

## Adjustment to the ACS 2014 1-Year PUMS Weights for Undercount of Medicaid Enrollment in Washington

The American Community Survey (ACS) has become, for most states, the major data source for measuring changes in health coverage resulting from the Patient Protection and Affordable Care Act (ACA). One key provision of the ACA implemented in 2014 was the Medicaid expansion that extended coverage to all adults under age 65 with incomes up to 138 percent of the federal poverty level. Medicaid enrollment soared in states that voluntarily sought to expand the program under the ACA.

Washington was among the one-half of states that expanded Medicaid in 2014. According to Medicaid program data, Washington's Medicaid enrollment climbed from approximately 1.1 million prior to the expansion to 1.68 million at the end of 2014: In other words, the state's Medicaid enrollment increased by more than 50 percent in one year. Many new Medicaid enrollees presumably had no prior health coverage. Therefore, the Medicaid expansion played a very important role in reducing the size of the uninsured in Washington.

As the ACS has become the de facto source for state estimates of uninsured in Washington, accurate survey estimates of the state's Medicaid enrollment in 2014 are key to measuring the state's coverage changes, particularly the change in the uninsured rate. While the 2014 ACS estimate of Washington's Medicaid enrollment does show a significant increase over the previous year, it is, however, far below what the program data show. The program data show the enrollment increased by 560,000. The ACS estimate shows an increase half that size, at about 250,000 (from 1.05 million in 2013 to 1.32 million in 2014).

A group of researchers from the Office of the Financial Management, the Office of the Insurance Commissioner and the Health Care Authority discussed the discrepancy in the Medicaid enrollment figures between the ACS and the administrative data source. The group determined that it was necessary to adjust the ACS weights to reflect the Medicaid enrollment level in the administrative data. The group discussed several options for the adjustment and agreed on the approach described below. Briefly, the weights in the 2014 ACS 1-Year PUMS file for Washington were adjusted to increase the counts of Medicaid enrollment at the public use microdata area (PUMA) level while reduction of equal amount was taken from other coverage types. The adjusted weights were then raked to maintain the original distributions of key demographics in the 2014 ACS, also at the PUMA level. Specific steps of the adjustment approach follow:

- I. Construction of new counts of Medicaid enrollment using administrative data
  - a. The OFM Medicaid eligibility file was used to create counts of full-benefit enrollees at the ZIP code level. Enrollment in July 2014 was used as this month better represents the annual average of Medicaid enrollment and because the ACS is an approximate average of snapshots over a year.
  - b. The OFM ZIP code and PUMA Cross Walk File were used to aggregate counts of Medicaid at the ZIP code level into counts at the PUMA level. If a ZIP code was associated with more

than one PUMA, the ZIP code's count of Medicaid enrollees will be distributed in proportion to its population distribution in those PUMAs.

II. Adjust Medicaid counts in 2014 ACS at the PUMA level

- a. PUMA level sums of Medicaid enrollment were created using the 2014 ACS 1-year PUMS file for Washington.
- b. Counts of Medicaid enrollment at the PUMA level were compared between the OFM file and ACS to record the difference and create adjustment factors.
- c. Each PUMA's adjustment factor in II.b was applied to the ACS PUMS file's current weight variable for records identified as Medicaid in that PUMA. This resulted in an increase in total population.
- d. The adjusted sums of Medicaid enrollment at all PUMAs were reduced by a factor that reflected the "normal" difference between ACS and Medicaid administrative data for 2011–13. This step still left the new total population higher than the original total population.
- e. Adjusted counts of Medicaid enrollment at the PUMA level in II.d were compared with ACS' original counts to record the difference between two sources.

III. Adjust other coverage counts in ACS at the PUMA level to cancel the difference resulting from adjustment of Medicaid counts

- a. The difference from II.e in each PUMA was distributed in the uninsured and other coverage categories. The distribution of the difference was based on a RAND study (March 2014) that reported coverage shifts of the U.S. population from 2013 to 2014.<sup>1</sup> Specifically, the contributing shares to new Medicaid reported by RAND were used to distribute the difference from II.e.
- b. Adjustment factors were created for uninsured and other coverage categories identified in Step III.a for each PUMA.
- c. The adjustment factors from III.b were applied to previously adjusted record weight in the ACS file in II.d for the coverage categories identified in III.a. This step resulted in the sum of the adjusted weights in each PUMA equaling the original total population for the PUMA in ACS.

IV. Raking the adjusted weights

- a. The adjustments above made to the ACS weights caused the distributions of other characteristics besides coverage to change. To maintain the original distributions of the other characteristics as much as possible, the adjusted weights from Step III.c were raked to select control totals in each PUMA.
- b. Control totals used (all controls except for Medicaid children, Medicaid adults 18–64 and Medicaid adults 65+ are based on ACS original weights; the number in parentheses denotes number of categories in each control characteristic used):
  - a) Medicaid children (2)
  - b) Medicaid adults 18–64 (2)
  - c) Medicaid adults 65+ (2)
  - d) Sex (2)

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1. See [http://www.rand.org/content/dam/rand/pubs/research\\_reports/RR600/RR656/RAND\\_RR656.pdf](http://www.rand.org/content/dam/rand/pubs/research_reports/RR600/RR656/RAND_RR656.pdf).

- e) Age 3 groups (children, adults age 18–64, adults age 65+) (3)
- f) Age 5-year groups (except for 0–9 and 80+) (16)
- g) Hispanic details (24)
- h) Hispanic yes/no (2)
- i) AIAN (2)
- j) Asian (2)
- k) Black (2)
- l) Native Hawaiian (2)
- m) Pacific Islander (2)
- n) White (2)
- o) Other race (2)
- p) Federal poverty level (7)
- q) Citizenship (5)
- r) Bi-variable combinations of the above variables (except for Hispanic details)

#### V. Comparison of Uninsured Rates for Select Population Subgroups Before and After the Adjustment

##### Adjusted and Unadjusted State Uninsured Rates: Population Subgroups, 2014

Population Subgroups	Unadjusted (%)	Adjusted (%)	Population Subgroups	Unadjusted (%)	Adjusted (%)
<b>Total</b>	9.3	8.2	<b>Education Attainment</b>		
<b>Age</b>			HS diploma/GED or lower	11.5	10.2
0-17	4.6	3.9	Some college	9.9	8.8
18-64	13.0	11.5	Bachelor's degree	4.4	4.0
65 and older	0.9	1.0	Master's degree or higher	2.8	2.5
<b>Sex</b>			<b>Family Income</b>		
Male	10.6	9.4	Less Than 100% FPL	17.0	14.3
Female	8.0	7.0	100-137% FPL	15.4	13.4
<b>Hispanic Origin</b>			138-199% FPL	15.2	13.5
Hispanic	21.0	19.2	200-299% FPL	11.2	10.3
Non-Hispanic	7.7	6.7	300-399% FPL	8.5	7.8
<b>Race</b>			400% FPL or Higher	3.4	3.1
White (one race only)	8.4	7.3	<b>Employment Status (civilians)</b>		
Black (one race only)	9.1	8.3	Employed, at work	10.7	9.7
AIAN (one race only)	20.7	18.0	Employed, but not at work	15.5	13.9
Asian (one race only)	8.5	7.7	Unemployed	26.3	22.7
NHOPI (one race only)	15.8	15.6	Not in labor force	8.6	7.4
Other (one race only)	24.8	22.9	<b>Citizenship Status</b>		
Two or more races	9.1	8.6	Born in the U.S.	7.4	6.4
<b>Marital Status</b>			Born in U.S. territories	9.2	9.0
Married	7.0	6.4	Born abroad of Am. parent(s)	9.4	9.1
Widowed	3.9	3.6	Naturalized citizen	8.3	7.6
Divorced	11.2	9.9	Noncitizen	32.9	30.4
Separated	17.8	15.6			
Never married or <15 yrs. old	11.2	9.8			

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