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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.<sup>1</sup>

**TABLE 1: Comparison of Federal Surveys Used to Estimate Uninsurance**

|   | CPS  | ACS   | NHIS   | MEPS-HC  |
|---|--|---|--|--|
| <b>Sponsor(s)</b>   | 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)  |
| <b>Primary focus</b>  | Labor force participation and unemployment                                       | General household survey, replaced decennial census long form | Population health  | Health care access, utilization, and cost  |
| <b>Target population</b>  | Civilian non-institutionalized population  | Entire population   | Civilian non-institutionalized population  | Civilian non-institutionalized population  |
| <b>Sample frame</b>   | 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   |
| <b>Data collection mode</b>   | In-person; telephone   | Mail; in-person; telephone                                    | In-person  | In-person  |
| <b>Type of uninsurance measures</b>                                   | 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 |
| <b>Health insurance coverage: verification question for uninsured</b> | Yes  | No  | Yes  | Yes  |
| <b>State-specific names included for Medicaid/CHIP</b>                | Yes  | No  | Yes  | Yes  |
| <b>Response rate</b>  | 83.8% (2010)   | 97.5% (2010)  | 79.5% (2010)   | 63% (first half of 2009)   |
| <b>Survey period</b>  | February through April   | Monthly   | February, May, August, November  | Panel over 2 calendar years  |
| <b>State health insurance estimates</b>                               | 50 states and D.C.   | 50 states and D.C.  | 20 largest states  | Not published  |
| <b>Years available</b>  | 1987 to 2010   | 2008 to 2010  | 1998 to 2010   | 1996 to 2009   |

## 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 49.9 million people, and the NHIS produces the lowest, at 35.7 million. The range of the point in time estimates is much smaller (from 47.2 to 48.6 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    | 2010        | 49.9                          | 16.3%           | N/A                                   | N/A             |
| ACS    | 2010        | N/A                           | N/A             | 47.2                                  | 15.5%           |
| NHIS   | 2010        | 35.7                          | 11.7%           | 48.6                                  | 16.0%           |
| MEPS   | 2009        | 41.5                          | 13.5%           | N/A                                   | N/A             |

N/A: not available.

Sources: CPS estimates from U.S. Census Bureau, 2011, "Income, Poverty, and Health Insurance Coverage in the United States: 2010"; ACS estimates for civilian noninstitutionalized population from U.S. Census Bureau (<http://factfinder2.census.gov>), accessed September 22, 2011; NHIS estimates from Cohen et al., 2011, Health Insurance Coverage: Early Release of Estimates from the National Health Interview Survey, 2010"; MEPS estimates from MEPSNET HC ([http://www.meps.ahrq.gov/mepsweb/data\\_stats/MEPSnetHC.jsp](http://www.meps.ahrq.gov/mepsweb/data_stats/MEPSnetHC.jsp)), accessed September 18, 2011.

Over time, the uninsurance estimates from these surveys have shown similar trends, as shown in Figure 1. The estimated number of people without health insurance has been rising steadily, driven by an increase in the number of uninsured nonelderly adults; the number of uninsured children has been trending downward over the past 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 20 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).

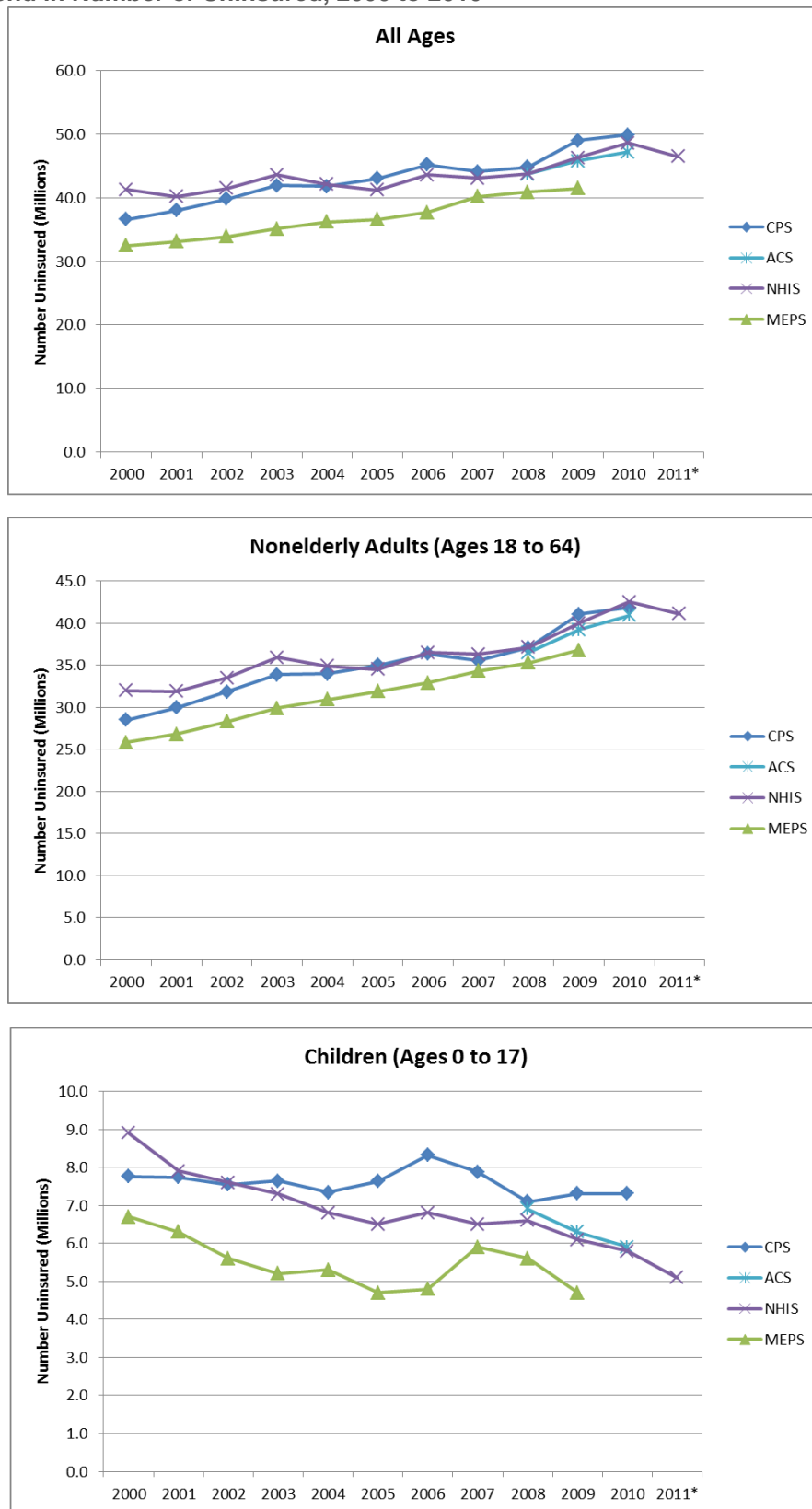
### FACTORS CONTRIBUTING TO DIFFERENCES IN SURVEY ESTIMATES

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.<sup>2</sup> In particular, many researchers believe that the CPS measure is closer to a point in time measure of uninsurance than a full-year measure.<sup>3</sup>

**FIGURE 1. Trend in Number of Uninsured, 2000 to 2010**



CPS and MEPS estimates are full-year estimates; NHIS and ACS are point in time estimates.

\*2011 estimates from NHIS are for the first 3 months of the year.

Sources: U.S. Census Bureau, "Income, Poverty, and Health Insurance Coverage in the United States: 2010"; Cohen et al. June 2011 and September 2011; Chu and Rhoades 2011 and MEPSNET HC ([http://www.meps.ahrq.gov/mepsweb/data\\_stats/MEPSnetHC.jsp](http://www.meps.ahrq.gov/mepsweb/data_stats/MEPSnetHC.jsp)); ACS estimates for civilian noninstitutionalized population from U.S. Census Bureau (<http://factfinder2.census.gov>) accessed September 22, 2011.

**TABLE 3. State-Level Estimates of Uninsurance from Federal Surveys, 2010 (Percent of Population Uninsured)**

|                      | CPS*      | ACS           | NHIS          |
|----------------------|-----------|---------------|---------------|
|                      | Full-year | Point in time | Point in time |
| <b>United States</b> | 16.2      | 15.5          | 16.0          |
| Alabama              | 15.9      | 14.6          |               |
| Alaska               | 17.6      | 19.9          |               |
| Arizona              | 19.0      | 16.9          | 26.1          |
| Arkansas             | 18.9      | 17.5          |               |
| California           | 19.4      | 18.5          | 18.6          |
| Colorado             | 13.8      | 15.9          |               |
| Connecticut          | 11.1      | 9.1           |               |
| Delaware             | 12.1      | 9.7           |               |
| District of Columbia | 12.4      | 7.6           |               |
| Florida              | 21.3      | 21.3          | 21.1          |
| Georgia              | 19.9      | 19.7          | 20.7          |
| Hawaii               | 7.5       | 7.9           |               |
| Idaho                | 17.2      | 17.7          |               |
| Illinois             | 14.5      | 13.8          | 13.0          |
| Indiana              | 13.6      | 14.8          | 13.9          |
| Iowa                 | 11.6      | 9.3           |               |
| Kansas               | 12.8      | 13.9          |               |
| Kentucky             | 15.4      | 15.3          |               |
| Louisiana            | 17.2      | 17.8          |               |
| Maine                | 9.7       | 10.1          |               |
| Maryland             | 13.2      | 11.3          | 11.4          |
| Massachusetts        | 5.0       | 4.4           | 4.0           |
| Michigan             | 13.0      | 12.4          | 12.2          |
| Minnesota            | 8.9       | 9.1           |               |
| Mississippi          | 19.2      | 18.2          |               |
| Missouri             | 14.3      | 13.2          | 16.0          |
| Montana              | 16.6      | 17.3          |               |
| Nebraska             | 12.2      | 11.5          |               |
| Nevada               | 21.0      | 22.6          |               |
| New Hampshire        | 10.1      | 11.1          |               |
| New Jersey           | 15.0      | 13.2          | 13.9          |
| New Mexico           | 21.3      | 19.6          |               |
| New York             | 14.5      | 11.9          | 11.1          |
| North Carolina       | 17.4      | 16.8          | 18.1          |
| North Dakota         | 11.7      | 9.8           |               |
| Ohio                 | 13.7      | 12.3          | 13.4          |
| Oklahoma             | 17.5      | 18.9          |               |
| Oregon               | 16.8      | 17.1          |               |
| Pennsylvania         | 11.0      | 10.2          | 11.7          |
| Rhode Island         | 11.7      | 12.2          |               |
| South Carolina       | 18.7      | 17.5          |               |
| South Dakota         | 13.1      | 12.4          |               |
| Tennessee            | 14.9      | 14.4          | 17.5          |
| Texas                | 25.0      | 23.7          | 23.1          |
| Utah                 | 13.9      | 15.3          |               |
| Vermont              | 9.5       | 8.0           |               |
| Virginia             | 13.4      | 13.1          | 12.9          |
| Washington           | 13.2      | 14.2          | 14.8          |
| West Virginia        | 13.6      | 14.6          |               |
| Wisconsin            | 9.2       | 9.4           | 9.4           |
| Wyoming              | 16.3      | 14.9          |               |

\*CPS state-level estimates are 2-year averages for 2009-2010.

Sources: U.S. Census Bureau, "Income, Poverty, and Health Insurance Coverage in the United States: 2010"; Cohen et al. 2011; U.S. Census Bureau, American Fact Finder (ACS estimates for civilian noninstitutionalized population)

- **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.<sup>4</sup> 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 and growing over time. 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](http://www.shadac.org).

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**APPENDIX. Standard Errors for Percent of Population Uninsured, 2010**

|                      | CPS*      | ACS           | NHIS          |
|----------------------|-----------|---------------|---------------|
|                      | Full-year | Point in time | Point in time |
| <b>United States</b> | 0.12      | 0.06          | 0.26          |
| Alabama              | 0.85      | 0.24          |               |
| Alaska               | 0.73      | 0.67          |               |
| Arizona              | 1.15      | 0.18          | 1.77          |
| Arkansas             | 0.91      | 0.30          |               |
| California           | 0.42      | 0.12          | 0.65          |
| Colorado             | 0.67      | 0.30          |               |
| Connecticut          | 0.61      | 0.18          |               |
| Delaware             | 0.79      | 0.48          |               |
| District of Columbia | 0.91      | 0.42          |               |
| Florida              | 0.61      | 0.18          | 0.94          |
| Georgia              | 0.91      | 0.24          | 1.38          |
| Hawaii               | 0.55      | 0.30          |               |
| Idaho                | 1.21      | 0.42          |               |
| Illinois             | 0.67      | 0.12          | 0.86          |
| Indiana              | 0.79      | 0.18          | 1.54          |
| Iowa                 | 1.03      | 0.18          |               |
| Kansas               | 0.91      | 0.24          |               |
| Kentucky             | 1.03      | 0.24          |               |
| Louisiana            | 1.09      | 0.24          |               |
| Maine                | 0.55      | 0.30          |               |
| Maryland             | 0.73      | 0.18          | 1.53          |
| Massachusetts        | 0.36      | 0.12          | 0.87          |
| Michigan             | 0.55      | 0.12          | 1.08          |
| Minnesota            | 0.55      | 0.18          |               |
| Mississippi          | 1.03      | 0.30          |               |
| Missouri             | 0.97      | 0.18          | 1.67          |
| Montana              | 0.91      | 0.42          |               |
| Nebraska             | 0.73      | 0.24          |               |
| Nevada               | 0.97      | 0.36          |               |
| New Hampshire        | 0.55      | 0.42          |               |
| New Jersey           | 0.85      | 0.12          | 1.23          |
| New Mexico           | 1.45      | 0.42          |               |
| New York             | 0.48      | 0.12          | 0.74          |
| North Carolina       | 0.85      | 0.18          | 1.17          |
| North Dakota         | 0.73      | 0.42          |               |
| Ohio                 | 0.67      | 0.12          | 1.02          |
| Oklahoma             | 1.27      | 0.18          |               |
| Oregon               | 0.79      | 0.24          |               |
| Pennsylvania         | 0.48      | 0.12          | 1.08          |
| Rhode Island         | 0.73      | 0.42          |               |
| South Carolina       | 0.97      | 0.24          |               |
| South Dakota         | 1.03      | 0.55          |               |
| Tennessee            | 0.79      | 0.24          | 1.76          |
| Texas                | 0.67      | 0.12          | 0.91          |
| Utah                 | 0.73      | 0.36          |               |
| Vermont              | 0.67      | 0.42          |               |
| Virginia             | 0.61      | 0.18          | 1.24          |
| Washington           | 0.73      | 0.24          | 1.46          |
| West Virginia        | 0.97      | 0.36          |               |
| Wisconsin            | 0.67      | 0.12          | 1.34          |
| Wyoming              | 0.73      | 0.67          |               |

\*CPS state-level estimates are 2-year averages for 2009-2010.

Sources: U.S. Census Bureau, "Income, Poverty, and Health Insurance Coverage in the United States: 2010"; Cohen et al. 2011; U.S. Census Bureau, American Fact Finder (ACS Estimates for civilian noninstitutionalized population)

## REFERENCES

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