Comparing Federal Government Surveys That Count the Uninsured: 2015

Introduction

Timely and accurate estimates of the number of people who do not have health insurance coverage are important for understanding trends in health insurance coverage and the impacts of policy changes that affect health insurance. This brief provides an annual update to comparisons of uninsurance estimates from five federal surveys[i]:

- **The American Community Survey (ACS)**
- **The Current Population Survey (CPS)**
- **The Medical Expenditure Panel Survey – Household Component (MEPS-HC)**
- **The National Health Interview Survey (NHIS)**
- **The Behavioral Risk Factor Surveillance System (BRFSS)**

In this brief, we present current and historical national estimates of uninsurance along with the most recent available state-level estimates from these surveys. We also discuss the main reasons for variation in the estimates across the different surveys.

National Estimates

Table 1 shows the most recent available estimates of uninsurance from each of the five surveys. Some of the surveys produce estimates of the number of adults who were uninsured for an entire year, while others estimate uninsurance at a specific point in time (i.e., at the time of the survey), and some collect multiple measures of uninsurance.

TABLE 1. COMPARISON OF NATIONAL UNINSURANCE ESTIMATES: FIVE FEDERAL SURVEYS

Survey	Time Period	Uninsured for the Entire Year		Uninsured at a Specific Point in Time	
		Number (millions)	Percent of Population	Number (millions)	Percent of Population
Total Population					
ACS	2014	N/A	N/A	36.7	11.7%
CPS	2014	33.0	10.4%	N/A	N/A
MEPS	2013	40.5	12.8%	N/A	N/A
NHIS	2014	26.3	8.4%	36.0	11.5%
Nonelderly Adults (Ages 18 to 64)					
ACS	2014	N/A	N/A	31.9	16.3%
CPS	2014	27.9	14.2%	N/A	N/A
MEPS	2013	36.8	18.8%	N/A	N/A
NHIS	2014	23.9	12.3%	31.7	16.3%
BRFSS	2014	N/A	N/A	33.4	17.2%

Sources: CPS estimates from U.S. Census Bureau, 2015, "Health Insurance Coverage in the United States: 2014"; ACS estimates for civilian noninstitutionalized population from U.S. Census Bureau, 2015, "Health Insurance Coverage in the United States: 2014" and American Fact Finder, accessed September 18, 2015; NHIS estimates from Cohen and Martinez, 2015, "Health Insurance Coverage: Early Release of Estimates from the National Health Interview Survey, 2014"; MEPS estimates from http://meps.ahrq.gov/mepsweb/data_stats/summ_tables/hc/hlth_insr/2013/alltablesfy.pdf. BRFSS estimates analyzed by SHADAC using 2014 public use file.

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[i] See Appendix A for key information from each of these surveys, such as who is included in the survey, when and how the survey is conducted, response rates, and the availability of state-level insurance estimates.

National Trends

The uninsurance estimates from the five surveys have demonstrated similar national trends over time, as shown in Figure 1. See Appendix B for information on historical changes to the BRFSS and CPS that affect trend analyses.

State-Level Estimates

The ACS, CPS, NHIS, and BRFSS are designed to produce state-level estimates for all 50 states and the District of Columbia. No state-level estimates of insurance coverage are published from the MEPS-HC.

FIGURE 1. TREND IN NATIONAL NUMBER OF UNINSURED, 2000 to 2014

ACS, NHIS, and BRFSS point-in-time estimates of the uninsured; CPS and MEPS estimates of the full-year uninsured

All Ages
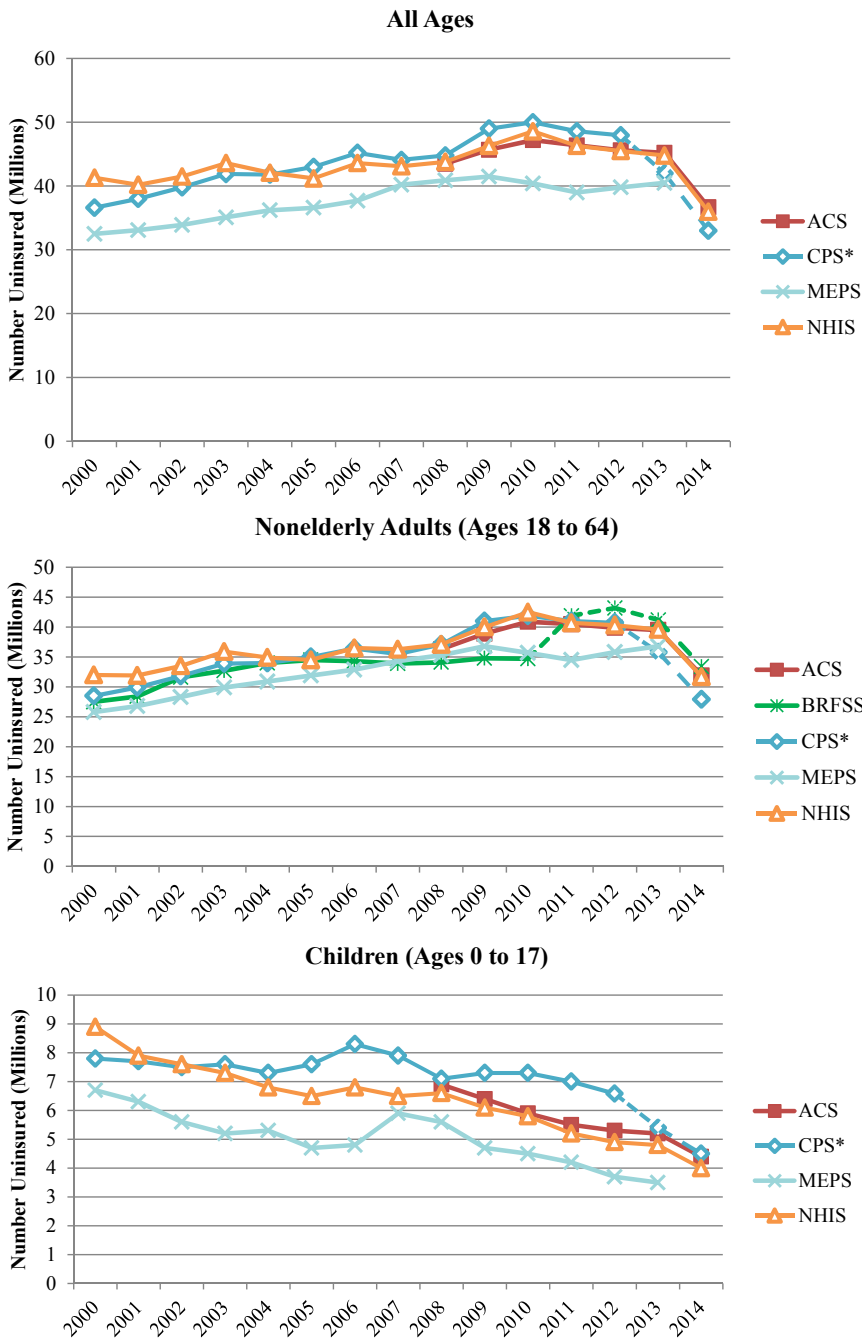
* Dashed line "---" indicates a break in series.

Nonelderly Adults (Ages 18 to 64)

Children (Ages 0 to 17)

Sources: CPS estimates from U.S. Census Bureau, 2015, "Health Insurance Coverage in the United States: 2014"; ACS estimates for civilian noninstitutionalized population from U.S. Census Bureau, 2015, "Health Insurance Coverage in the United States: 2014" and American Fact Finder, accessed September 18, 2015; NHIS estimates from Cohen and Martinez, 2015, "Health Insurance Coverage: Early Release of Estimates from the National Health Interview Survey, 2014"; MEPS estimates from http://meps.ahrq.gov/mepsweb/data_stats/summ_tables/hc/hlth_insr/2013/alltablesfy.pdf. BRFSS estimates analyzed by SHADAC using 2014 public use file.

Table 2 presents the most recent state-level estimates of uninsurance from the ACS, CPS, NHIS, and BRFSS. As with the national estimates, the estimated level of uninsurance for states varies across surveys; however, general patterns are consistent, insofar as states with low uninsurance rates are low in all the surveys.

TABLE 2. 2014 STATE-LEVEL UNINSURED RATES FROM FOUR FEDERAL SURVEYS

	Total Population			Non-Elderly Adults (Ages 18 to 64)			
	ACS (Point-in-Time)	CPS (Full Year)	NHIS (Point-in-Time)	ACS (Point-in-Time)	CPS (Full Year)	BRFSS (Point-in-Time)	NHIS (Point-in-Time)
United States	11.7	10.4	11.5	16.3	14.2	17.2	16.3
Alabama	12.1	11.0	9.8	18.2	15.5	17.5	14.8
Alaska	17.2	14.5	19.4	21.8	17.6	17.1	24.6
Arizona	13.6	12.4	14.6	18.5	16.0	17.9	19.5
Arkansas	11.8	9.9	10.9	17.5	14.8	20.2	15.6
California	12.4	10.1	12.0	17.3	13.7	17.8	16.7
Colorado	10.3	11.2	9.5	13.9	14.5	15.3	13.3
Connecticut	6.9	7.0	7.0	9.5	9.8	10.6	10.0
Delaware	7.8	6.8	4.4	10.5	8.9	10.8	6.0**
District of Columbia	5.3	6.4	3.0	6.7	8.1	9.6	*
Florida	16.6	14.6	15.3	23.8	20.3	22.8	23.0
Georgia	15.8	15.5	14.2	22.1	21.7	25.0	20.2
Hawaii	5.3	5.3	2.0**	7.2	7.3	9.8	*
Idaho	13.6	10.5	13.3	19.3	14.4	20.2	21.9
Illinois	9.7	8.9	10.3	14.0	12.5	14.3	15.0
Indiana	11.9	10.6	12.0	16.4	14.6	18.0	18.3
Iowa	6.2	6.2	5.6	8.8	8.1	9.6	8.4
Kansas	10.2	10.8	9.0	14.5	14.5	17.6	13.9
Kentucky	8.5	6.7	10.9	11.9	9.1	12.2	15.6
Louisiana	14.8	12.9	12.9	21.6	19.1	22.7	18.9
Maine	10.1	9.4	11.3	14.2	13.2	13.9	16.9
Maryland	7.9	5.8	7.9	11.0	8.0	11.0	12.3
Massachusetts	3.3	4.4	2.6	4.5	5.3	5.4	3.8**
Michigan	8.5	7.0	8.0	12.3	9.9	12.7	11.6
Minnesota	5.9	6.7	5.7	7.9	8.5	8.8	8.0
Mississippi	14.5	12.3	14.9	21.5	17.7	23.0	22.4
Missouri	11.7	8.8	12.4	16.1	12.5	16.1	16.9
Montana	14.2	12.6	11.2	20.1	17.4	16.1	18.0
Nebraska	9.7	9.6	11.2	13.6	13.6	15.3	16.9
Nevada	15.2	12.6	15.0	20.4	15.9	20.8	20.4
New Hampshire	9.2	7.2	8.0	12.8	10.0	14.2	11.6
New Jersey	10.9	10.7	9.4	15.4	14.5	15.0	12.9
New Mexico	14.5	11.6	11.3	20.7	16.4	18.8	18.7
New York	8.7	7.7	9.4	12.3	10.4	14.6	12.9
North Carolina	13.1	11.8	14.8	19.0	15.6	20.0	22.5
North Dakota	7.9	8.7	6.0	9.8	11.3	10.5	9.3
Ohio	8.4	7.4	7.6	11.6	10.4	12.5	10.9
Oklahoma	15.4	15.6	18.1	21.6	20.2	17.2	26.6
Oregon	9.7	7.8	8.8	13.9	11.6	13.5	13.3
Pennsylvania	8.5	8.1	7.9	11.7	11.0	12.7	11.9
Rhode Island	7.4	5.4	6.4	10.4	7.1	9.8	9.0

TABLE 2. 2014 STATE-LEVEL UNINSURED RATES FROM FOUR FEDERAL SURVEYS

	Total Population			Non-Elderly Adults (Ages 18 to 64)			
	ACS (Point-in-Time)	CPS (Full Year)	NHIS (Point-in-Time)	ACS (Point-in-Time)	CPS (Full Year)	BRFSS (Point-in-Time)	NHIS (Point-in-Time)
South Carolina	13.6	12.9	14.5	19.9	18.1	21.3	21.0
South Dakota	9.8	9.2	8.5	13.8	12.3	12.2	13.4
Tennessee	12.0	9.6	10.8	17.4	13.0	17.7	14.8
Texas	19.1	16.9	19.4	25.7	23.1	29.2	25.7
Utah	12.5	11.6	12.9	16.2	14.6	16.2	16.2
Vermont	5.0	5.8	8.6	7.1	7.7	8.4	9.1
Virginia	10.9	9.9	10.8	14.9	13.2	15.8	15.2
Washington	9.2	9.1	9.8	12.8	12.2	12.9	13.3
West Virginia	8.6	6.5	7.6	12.9	9.4	13.0	12.2
Wisconsin	7.3	7.3	6.3	10.1	9.9	10.4	8.7
Wyoming	12.0	10.2	10.9	16.7	13.4	18.5	15.2

* The NHIS does not release estimates with a relative standard error greater than 50%.

**The NHIS recommends using estimates from these states with caution because of their relative standard error between 30% and 50%.

Sources: ACS estimates for civilian noninstitutionalized population from U.S. Census Bureau, 2015, "Health Insurance Coverage in the United States: 2014" and American Fact Finder, accessed September 18, 2015; CPS estimates from U.S. Census Bureau, 2015, CPS Table Creator, Accessed October 12, 2015; NHIS estimates from Cohen and Martinez, 2015, "Health Insurance Coverage: Early Release of Estimates from the National Health Interview Survey, 2014"; BRFSS estimates analyzed by SHADAC using 2014 public use file.

Factors Contributing to Differences in Survey Estimates

There are many reasons why health insurance estimates vary across surveys. The surveys are designed to fulfill different goals and use different questions, statistical designs, and data collection and processing methods. Each of these factors likely contributes to differences in uninsurance estimates. The following section articulates specific differences between the surveys included in this brief.

Conceptual differences in measures of uninsurance

As noted earlier, some surveys collect information about whether a person lacked health insurance coverage for a full year, while others collect information on point in time insurance status, and some collect multiple measures.

Reference period

Differences in the time period for which coverage is being reported contribute to differences in the survey estimates; in addition, differences in the length of time that respondents are being asked to recall their insurance coverage status can also result in differences in measurement error across the surveys.[1,2,3,4,5]

The CPS Annual Social and Economic Supplement, conducted in February through April each year, has historically asked respondents about their health insurance coverage during the entire previous calendar year, with respondents being asked to report their coverage for a time period as long as 16 months prior to the interview. Beginning with data collected in 2013, the CPS asks respondents about their current coverage status (point in time), as well as the current year-to-date and previous calendar year (up to 16 months). For their measures of coverage during the prior year, NHIS and MEPS have shorter recall periods than the CPS. The ACS and BRFSS collect information about current coverage only.

Differences in survey questions

Differences in the ways that health insurance questions are asked can lead to differences in uninsurance estimates. For example, when the Census Bureau added a "verification question" to the CPS in 2000 that asked people who did not report any coverage if they were in fact uninsured for all of 1999, the estimated number of people without health insurance declined by 8 percent, from 42.6 million to 39.3 million.[6] The CPS, NHIS, and MEPS all verify insurance status for people who do not report any of the specific types of coverage that the

survey asks about, but the ACS and BRFSS do not.

Another difference in survey questions that can lead to different estimates across surveys is the fact that some of the surveys (CPS, NHIS, and MEPS) use state-specific names for Medicaid and Children's Health Insurance Program (CHIP) programs, while the ACS and BRFSS do not.

Missing data and imputation

Some of these surveys have processes in place to manage missing data and impute missing values. In the CPS supplement that includes the health insurance questions, about 10 percent of the respondents do not answer any questions, and the missing values are imputed by the Census Bureau. Similarly, in the 2008 ACS about 11 percent of responses had one or more of the health insurance items missing; these missing data were imputed by the Census Bureau. In contrast, the NHIS and MEPS impute little or no health insurance coverage, because the data are much more complete than the CPS or ACS. The BRFSS does not impute health insurance coverage.

Conclusion

Federal surveys are essential resources for estimating the number of uninsured. Each survey provides a unique view of the problem of uninsurance, and together the surveys provide a wealth of information about how uninsurance varies by population characteristics and how it is associated with differences in access to and use of health care services and with health status.

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About SHADAC

SHADAC is a multidisciplinary health policy research center located at the University of Minnesota School of Public Health. SHADAC is a resource for helping states collect and use data for health policy, with a particular focus on monitoring rates of health insurance coverage and understanding factors associated with uninsurance.

For more information, please visit us at **www.shadac.org** or contact us at **shadac@umn.edu**.

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Appendix A

COMPARISON OF FEDERAL SURVEYS USED TO ESTIMATE UNINSURANCE

	ACS	CPS	MEPS-HC	NHIS	BRFSS
Sponsor(s)	Census Bureau	Bureau of Labor Statistics, U.S. Dept. of Labor (conducted by the Census Bureau)	Agency for Healthcare Research & Quality (conducted by Census Bureau)	National Center for Health Statistics, Centers for Disease Control and Prevention)	Centers for Disease Control and Prevention (conducted by states)
Primary Focus	General household survey; replaced decennial census long form	Labor force participation and unemployment	Health care access, utilization, and cost	Population health	Population health, risk factors, and health behaviors
Target Population	Entire population	Civilian non-institutionalized population	Civilian non-institutionalized population	Civilian non-institutionalized population	Adult civilian non-institutionalized population
Sample Frame	Address-based (National Master Address File)	Address-based (Census 2010 sampling frame updated with new construction)	NHIS respondents	Address-based (Census 2000 sampling frame updated with new construction)	Telephone-based (households with landline telephones, plus cell phones added in the 2011 survey)
Data Collection Mode	Mail; in-person; phone; internet	In-person; phone	In-person	In-person	Phone
Type of Uninsurance Measures	Point-in-time	All of prior calendar year: point-in-time (added in 2014)	Point-in-time; all of prior year; if uninsured, length of time uninsured; uninsured at some point in the past year	Point-in-time; all of prior year; if uninsured, length of time uninsured; uninsured at some point in the past year	Point-in-time; uninsured at some point in the past year (an optional question adopted by 38 states and D.C. in 2013)
Health Insurance Coverage: Verification Question for Uninsured	No	Yes	Yes	Yes	No
State-Specific Names Included for Medicaid/CHIP	No	Yes	Yes	Yes	No
Response Rate	96.7% (2014)	74.3% (2014)	58.0% (2013)	73.8% (2014)	47.0% (2014 combined landline/cell phone median reponse rate for states)
Survey Period	Monthly	February through April	Panel over two calendar years	February, May, August, November	Monthly
State Health Insurance Estimates	50 states and D.C.	50 states and D.C.	Not published	50 states and DC	50 states and DC
Years Available	2008 to 2014	1987 to 2014 (plus limited point-in-time estimates for 2015)	1996 to 2013	1998 to 2014 (plus first quarter of 2015)	1991 to 2014

Appendix B

Within-Survey Changes Over time: Questions & Methodology

In the same way that estimates *across* different surveys may not be comparable, estimates *within* the same survey may not always be comparable over time. This incomparability can be due to changes in survey questions and/or changes in survey methodology.

Changes in the BRFSS

In 2011, the BRFSS began using a new sampling frame, adding cell phones to the landlines it had historically sampled. The purpose of this revision was to capture the growing segment of the U.S. population that uses cell phones exclusively so that the survey estimates would more closely reflect the overall population.[i] Because of this methodological change, the CDC advises against comparing BRFSS estimates from 2011 onward against those from 2010 and earlier.[ii]

Changes in the CPS

In 2014, the CPS incorporated a revised set of survey questions designed to improve the accuracy of its uninsurance estimate, which researchers have suggested more closely resembled a point-in-time measure than a measure of insurance coverage during the previous year (as was intended).[iii,iv,v] Data from 2013 and onward are not comparable to data from 2012 and earlier.

The CPS has made other revisions that have created a break in its time series. In 2000, the survey added an insurance verification question, asking people who did not report coverage whether they were, in fact, uninsured.[vi] This change improved the accuracy of the CPS's uninsurance estimate by allowing respondents to confirm their coverage status, but it also caused a break in the comparability of CPS estimates from 1998 and earlier versus 1999 and later.[vii]

The CPS has also made methodological changes that could affect the comparability of its estimates over time, such as changes in the weighting of data.[viii]

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[i] U.S. Centers for Disease Control and Prevention. 2011. "Comparability of Data: BRFSS 2011." Available at: http://www.cdc.gov/brfss/annual_data/2011/compare_11_20121212.pdf

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[vi] Turner, J., Boudreaux, M. 2012. "Implementation of Improvements to the Allocation Routine for Health Insurance Coverage in the

CPS ASEC. Minneapolis, MN: State Health Access Data Assistance Center, University of Minnesota. Available at: http://fcsm.sites.usa.gov/files/2014/05/Turner_2012FCSM_I-C.pdf

vii To improve the comparability of CPS estimates of uninsurance over time, the State Health Access Data Assistance Center (SHADAC) has created an enhanced time series of CPS data, available at: http://datacenter.shadac.org. The enhanced time series is available from 1987 to 2012. It does not bridge the re-design introduced in 2013.

viii State Health Access Data Assistance Center. 2010. "Comparing State Uninsurance Estimates: SHADAC-Enhanced CPS and CPS." Issue Brief #21. Minneapolis, MN: University of Minnesota. Available at: http://www.shadac.org/files/shadac/publications/IssueBrief21.pdf

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