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Comparing Federal Government Surveys that Count the Uninsured



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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. Estimates of the number of people who are uninsured are available from several different sources. This brief presents trends in national estimates of uninsurance from four federal surveys, presents the most recent available state-level estimates from these surveys, and describes the main reasons for variation in the estimates across the different surveys.

FEDERAL GOVERNMENT SURVEYS USED TO ESTIMATE THE NUMBER OF PEOPLE WITHOUT HEALTH INSURANCE

This brief compares four federal surveys that are used to estimate the level of uninsurance in the United States. These include:

- The U.S. Census Bureau's **Current Population Survey (CPS)**: The CPS Annual Social and Economic Supplement (ASEC) collects data on health insurance coverage. The CPS estimates of health insurance coverage are among the most commonly cited estimates. The estimates date back to 1987, and are used to monitor both state and national trends in health insurance coverage.
- The **National Health Interview Survey (NHIS)**: Sponsored by the National Center for Health Statistics, the NHIS includes questions about health insurance coverage, health care utilization and access, health conditions and behaviors, and general health status, in addition to demographic and socioeconomic characteristics. The NHIS has been conducted annually since 1957; annual health insurance coverage estimates are available beginning with 1998.
- The **Medical Expenditure Panel Survey – Household Component (MEPS-HC)**: The MEPS-HC is sponsored by the Agency for Healthcare Research and Quality, and consists of several interviews with the same respondents over two full calendar years. Conducted since 1996, the MEPS-HC collects data on health status and health conditions, health insurance coverage, access to and utilization of health care services, medical expenditures, and various demographic and socioeconomic characteristics.
- The **American Community Survey (ACS)**: Conducted by the U.S. Census Bureau, the ACS is an annual household survey that replaced the decennial census long form questionnaire. A question on health insurance coverage was added to the ACS in 2008.

Each of these surveys was designed to collect information for different research and policy purposes. Table 1 summarizes 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 health insurance estimates.¹

TABLE 1: Comparison of Federal Surveys Used to Estimate Uninsurance

	CPS	ACS	NHIS	MEPS-HC
Sponsor(s)	Bureau of Labor Statistics, U.S. Dept. of Labor (conducted by the Census Bureau)	Census Bureau	National Center for Health Statistics, Centers for Disease Control and Prevention	Agency for Healthcare Research & Quality (conducted by Census Bureau)
Primary focus	Labor force participation and unemployment	General household survey, replaced decennial census long form	Population health	Health care access, utilization, and cost
Target population	Civilian non-institutionalized population	Entire population	Civilian non-institutionalized population	Civilian non-institutionalized population
Sample frame	Address-based (Census 2000 sampling frame updated with new construction)	Address-based (National Master Address File)	Address-based (Census 2000 sampling frame updated with new construction)	NHIS respondents
Data collection mode	In-person; telephone	Mail; in-person; telephone	In-person	In-person
Type of uninsurance measures	All of prior calendar year	Point in time	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
Health insurance coverage: verification question for uninsured	Yes	No	Yes	Yes
State-specific names included for Medicaid/CHIP	Yes	No	Yes	Yes
Response rate	80.8% (2011)	97.6% (2011)	82.0% (2011)	58.6% (first half of 2010)
Survey period	February through April	Monthly	February, May, August, November	Panel over 2 calendar years
State health insurance estimates	50 states and D.C.	50 states and D.C.	32 largest states	Not published
Years available	1987 to 2011	2008 to 2011	1998 to 2011	1996 to 2010

NATIONAL ESTIMATES AND TRENDS

Table 2 shows the most recent available estimates of uninsurance from each of the four surveys. As described in Table 1, 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. The CPS produces the highest estimate of the number of people without health insurance coverage for the entire year, at 48.6 million people, and the NHIS produces the lowest, at 34.2 million. The range of the point in time estimates is much smaller (from 46.3 to 46.4 million people).

TABLE 2: Comparison of Uninsurance Estimates (Total Population)

Survey	Time Period	Uninsured for the Entire Year		Uninsured at a Specific Point in Time	
		Number (millions)	% of population	Number (millions)	% of population
CPS	2011	48.6	15.7%	N/A	N/A
ACS	2011	N/A	N/A	46.4	15.1%
NHIS	2011	34.2	11.2%	46.3	15.1%
MEPS	2010	40.4	13.1%	N/A	N/A

Sources: CPS estimates from U.S. Census Bureau, 2012, "Income, Poverty, and Health Insurance Coverage in the United States: 2011"; ACS estimates for civilian noninstitutionalized population from U.S. Census Bureau (<http://factfinder2.census.gov>), accessed September 20, 2012; NHIS estimates from Cohen et al., 2012, Health Insurance Coverage: Early Release of Estimates from the National Health Interview Survey, 2011"; MEPS estimates from http://meps.ahrq.gov/mepsweb/data_stats/summ_tables/hc/hlth_insr/2010/alltablesfy.pdf

Over time, the uninsurance estimates from these surveys have shown similar trends, as shown in Figure 1. All three surveys with 2011 estimates available show a decline in the estimated number of people uninsured, in contrast to steadily rising numbers estimated for the previous several years.

STATE-LEVEL ESTIMATES

Both the CPS and ACS are designed to produce state-level estimates for all 50 states and the District of Columbia. Insurance coverage estimates from NHIS are published for the 32 largest states, and no state-level estimates of insurance coverage are published from the MEPS-HC.

Table 3 presents the most recent state-level estimates of uninsurance from the CPS, ACS, and NHIS (standard errors are shown in the Appendix). As with the national estimates, the estimated level of uninsurance for states varies across surveys; however, general patterns are consistent across the surveys (e.g., states with low uninsurance rates are low in all three surveys).

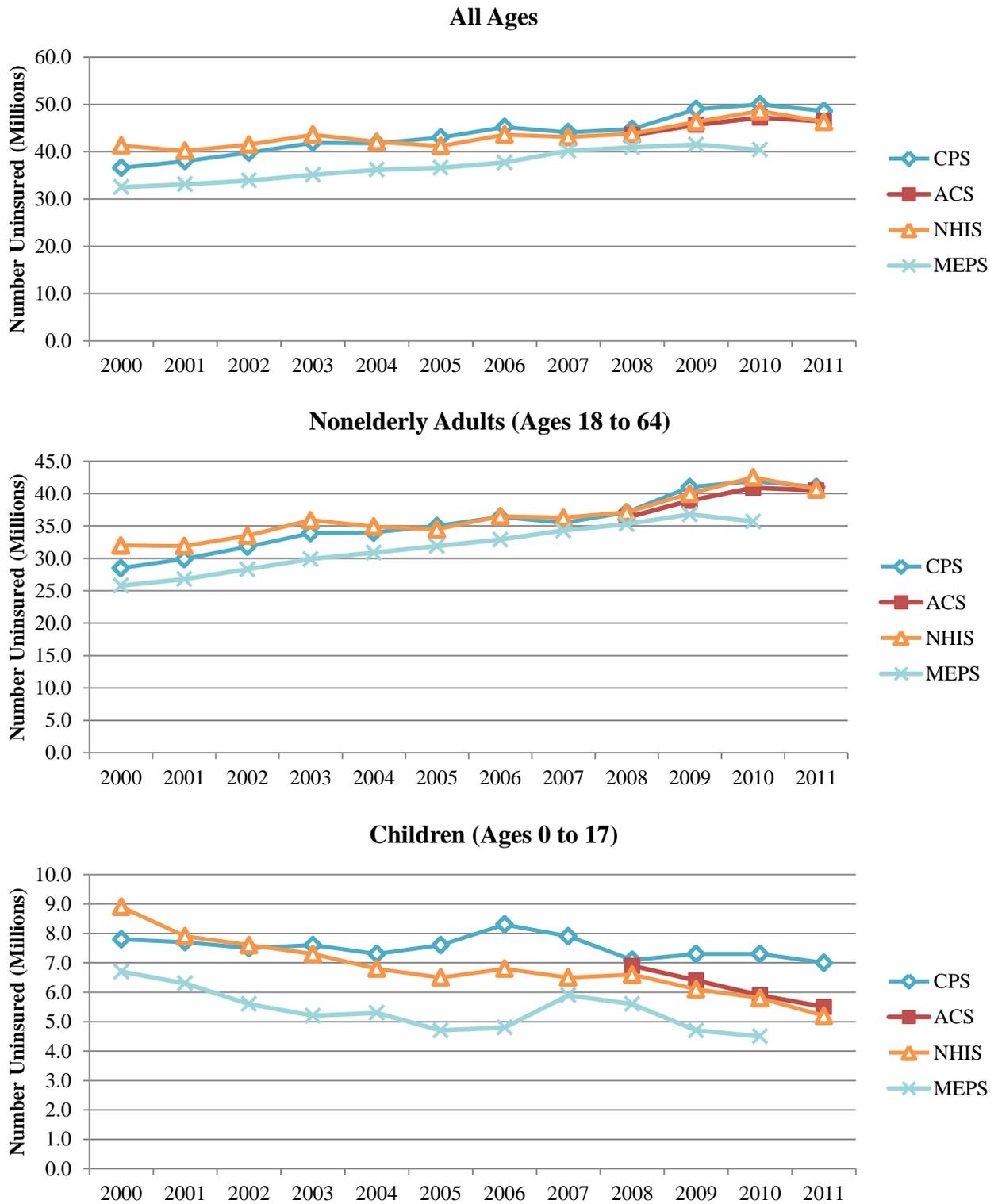
FACTORS CONTRIBUTING TO DIFFERENCES IN SURVEY ESTIMATES

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.

Specific differences include the following:

- **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:** The CPS Annual Social and Economic Supplement, conducted in February through April each year, asks respondents about their health insurance coverage during the entire previous calendar year. Respondents in this survey are being asked to report their coverage for a time period as long as 16 months prior to the interview. In contrast, NHIS and MEPS have shorter recall periods, and the ACS collects information only about current coverage. These 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.² In particular, many researchers believe that the CPS measure is closer to a point in time measure of uninsurance than a full-year measure.³

FIGURE 1. Trend in Number of Uninsured, 2000 to 2011



CPS and MEPS estimates are full-year estimates; NHIS and ACS are point in time estimates.
 Sources: U.S. Census Bureau, "Income, Poverty, and Health Insurance Coverage in the United States: 2011"; Cohen et al. June 2012; Chu 2012 and http://meps.ahrq.gov/mepsweb/data_stats/summ_tables/hc/hlth_ins/2010/alltablesfy.pdf; ACS estimates for civilian noninstitutionalized population from U.S. Census Bureau (<http://factfinder2.census.gov>) accessed September 20, 2012."

**TABLE 3. State-Level Estimates of Uninsurance from Federal Surveys, 2011
(Percent of Population Uninsured)**

	CPS*	ACS	NHIS
	Full-year	Point in time	Point in time
United States	16.0	15.1	15.1
Alabama	14.3	14.3	15.6
Alaska	18.2	20.1	
Arizona	18.2	17.2	16.8
Arkansas	18.0	17.1	16.9
California	19.6	18.1	18.3
Colorado	14.3	15.1	15.9
Connecticut	9.9	8.8	7.7
Delaware	10.7	9.4	
District of Columbia	10.6	6.9	
Florida	20.2	20.9	19.7
Georgia	19.3	19.6	18.9
Hawaii	7.8	7.1	
Idaho	18.0	16.5	
Illinois	14.8	13.1	13.4
Indiana	12.7	14.5	15.6
Iowa	11.1	8.9	7.6
Kansas	13.1	12.6	15.2
Kentucky	14.6	14.4	
Louisiana	20.3	17.5	16.0
Maine	9.7	10.7	
Maryland	13.3	10.4	9.4
Massachusetts	4.5	4.3	3.9
Michigan	12.7	11.8	11.9
Minnesota	9.5	8.8	8.6
Mississippi	18.6	17.7	
Missouri	14.4	13.7	14.2
Montana	18.2	18.3	
Nebraska	12.8	11.4	
Nevada	22.0	21.9	22.6
New Hampshire	11.3	10.5	
New Jersey	15.5	13.1	12.4
New Mexico	20.5	19.8	
New York	13.6	11.4	11.0
North Carolina	16.7	16.3	20.2
North Dakota	11.3	9.8	
Ohio	13.7	11.9	10.4
Oklahoma	17.1	18.7	20.2
Oregon	14.9	15.7	15.8
Pennsylvania	10.9	10.1	11.8
Rhode Island	11.8	10.8	
South Carolina	19.7	16.7	17.9
South Dakota	13.0	11.9	
Tennessee	13.9	14.6	13.8
Texas	24.2	23.0	21.7
Utah	14.2	15.3	
Vermont	9.0	6.6	
Virginia	13.7	12.5	13.6
Washington	14.2	14.2	15.2
West Virginia	14.2	14.9	
Wisconsin	9.9	9.0	8.7
Wyoming	17.5	15.4	

*CPS state-level estimates are 2-year averages for 2010-2011.

Sources: U.S. Census Bureau, "Income, Poverty, and Health Insurance Coverage in the United States: 2011"; Cohen et al. 2012; U.S. Census Bureau, American Fact Finder (ACS estimates for civilian noninstitutionalized population), accessed September 20, 2012.

- **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.⁴ 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 does 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 does not.
- **Missing data and imputation:** All four of the 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.

CONCLUSION

These federal surveys are essential resources for estimating the number of uninsured. Each provides a unique view of the problem, 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, as well as health status. For state-level analysis, the ACS and CPS are very useful and accessible for producing comparable estimates across states, and also serve as a valuable source of information for states that do not conduct their own state-specific insurance surveys.

The exact number of uninsured in the U.S. will never be determined, but available estimates consistently indicate that the number is large. The new estimates for 2011 showing a decline in uninsurance are encouraging, and the next several years are expected to be a time of significant change as health coverage reforms are implemented. Surveys produce different estimates because they have different sampling methodologies, survey questions, data collection, and editing procedures. Understanding these differences is important, but should not distract policymakers from the need to address issues of cost and access for those without health insurance coverage in the United States.

ABOUT SHADAC

The University of Minnesota’s State Health Access Data Assistance Center (SHADAC) helps states monitor rates of health insurance coverage and understand factors associated with uninsurance. SHADAC provides targeted policy analysis and technical assistance to states that are conducting their own health insurance surveys and/or using data from national surveys. SHADAC’s work is funded by the Robert Wood Johnson Foundation. More information is available at www.shadac.org.

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APPENDIX. Standard Errors for Percent of Population Uninsured, 2011

	CPS*	ACS	NHIS
	Full-year	Point in time	Point in time
United States	0.12	0.06	0.21
Alabama	1.16	0.24	1.56
Alaska	0.97	0.48	
Arizona	0.85	0.24	1.51
Arkansas	1.03	0.30	1.92
California	0.36	0.06	0.56
Colorado	0.73	0.24	1.45
Connecticut	0.61	0.18	1.28
Delaware	0.67	0.42	
District of Columbia	0.73	0.48	
Florida	0.61	0.12	0.90
Georgia	0.91	0.24	1.75
Hawaii	0.49	0.30	
Idaho	1.40	0.42	
Illinois	0.61	0.12	1.01
Indiana	0.73	0.18	1.55
Iowa	0.73	0.18	1.24
Kansas	0.85	0.30	1.74
Kentucky	1.03	0.18	
Louisiana	0.91	0.24	1.55
Maine	0.67	0.30	
Maryland	0.73	0.18	1.23
Massachusetts	0.36	0.12	0.79
Michigan	0.55	0.12	0.84
Minnesota	0.49	0.12	1.08
Mississippi	1.03	0.30	
Missouri	1.16	0.18	1.37
Montana	0.91	0.42	
Nebraska	0.67	0.24	
Nevada	0.97	0.48	2.00
New Hampshire	0.61	0.30	
New Jersey	0.73	0.18	1.11
New Mexico	1.46	0.42	
New York	0.43	0.12	0.62
North Carolina	0.79	0.18	1.59
North Dakota	1.03	0.42	
Ohio	0.55	0.12	0.83
Oklahoma	0.97	0.24	1.87
Oregon	0.79	0.24	1.58
Pennsylvania	0.61	0.12	1.10
Rhode Island	0.67	0.42	
South Carolina	1.16	0.24	1.61
South Dakota	0.85	0.36	
Tennessee	0.73	0.18	1.56
Texas	0.61	0.12	0.69
Utah	0.85	0.30	
Vermont	0.67	0.30	
Virginia	0.67	0.18	1.25
Washington	0.85	0.18	1.42
West Virginia	0.79	0.36	
Wisconsin	0.79	0.12	1.20
Wyoming	0.79	0.67	

*CPS state-level estimates are 2-year averages for 2010-2011.

Sources: U.S. Census Bureau, "Income, Poverty, and Health Insurance Coverage in the United States: 2011"; Cohen et al. 2012; U.S. Census Bureau, American Fact Finder (ACS estimates for civilian noninstitutionalized population), accessed September 20, 2012.

REFERENCES

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