-enrolled individuals in each state (who are generally not contained in state administrative datasets) has been critical for deriving the Standard MAGI Conversion Method because it has allowed for testing of not only who might be made ineligible under a given conversion process, but also the converse—who is made eligible who would not have been otherwise. This is generally not available through state sources of data. The SIPP also captures the household and income information on individuals with low levels of gross income necessary to simulate most disregards. State data may not include disregard information on individuals who are eligible regardless of the disregards, making SIPP a more comprehensive data source for low-income individuals.

Detailed information about the SIPP is available from the Census Bureau site at <http://www.census.gov/sipp/>, and public-use data may be downloaded free of charge from that site.

## **C. The Current Population Survey Annual Social and Economic Supplement (CPS-ASEC)**

HHS considered, but rejected, the CPS-ASEC as the survey data source for this project and for the Standardized MAGI Conversion Methodology. The CPS-ASEC, like the SIPP, includes detailed information on income, age, family relationships, and other variables that are relevant to Medicaid and CHIP eligibility. The CPS-ASEC sample size (204,983 unweighted observations in the March 2011 survey, which contains data on Calendar Year 2010) is larger than that of the SIPP. CPS data, however, is collected on an annual basis, and use of annual rather than monthly income in estimating Medicaid and CHIP eligibility can lead to serious problems because it ignores the effects of income volatility. Many families have substantial variation in income in the course of a year, due to factors such as changes in employment status or illness. Ignoring

these factors (as one would have to do to assume that monthly income equals annual income divided by 12) would mean erroneously classifying as ineligible some families who were in fact eligible in some but not all months of that year.

Detailed information on the CPS is available at <http://www.census.gov/cps/>, <http://www.census.gov/sipp/>, and public-use data may be downloaded free of charge from [http://thedataweb.rm.census.gov/ftp/cps\\_ftp.html](http://thedataweb.rm.census.gov/ftp/cps_ftp.html).

#### **D. The American Community Survey (ACS)**

HHS also considered but rejected the American Community Survey (ACS) as the survey data source for implementing the Standardized MAGI Conversion Methodology. ACS sample sizes (3,061,692 in 2010) far exceed those of the SIPP or the CPS, and data are collected on income, age, and family relationships. As with the CPS-ASEC, however, ACS income data are annual, and therefore not well-suited for assessing eligibility based on monthly income. The ACS, moreover, collects less detailed income information than either the SIPP or the CPS-ASEC, and therefore does not have the income information needed to distinguish among income sources or to model disregards. A further reason not to use the ACS for income conversion purposes is that ACS data for a given calendar year are collected over all 12 months of that year, and respondents are asked to report on income over the previous 12 months. A respondent interviewed in January is thus reporting on a different year from a respondent interviewed in December, and the month of interview is not available in the public-use data.

Detailed information on the ACS is available at <http://www.census.gov/acs/www/>, and public-use data may be downloaded free of charge from [http://www.census.gov/acs/www/data\\_documentation/data\\_via\\_ftp/](http://www.census.gov/acs/www/data_documentation/data_via_ftp/).

### **III. Using the SIPP to Simulate Medicaid and CHIP Eligibility in Each State**

This section describes the process of cleaning the SIPP data and coding the income counting rules used to assess current and post-2014 Medicaid eligibility under the Standardized MAGI Conversion Methodology. The process is divided into five steps, described below. We also explain the methodology used to reweight the SIPP to look like specific states, and we identify the major limitations of the simulation procedure.

#### **Step 1: Building the Base SIPP Cross Section**

The starting point for modeling current and post-2014 Medicaid eligibility is the 2008 SIPP panel. The 2008 panel consists of sixteen four-month waves; by the end of scheduled data collection in December 2013, the panel will have collected 64 months of longitudinal data (that is, updated information on the same individuals over a period of time).<sup>2</sup> We start by using the cross section (snapshot) of the surveyed individuals in April 2010. This month straddles waves six and seven of the 2008 panel, and was chosen to maximize the sample size.

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<sup>2</sup> See the data collection schedule posted at <http://www.census.gov/sipp/DEWS/2008Schedule.pdf>.

In addition to the “core” set of basic income and demographic data that are repeatedly asked of each person in the sample with each successive wave, there are additional sets of in-depth questions on various topics asked of the same individuals periodically during the panel. These sets of questions are called “topical modules” and two of them, topical modules four and seven, also contain information useful to assigning eligibility for Medicaid (such as detailed information about dependent care expenses). Thus, we merge on variables from the waves four and seven topical modules onto our April 2010 data cross-section. We use two topical modules because not all people in April 2010 will match to either the wave four or wave seven topical modules due to sample attrition and new people entering the sample. By merging to both the wave four and seven topical modules, we maximize the match rate.

We also merge in the state-specific weights. These weights are designed to adjust the entire SIPP to be representative of each of the states. For example, when calculating the converted threshold in a low-income state, individuals with low income in the national sample are “weighted” (counted) more heavily than other individuals. The methodology used to produce this set of state-specific weights is discussed in Section IV of this document.

The next step is to identify pregnant women. We do this by looking ahead month by month starting in April 2010, to identify any month in which a 0-year old child appears in a household. We can then identify the mother and count backwards to see if she would have been pregnant in April 2010. This is then used to determine if she is potentially eligible for Medicaid under the pregnancy category.

After this, we attach immigration status and citizenship status, which are derived based on self-reported citizenship status, along with a complex imputation process. We then use this imputed information to exclude undocumented workers and recent immigrants from Medicaid eligibility.

The final step is to define various income totals, including each individual’s current law gross individual income. These calculations represent an assessment which is used for refined, state-specific analysis. Other flags and indicators are also created at this time, including disability indicators, SSI receipt, and labor force participation. All income definitions are built at the person-level. They are then summed across each individual's Medicaid unit when determining state-specific eligibility.

## **Step 2: Defining Medicaid Units**

The next step is to cycle through the SIPP, household by household, assigning each individual to a “Medicaid unit.” In general, for the income conversion model, Medicaid units are defined as a head and spouse (if present) and any children 18 and under (if present). Other relatives living in the household are split off into their own units, for example, an elderly grandparent (in three-generational households) or an unmarried adult sibling will form his or her own Medicaid unit. The basic algorithm involves identifying the head of the household, then including spouses and children. Depending on state law, stepparents may be included or excluded from a child’s

Medicaid unit.<sup>3</sup> Remaining individuals in the household are assigned to their own Medicaid units.

Once the Medicaid unit is identified, individual's gross incomes are summed to calculate the gross, unit-level income that is used to determine Medicaid eligibility. Exceptions to the Medicaid unit general rule include cases where cohabitating parents are unmarried—in these cases, both parents' incomes contribute to children's eligibility, but each parent's eligibility is assessed based only on his or her own income. We also apply special rules for children being raised by grandparents; we exclude grandparents and their income when calculating the child's eligibility but count the child (and any income from the child) in determining the grandparents' eligibility. To build Medicaid units we rely on the SIPP variables that define households and families, relationship to the head of the household, and the spouse- and parent-pointers.

Under current law, young adult children, ages 19 and 20, are split off into their own units, separate from the main family unit, though parental income is counted when determining their eligibility.<sup>4</sup> After defining Medicaid units, a poverty threshold is attached to each unit based on the size of the Medicaid unit and the HHS poverty guidelines (<http://aspe.hhs.gov/poverty/figures-fed-reg.shtml>). Under current law, pregnant women are counted as two individuals (more if they are pregnant with more than one child, based on assessing children born into the household over a 9-month window).

### **Step 3: Modeling State-Specific Current Law Medicaid Eligibility**

After completing the preceding steps, we have a cross section of the SIPP with all the indicators, variables and Medicaid unit identifiers necessary to proceed with defining Medicaid units and determining current law eligibility.

The next step is to calculate current law Medicaid eligibility for each state. There are several considerations that differentiate states from one another:

- 1) Medicaid eligibility categories: Some states support only the state plan Medicaid categories (for example, pregnant women, children, parents, disabled people, and the elderly), while others support 1115 waiver populations.
- 2) Income disregards: The types of income disregarded and disregard amounts vary by state.
- 3) Eligibility standards: Different states often have different eligibility standards for the same populations. For example, Virginia covers infants up to the minimum level required by federal law, 133 percent of Federal Poverty Guidelines, and Indiana covers infants up to 200 percent of Federal Poverty Guidelines.

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<sup>3</sup> For example, under *Sneede v. Kizer*, (United States Court of Appeals for the Ninth Circuit, Nos. 90-15141, 90-16143, 90-16144, 90-16295, December 13, 1991), Alaska, Arizona, California, Guam, Hawaii, Idaho, Montana, Nevada, Oregon, and Washington cannot deny children Medicaid or CHIP eligibility on the basis of a stepparent's income. Some states outside the Ninth Circuit have similar rules.

<sup>4</sup> We make exceptions for pregnant women in cases where states exclude parental income of pregnant women under age 21 for the purposes of determining Medicaid eligibility.

The basic steps for determining eligibility for all states are as follows:

First, we assign each individual to a unique demographic category. This category assignment helps us narrow the list of Medicaid eligibility groups for which an individual might be eligible. These categories are:

- Pregnant women
- Children under 1
- Children 1-5
- Children 6-18
- Children 19-20
- Parents
- Childless adults 19-64
- Disabled individuals 18-64
- Individuals age 65+

Our coding process ensures that each individual will fall uniquely into one of these categories, based on the demographic characteristics and the structure of their Medicaid unit. The hierarchy that we use is as follows:

- 1) Mandatory disabled (SSI)
- 2) Individuals under 19
- 3) Parents/Caretaker Relatives
- 4) Pregnant women
- 5) Individuals ages 19-20
- 6) Individuals ages 21-64
- 7) Individuals ages 65+

Next, we determine which eligibility categories might apply, given the individual's demographic group. For example, in many states children under 19 are potentially eligible in 1931, 1902(a) groups, and CHIP.

Individuals flagged as potentially eligible under a specific Medicaid category (for example, 1931) are assessed for eligibility in that category by comparing their net incomes to the eligibility standard for that category, after subtracting relevant disregards. We calculate the income disregards for each individual based on his or her state, the information provided in state templates, and the eligibility group under consideration. The total disregards are then subtracted from the individual's gross unit income to yield net income. The types of disregards that we have coded include earned income, unearned income, work expense, child support paid, child support received, interest income, dividend income, SSDI income, student income, and dependent care expenses. Identifying the relevant amounts for these categories sometimes involves making use of questions captured in other sections of the SIPP questionnaire and merging the data with our core cross-sectional SIPP file (such as information about child care expenses). Earned income and work expense disregards are only applied to workers, and they are capped at the minimum of the disregard amount or the amount of the earnings. Similarly, the child support disregard is capped at the minimum of the disregard amount and the actual child support payment received. Disregards are applied only if they are listed in state eligibility

templates, and we tailor the application to reflect state-specific rules. For example, the maximum amount of the disregard may differ across states, and states may have different rules about who is eligible for specific disregards.

Finally, the individual's net income amount is compared to the eligibility standard for the individual's state and eligibility category, and if a person is below the threshold, they are flagged as eligible under current law. Individuals who fail an initial eligibility test can "fall through" to a subsequent category test that applies to their demographic group. For example, a child who fails the initial Medicaid eligibility test can still gain eligibility under CHIP. We do a final check to insure that no eligible pregnant women have been miscoded. This step is needed because parent/caretaker status is prioritized in the eligibility group assignment hierarchy over pregnancy, but pregnant women are often eligible for coverage levels that are higher than those for parents/CR.

#### **IV. Method Used to Reweight the SIPP to be Representative at the State-Level**

A limitation of the public-use SIPP is that sample sizes are roughly proportional to state populations, and therefore can be fairly small for smaller states. As Table A.1 shows, April 2010 state sample sizes from the public-use data vary from 8,549 for California and 6,274 for Texas to 178 for Wyoming and 177 for Alaska. Considering that many SIPP respondents are above Medicaid or CHIP income levels, or age 65 and older, the effective number of cases available for the conversion analyses in a particular state from that state's respondents will be even smaller. Moreover, although state identifiers are available in the public-use data, the survey is not designed to be representative of the low-income population at the state level.

In response to these limitations, the Standardized MAGI Conversion Methodology uses SIPP data as "reweighted" using a RAND Corporation methodology originally developed for work with the Council of State Governments (see the California, Connecticut, Illinois, Montana, and Texas reports posted at <http://www.rand.org/health/projects/compare.html>) and modified for the conversion-related work. In essence, the full national sample is made to resemble any given state by placing more or less weight on each individual in the sample in proportion to the extent that the state differs from the nation. For example, in a relatively low-income state, low-income individuals in the national sample will be given more weight. The reweighting allows use of all 88,087 observations, from all states, for state-level estimates of each state.

The key steps in the reweighting are determining the population characteristics, or "variables" (see Table 1 below) that are most critical to attempt to target for the given state (such as income) and determining the data source to serve as the "gold standard" from which the targets are set. We have chosen the Current Population Survey Annual Social and Economic Supplement (CPS-ASEC) as the source for the targets. The reweighting follows four steps:

1. Partition each variable used in the reweighting into categories or ‘bins’.
2. Compute the total number of people in each bin of each variable.
3. Assign SIPP records to the appropriate bin.
4. In each bin, rescale the weights of the SIPP records such that their sum equals the total number of people in that bin according to the benchmark dataset (CPS-ASEC).

Table 1: Variables and Categories Used to Reweight the SIPP

Variable	Categories	# of bins
<i>Demographic Variables</i>		
Parent Status	Single Parent, Married Parent, Non-Parent Adult	3
Age	0-18, 19-64	2
Gender	Male, Female	2
Race/ethnicity	Non-Hispanic White, Non-Hispanic Black , Hispanic, Other	4
<i>Income/Expense Variables</i>		
Total household income (% FPG)	None, 1-138, 138-200, 200+	4
Unearned Income	No, Yes including child support, Yes but no child support	3
Child care expenses (\$)	No, Yes	2
<b>Total Number of Bins</b>		<b>1,152</b>

A limitation of the reweighted data is that reported Medicaid and CHIP enrollment, which reflects the eligibility rules of the respondent’s actual particular state, is not meaningful when that respondent is reweighted to represent residents of a different state. For example, if a New Yorker reports Medicaid coverage, that fact has no relevance when that individual is reweighted to represent a resident of Nebraska because of the very different eligibility rules in each state. For that reason, the results have been based on analysis of populations simulated as eligible, based on the rules of the particular state, rather than on reported enrollment.

Converted thresholds for SSI-related eligibility groups, such as those whose Medicaid eligibility is based on tuberculosis, will be computed using the original SIPP weights developed by the Census Bureau.

## **Limitations of Using the SIPP to Simulate State-Specific Medicaid and CHIP Eligibility**

As noted above, the SIPP is a survey. We chose it as the dataset to use to perform the conversions using the Standard MAGI Conversion Methodology because of its many strengths. These include the fact that SIPP contains data on monthly, as opposed to annual, income and that its data contain sufficient detail to model the disregards currently available for a given state and eligibility group. The SIPP also contains information about characteristics such as age and family relationships that are necessary to place respondents in the appropriate eligibility categories.

However, the SIPP does not contain all the information that would be ideal for modeling Medicaid eligibility. For example, the SIPP does not collect information on every income category or disregard that an individual state may use to determine Medicaid eligibility. Moreover, the simulation model uses simplified household composition rules compared to actual Medicaid determinations. It does not have income information for individuals under 15 years of age (so that child support income is attributed to parents), and the model does not have a mechanism to assign time-limited disregards based on their occurrence in an enrolled population. Finally, as with any survey, procedures for imputing responses to questions respondents did not answer are likely to imperfectly reproduce the responses that were withheld.

### **Summary**

Despite the limitations described above, the SIPP was chosen for this project and is recommended for use with the Standardized MAGI Conversion Methodology because of some key strengths: detailed information on various types of income; detailed information on members of a household; and collection of monthly income data.

Specifically, the SIPP data is nationally representative of key populations, including low-income individuals. It contains high-quality and extensive data on low-income individuals, with the details necessary to simulate Medicaid eligibility at both the individual and household levels. It also reports on monthly income, which is consistent with the income period states currently use to evaluate Medicaid and CHIP eligibility. In addition the April 2010 cross-sectional SIPP data used for the income conversion process is representative of the March 23, 2010 reference period for MAGI conversion.

Finally, the longitudinal capability of the SIPP is a critical feature that distinguishes the SIPP from other surveys. The SIPP asks repeated questions of the same individuals over many months, unlike the CPS or ACS. This aspect of the survey allows for the identification of pregnant women by looking ahead and observing newborn children in their household, for example, and for the identification of an individual's length of employment.

For states that choose not to use their own administrative data to perform income conversions, the SIPP, as reweighted pursuant to the methodology described above, provides a highly credible alternative for performing income conversions.

**Table A.1: SIPP Sample Size (April 2010 Cross Section, from 2008 Panel)**

<b>State</b>	<b>Unweighted Records</b>	<b>Weighted Population</b>
Alabama	1,332	4,684,189
Alaska	177	684,511
Arizona	2,193	6,474,322
Arkansas	814	2,975,243
California	8,549	36,330,217
Colorado	1,206	4,970,475
Connecticut	864	3,456,046
Delaware	239	936,642
District of Columbia	183	610,418
Florida	4,355	18,217,985
Georgia	2,677	9,684,550
Hawaii	391	1,428,429
Idaho	502	1,539,045
Illinois	3,316	12,681,913
Indiana	3,128	6,355,591
Iowa	907	3,005,569
Kansas	668	2,777,042
Kentucky	1,046	4,273,739
Louisiana	1,234	4,468,450
Maine	439	1,414,701
Maryland	2,034	5,618,980
Massachusetts	2,439	6,536,011
Michigan	2,305	9,740,781
Minnesota	1,488	5,243,869
Mississippi	942	2,969,639
Missouri	2,420	5,928,859
Montana	252	963,192
Nebraska	493	1,782,029
Nevada	554	2,626,654
New Hampshire	386	1,334,932
New Jersey	3,374	8,591,517
New Mexico	626	1,951,566
New York	4,473	19,363,301
North Carolina	2,402	9,239,124
North Dakota	208	634,786
Ohio	3,032	11,349,757
Oklahoma	923	3,614,387
Oregon	978	3,825,619

<b>State</b>	<b>Unweighted Records</b>	<b>Weighted Population</b>
Pennsylvania	3,109	12,358,007
Rhode Island	271	1,080,742
South Carolina	1,207	4,590,590
South Dakota	179	838,165
Tennessee	2,287	6,127,524
Texas	6,274	24,348,010
Utah	702	2,807,352
Vermont	188	646,181
Virginia	3,860	7,751,009
Washington	3,021	6,634,931
West Virginia	529	1,803,580
Wisconsin	2,733	5,612,328
Wyoming	178	659,083
<b>Total</b>	<b>88,087</b>	<b>303,541,583</b>