



## A Summary of the American Community Survey Logical Edits Applied to Health Insurance Coverage

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### Introduction

The American Community Survey (ACS), conducted by the U.S. Census Bureau, is a new source of national data for health insurance coverage estimates. A new question was added in 2008 that asks about current health insurance coverage for all members of the household, with the following response categories:

- Insurance through a current or former employer or union (of this person or another family member)
- Insurance purchased directly from an insurance company (of this person or another family member)
- Medicare, for people age 65 and over, or people with certain disabilities
- Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability
- TRICARE or other military health care
- VA (including those who have ever enrolled for or used VA health care)
- Indian Health Service
- Any other type of health insurance or health coverage plan - specify

Beginning in 2009 the Census Bureau added a series of logical edits to the editing routine for health insurance coverage. These logical edits, which were developed by the Census Bureau in conjunction with a Technical Advisory Committee, are intended to improve the reporting of the insurance coverage in the survey.<sup>1</sup>

This brief provides an overview of the logical coverage edits, discusses the state-level impact on the estimated number of uninsured for 2008, and describes how to obtain ACS estimates and microdata that incorporate the logical coverage edits.

### Logical Coverage Edits

The logical edits assign coverage in three categories (1) Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability (hereafter referred to as Medicaid), (2) Medicare, and (3) TRICARE or other military health care (hereafter referred to as TRICARE/military coverage) based on the respondent's answers to other items in the questionnaire. For example, a person who is active duty military, and has not selected TRICARE/military coverage, is automatically assigned that coverage. SHADAC and Urban Institute researchers, under a contract with the Census Bureau, worked on-site to assist with the evaluation and implementation of the logical

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<sup>1</sup> The logical edits were based on edits used in the Annual Social and Economic Supplement to the Current Population Survey (CPS ASEC). The Technical Advisory Committee (TAG) was formed by SHADAC under a contract with the Census Bureau. In addition to SHADAC and Census Bureau team members, the TAG included members from the Agency for Healthcare Research and Quality, Congressional Research Service, Mathematica Policy Research Inc., National Center for Health Statistics, Office of the Assistant Secretary for Planning and Evaluation, and the Urban Institute.

coverage edits. Lynch and colleagues (2010) provide the complete evaluation that was conducted prior to implementation.<sup>2</sup> The logical edits are summarized below.

**Medicaid Edits:** Medicaid coverage is assigned to all foster children; unmarried children under age 19 with a parent who is receiving Medicaid coverage or public assistance; adults who are receiving public assistance if they are parents and citizens; the spouses of adults who are receiving Medicaid coverage if they are parents and citizens; individuals (without children) who are receiving Supplemental Security Income (SSI); and individuals (parents) who are receiving SSI if they are not working or report a disability.<sup>3</sup>

**Medicare Edits:** Medicare coverage is assigned to persons 65 years or older if they receive Social Security income or report Medicaid coverage.

**TRICARE/Military Coverage Edits:** TRICARE/military coverage is assigned to active duty military, and to spouses and unmarried children under age 21 of active duty military if the spouse/child does not have private coverage.

### Impact of the Edits

The impact of these edits is shown in Tables 1 and 2. Table 1 provides a summary of the edited and unedited coverage estimates for private coverage, public coverage, and uninsured, along with the difference for three policy-relevant age groups. Private coverage includes employer-sponsored, individually purchased, and TRICARE/military coverage. Public coverage includes Medicare, Medicaid, and Veterans Affairs (VA) coverage.

**Table 1. ACS Health Insurance Coverage Estimates with and without Logical Coverage Edits, 2008**

Age	Private			Public			Uninsured		
	No Edit %	Edit %	Diff	No Edit %	Edit %	Diff	No Edit %	Edit %	Diff
0-17 years	64.1	64.2	0.1	28.3	30.1	1.8	9.9	9.3	-0.6
18-64 years	71.8	71.8	0.0	11.1	11.9	0.8	19.8	19.4	-0.4
65+ years	69.4	69.4	0.0	92.6	96.9	4.3	1.4	1.0	-0.4
All Ages	69.6	69.6	0.0	25.5	27.0	1.5	15.1	14.6	-0.5

Source: 2008 American Community Survey  
 Universe: Civilian non-institutionalized population

Table 2 provides a summary of the edited and unedited coverage estimates for each state, by policy-relevant age groups. The logical edits add coverage so the uninsured rates decrease.

<sup>2</sup> Victoria Lynch, Michel Boudreaux, and Michael Davern, 2010, "Applying and Evaluating Logical Coverage Edits to Health Insurance Coverage in the American Community Survey," available at [http://www.census.gov/hhes/www/hlthins/publications/coverage\\_edits\\_final.pdf](http://www.census.gov/hhes/www/hlthins/publications/coverage_edits_final.pdf).

<sup>3</sup> Most states use the same Medicaid eligibility criteria for their aged, blind, and disabled populations as are used for the SSI program. However, 11 states, referred to as the §209(b) states, use a more restrictive eligibility criteria for Medicaid. The SSI edit described here is only applied to the 40 non-§209(b) states that use the same eligibility criteria for Medicaid and SSI.

**Table 2. ACS Uninsured Estimates with and without Logical Coverage Edits by State and Age, 2008**

State	0-17 years			18-64 years			65+ years			All Ages		
	No Edit %	Edit %	Diff	No Edit %	Edit %	Diff	No Edit %	Edit %	Diff	No Edit %	Edit %	Diff
Alabama	8.2	7.8	-0.4	19.1	18.5	-0.6	0.6	0.3	-0.3	14.0	13.4	-0.6
Alaska	13.0	11.9	-1.1	25.9	25.1	-0.8	2.1	1.3	-0.8	20.7	19.8	-0.9
Arizona	16.5	15.3	-1.2	23.3	23.0	-0.3	2.2	1.4	-0.8	18.7	18.1	-0.6
Arkansas	8.6	8.1	-0.5	25.4	24.7	-0.7	0.8	0.3	-0.5	17.8	17.2	-0.6
California	10.8	10.0	-0.8	23.3	23.0	-0.3	2.3	1.7	-0.6	17.8	17.3	-0.5
Colorado	13.9	13.2	-0.7	20.6	20.2	-0.4	1.8	1.4	-0.4	17.0	16.6	-0.4
Connecticut	4.9	4.8	-0.1	11.9	11.7	-0.2	0.9	0.7	-0.2	8.8	8.6	-0.2
Delaware	9.1	8.8	-0.3	13.5	13.3	-0.2	0.6	0.0	-0.6	10.7	10.4	-0.3
District of Columbia	3.4	2.9	-0.5	9.8	9.3	-0.5	3.6	2.4	-1.2	7.9	7.3	-0.6
Florida	17.9	16.9	-1.0	27.4	27.0	-0.4	2.0	1.5	-0.5	20.9	20.4	-0.5
Georgia	11.5	11.1	-0.4	24.7	24.3	-0.4	1.9	1.4	-0.5	18.9	18.4	-0.5
Hawaii	3.2	2.8	-0.4	9.4	9.2	-0.2	0.8	0.4	-0.4	6.7	6.4	-0.3
Idaho	13.3	12.7	-0.6	22.6	22.1	-0.5	1.1	0.4	-0.7	17.6	17.1	-0.5
Illinois	5.7	5.3	-0.4	17.6	17.4	-0.2	1.9	1.5	-0.4	12.8	12.5	-0.3
Indiana	9.7	9.3	-0.4	17.9	17.4	-0.5	0.9	0.4	-0.5	13.7	13.3	-0.4
Iowa	4.8	4.4	-0.4	12.0	11.6	-0.4	0.5	0.4	-0.1	8.7	8.4	-0.3
Kansas	9.1	8.2	-0.9	16.4	15.7	-0.7	1.0	0.6	-0.4	12.6	11.9	-0.7
Kentucky	6.3	5.7	-0.6	19.5	18.6	-0.9	0.6	0.3	-0.3	14.0	13.2	-0.8
Louisiana	7.7	7.3	-0.4	25.1	24.4	-0.7	1.4	0.7	-0.7	17.9	17.2	-0.7
Maine	5.9	5.1	-0.8	14.5	14.3	-0.2	0.8	0.6	-0.2	10.6	10.3	-0.3
Maryland	5.3	5.1	-0.2	15.0	14.8	-0.2	1.9	1.5	-0.4	11.1	10.8	-0.3
Massachusetts	2.0	1.7	-0.3	5.6	5.4	-0.2	0.8	0.5	-0.3	4.2	4.0	-0.2
Michigan	5.2	4.8	-0.4	16.1	15.6	-0.5	0.6	0.3	-0.3	11.5	11.1	-0.4
Minnesota	6.2	5.8	-0.4	11.0	10.8	-0.2	0.6	0.2	-0.4	8.6	8.4	-0.2
Mississippi	13.4	12.4	-1.0	23.5	22.8	-0.7	0.9	0.6	-0.3	18.1	17.3	-0.8
Missouri	7.0	6.7	-0.3	17.8	17.3	-0.5	0.6	0.2	-0.4	12.9	12.5	-0.4
Montana	15.0	14.0	-1.0	24.1	23.3	-0.8	0.8	0.3	-0.5	18.7	18.0	-0.7

State	0-17 years			18-64 years			65+ years			All Ages		
	No Edit %	Edit %	Diff	No Edit %	Edit %	Diff	No Edit %	Edit %	Diff	No Edit %	Edit %	Diff
Nebraska	7.2	7.0	-0.2	14.5	14.3	-0.2	0.6	0.4	-0.2	10.8	10.6	-0.2
Nevada	21.0	20.0	-1.0	25.7	25.3	-0.4	2.0	1.3	-0.7	21.7	21.2	-0.5
New Hampshire	5.2	5.0	-0.2	14.9	14.7	-0.2	0.4	0.1	-0.3	10.9	10.7	-0.2
New Jersey	7.3	6.9	-0.4	16.5	16.3	-0.2	1.9	1.4	-0.5	12.4	12.1	-0.3
New Mexico	13.5	12.9	-0.6	28.7	28.1	-0.6	3.4	1.9	-1.5	21.5	20.8	-0.7
New York	5.8	5.3	-0.5	16.0	15.7	-0.3	1.6	1.1	-0.5	11.8	11.5	-0.3
North Carolina	10.1	9.6	-0.5	21.3	20.9	-0.4	1.0	0.6	-0.4	16.1	15.7	-0.4
North Dakota	6.8	6.4	-0.4	12.7	12.5	-0.2	1.3	0.3	-1.0	9.9	9.5	-0.4
Ohio	7.3	6.7	-0.6	15.8	15.6	-0.2	1.0	0.5	-0.5	11.8	11.4	-0.4
Oklahoma	12.2	11.8	-0.4	26.0	25.3	-0.7	1.0	0.5	-0.5	19.2	18.6	-0.6
Oregon	12.5	12.1	-0.4	21.1	20.7	-0.4	1.2	0.6	-0.6	16.5	16.1	-0.4
Pennsylvania	6.4	5.9	-0.5	12.7	12.3	-0.4	0.7	0.4	-0.3	9.5	9.1	-0.4
Rhode Island	5.7	5.4	-0.3	14.0	13.7	-0.3	0.6	0.5	-0.1	10.4	10.1	-0.3
South Carolina	12.0	11.2	-0.8	22.2	21.7	-0.5	0.9	0.3	-0.6	17.0	16.4	-0.6
South Dakota	9.2	8.8	-0.4	14.9	14.4	-0.5	0.5	0.1	-0.4	11.5	11.0	-0.5
Tennessee	7.5	6.9	-0.6	18.7	18.2	-0.5	0.8	0.3	-0.5	13.7	13.2	-0.5
Texas	17.7	16.8	-0.9	30.3	29.8	-0.5	2.6	1.8	-0.8	24.0	23.3	-0.7
Utah	12.7	12.4	-0.3	18.4	17.9	-0.5	1.2	0.7	-0.5	15.1	14.6	-0.5
Vermont	4.1	3.6	-0.5	12.1	11.7	-0.4	0.5	0.5	0.0	8.9	8.5	-0.4
Virginia	7.6	7.3	-0.3	15.5	15.2	-0.3	1.0	0.8	-0.2	11.8	11.6	-0.2
Washington	8.5	7.8	-0.7	17.2	16.8	-0.4	0.8	0.6	-0.2	13.2	12.7	-0.5
West Virginia	7.1	6.7	-0.4	21.8	20.9	-0.9	0.7	0.3	-0.4	15.5	14.8	-0.7
Wisconsin	4.8	4.5	-0.3	12.2	11.9	-0.3	0.6	0.3	-0.3	9.0	8.7	-0.3
Wyoming	9.2	8.9	-0.3	19.0	18.5	-0.5	0.6	0.5	-0.1	14.4	14.0	-0.4
Unites States	9.9	9.3	-0.6	19.8	19.4	-0.4	1.4	1.0	-0.4	15.1	14.6	-0.5

Source: 2008 American Community Survey  
Universe: Civilian non-institutionalized population

## Availability of the Data

ACS data are publicly available in pre-defined summary tabulations of estimates and as public use microdata (PUMS) files.<sup>4</sup> This section discusses how to obtain ACS estimates and microdata and which sources have the logical coverage edited data.

### **Summary Tabulations**

Summary tabulations of ACS data are available from the Census Bureau's American FactFinder (AFF) tables and from SHADAC's Data Center.<sup>5</sup> The Census Bureau does not plan to update the 2008 AFF data tables with the logical coverage edited data. The 2008 ACS estimates with the logical coverage edits are only available through AFF in the 2008-2009 comparison tables. A limited set of 2008 ACS tables are available as Excel files on the Census Bureau's health insurance web site.<sup>6</sup>

SHADAC has applied the logical coverage edits to the 2008 PUMS file and released these estimates as a pre-defined set of tables through our Data Center. ACS estimates are available by age and poverty categories with table options for race and ethnicity, family income, sex, marital status, work status, education, and citizenship.

The Census Bureau implemented the logical coverage edits beginning with the 2009 data, but will be making a small number of corrections beginning with the 2010 data. A description of the corrections being implemented for 2010 is available in the Technical Appendix. SHADAC has applied the full set of edits, including the 2010 corrections, to the 2008 data, and has also applied the corrections to the 2009 data. Both years are available through our Data Center.

### **Microdata**

PUMS files are available from the Census Bureau through American FactFinder and DataFerrett.<sup>7</sup> The Census Bureau does not plan to re-release the 2008 PUMS file with the logical coverage edited data. PUMS files are also available from the Minnesota Population Center's Integrated Public Use Microdata Series (IPUMS), which harmonizes variables over time, creates a consistent set of variables on family interrelationships, and provides full documentation.<sup>8</sup> IPUMS has released 2008 and 2009 health insurance variables with the logical coverage edits applied. The original Census Bureau variables are also available through IPUMS. Flag variables are available in the IPUMS and Census Bureau (beginning with 2009) microdata so the data user can undo all or an individual (Medicaid, Medicare, TRICARE/military) coverage edit if unedited data is needed for analysis.

SHADAC's Data Center and IPUMS are the only source of public use data for 2008 with the logical coverage edits applied and for 2009 data with the edit corrections applied. ACS data with the edits applied should be used when making comparisons across time. Table 3 shows a summary of the ACS tabulation and public microdata availability.

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<sup>4</sup> The PUMS files contain a disclosure-proof extract of individual observations from the full data set and the data user is able to make custom tabulations.

<sup>5</sup> Census Bureau AFF tables are available at <http://factfinder.census.gov>. SHADAC's Data Center is an easy to use on-line table generator available at <http://www.shadac.org/datacenter>.

<sup>6</sup> The Census Bureau Excel files are available at <http://www.census.gov/hhes/www/hlthins/data/acs/2008/re-run.html>.

<sup>7</sup> The Census Bureau's DataFerrett, data analysis and extraction tool, is available at <http://dataferrett.census.gov>.

<sup>8</sup> IPUMS data are available at <http://usa.ipums.org/usa>.

**Table 3. Availability of ACS Tabulations and Microdata**

	<b>Census Bureau’s American FactFinder (AFF) and DataFerrett</b>	<b>SHADAC’s Data Center</b>	<b>Minnesota Population Center (IPUMS)</b>
<b>Summary Tabulations</b>			
2008 ACS data with the logical coverage edits	No, logical coverage edited data is only available in the 2008-2009 AFF comparison tables. A limited set of data tables are available as Excel files on the Health Insurance web page.^*	Yes	No
2009 ACS data with the edit corrections	No*	Yes	No
<b>Microdata</b>			
2008 ACS data with the logical coverage edits	No	No	Yes
2009 ACS data with the edit corrections	No*	No	Yes

^ The Excel files are available at <http://www.census.gov/hhes/www/hlthins/data/acs/2008/re-run.html>.

\* The 2008 and 2009 data, with the logical coverage edits, available from the Census Bureau do not include the corrections being implemented with the 2010 data.

**Suggested Citation**

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## Technical Appendix: 2010 ACS Edit Corrections

For the 2010 ACS and forward, the Census Bureau is making a small number of corrections to the logical coverage edits. SHADAC has applied the full set of logical edits to the 2008 PUMS file, including the corrections, and the corrections to the 2009 PUMS file. The edits that will be implemented in the 2010 data and are already included in SHADAC's tabulations and IPUMS microdata for 2008 and 2009 to create a consistent time series are described below. The corrections only affect Medicaid coverage.

***People receiving Supplemental Security income (SSI):*** Because of a coding error, some people age 15, single person households, and householders with only unrelated individuals in the household were not assigned Medicaid coverage through the initial edit. SHADAC and IPUMS assign Medicaid coverage to these individuals who have SSI.<sup>9</sup>

***Spouses of individuals who are receiving Medicaid coverage if they are parents and citizens:*** The parent restriction was not applied in the initial edit. SHADAC and IPUMS remove coverage for spouses who received coverage through this edit if they were not parents.

In addition to implementing the logical coverage edits the Census Bureau made a correction to the main editing program for Veterans Affairs (VA) and Indian Health Service (IHS) coverage beginning with the 2009 estimates. SHADAC made this correction to the 2008 PUMS file. If a person reported "yes" to all coverage types (employment-based, direct purchase, Medicaid, Medicare, TRICARE/military, VA, and IHS coverage), VA coverage was removed if the person was not a veteran and IHS coverage was removed if the person was not American Indian and Alaska Native. This edit correction affects a small number of cases, about 300 cases of VA coverage and about 300 cases of IHS coverage were changed to "no" when SHADAC applied this edit to the 2008 PUMS file. The VA and IHS edit correction is included in the 2008 data available through SHADAC's Data Center and IPUMS.

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<sup>9</sup> Most states use the same Medicaid eligibility criteria for their aged, blind, and disabled populations as are used for the SSI program. However, 11 states, referred to as the §209(b) states, use a more restrictive eligibility criteria for Medicaid. The SSI edit described here is only applied to the 40 non-§209(b) states that use the same eligibility criteria for Medicaid and SSI.