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Health Insurance: Federal Data Sources for Analyses of the Uninsured

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Summary

The number of people without health insurance continues to be a key public policy concern. Numerous sources of data, both public and private, gather information on the uninsured but they produce estimates that vary widely. This report discusses estimates of the number of uninsured using data from four federally administered surveys: the March Supplement to the Current Population Survey (CPS), the Survey of Income and Program Participation (SIPP), the National Health Interview Survey (NHIS), and the Medical Expenditure Panel Survey (MEPS).

In 1998 (the most recent year for which data are available from all four surveys), estimates of the number of uninsured for the full year ranged from 21.2 million using SIPP data to 43.6 million using data from the March CPS, a difference of more than 22 million individuals. Estimates of the number of uninsured at a point in time as well as the number who were ever uninsured during the year also vary among MEPS, NHIS, and SIPP (the March CPS does not support these estimates). The number of uninsured at a point in time in 1998 ranged from 39.2 million from SIPP to 42.3 million from MEPS. Estimates of the number who were *ever* uninsured during 1998 ranged from 50.0 million from NHIS to 60.3 million from MEPS.

To date, no clear consensus has emerged that explains why these differences exist in the survey estimates of the uninsured. However, researchers have offered a number of explanations that may account for some of the variation. These include:

- the surveys ask different questions and use different methodologies to determine who is insured;
- compared to administrative data, the surveys report estimates of the percent enrolled in Medicaid that indicate an under-reporting of Medicaid coverage by survey respondents, which would affect uninsured estimates;
- the surveys differ in the amount of time for which they ask individuals to remember their health insurance status. Individuals who are asked to report their status for a period of time might not accurately report changes in their health insurance status over that period; and
- the surveys are designed in ways that permit different types of analyses, but may limit comparability of the results. For example, while the SIPP and MEPS allow researchers to track the same individuals over a period of years, this is not possible using the CPS or NHIS. Therefore, the varying designs of the surveys permit different types of analyses of health insurance status, but the comparability of the estimates may be limited.

The March CPS produces the most widely cited uninsured statistics, as the data are timely and can produce estimates for each of the 50 states and the District of Columbia. While differences in the uninsured estimates persist among the surveys, the NHIS, SIPP, and MEPS offer additional data to explore questions about the uninsured. For example, the NHIS contains data to relate health insurance status to health risk factors and general health issues, while SIPP and MEPS both are useful in examining changes in health insurance and other characteristics over time.

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Health Insurance: Federal Data Sources for Analyses of the Uninsured

The number of individuals without health insurance continues to be a key public policy concern. The majority of the U.S. population receives coverage through employment-based plans, and employers generally contribute to the cost of purchasing health insurance. Changes in employment often lead to a disruption or loss of health coverage, as individuals who lose an employer's health benefit contribution often consider the cost of purchasing health insurance on their own too high. Other working people do not have insurance because their employer does not offer health insurance coverage. For these individuals, policies to reduce the cost of health insurance (such as tax credits or other types of subsidies) may increase their enrollment in health coverage. Public programs such as Medicaid and the State Children's Health Insurance Program (SCHIP) provide health insurance for certain groups of low-income families with children. But, these programs have eligibility requirements that may prevent other uninsured individuals from qualifying for coverage. At the same time, a number of individuals eligible for health insurance through these public programs are not enrolled and are therefore included in current estimates of the number of uninsured. For these groups, additional outreach activities could increase enrollment in these existing programs.

Given the various reasons individuals lack health insurance coverage, analysis of the effectiveness of a proposal to reduce the number of uninsured (such as those discussed above) requires examining characteristics of individuals with and without health insurance coverage. Numerous sources of data have emerged over time that support estimates of the uninsured. However, each data source differs in how it collects information from individuals, as well as the amount of information it collects related to health insurance status. Therefore, the estimates of the number of uninsured produced by these data sources vary widely.[1] Because proposals to reduce the number of uninsured are informed by estimates of the number of individuals without health insurance as well as the characteristics of the uninsured population, determining the appropriate source of data to evaluate these proposals is important.

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[1] A number of studies have attempted to explain why the data sources differ in their estimate of the uninsured. See, for example, U.S. Department of Health and Human Services (DHHS) Office of the Assistant Secretary for Planning and Evaluation. *Understanding Estimates of the Uninsured: Putting the Differences in Context*. [http://aspe.os.dhhs.gov/health/reports/hiestimates.htm]; Lewis, Kimball, Ellwood, Marilyn and Czajka, John L. Counting the Uninsured: A Review of the Literature. The Urban Institute, June 1998, [http://newfederalism.urban.org/html/occ8.htm]; and Fronstin, Paul *Counting the Uninsured: A Comparison of National Surveys* by Employee Benefit Research Institute, Issue Brief No. 225, September 2000.

This report outlines the major advantages and limitations of four federally administered surveys[2] — the March Supplement to the Current Population Survey (CPS), the Survey of Income and Program Participation (SIPP), the National Health Interview Survey (NHIS), and the Medical Expenditure Panel Survey (MEPS) — in providing estimates of the uninsured population.[3] It begins by briefly describing the characteristics of each of these four surveys. Estimates of the uninsured from these datasets are then presented, followed by a discussion of possible reasons for the variation among the estimates. Finally, the report discusses potential areas in which each data source might be useful to respond to questions of interest to policymakers in outlining proposals to reduce the number of uninsured.

In brief, all four surveys support representative estimates of the uninsured U.S. civilian noninstitutionalized population, although the health insurance questions asked among the surveys differ. The March CPS produces the most widely cited statistics on the number of uninsured, because the data provide the most recent full-year information and because the data may produce estimates that are representative for each of the 50 states and the District of Columbia. However, its focus is not health insurance but work, income and poverty statistics, and it does not delve deeply into issues of insurance coverage. Additionally, the March CPS provides estimates only of those who were without health insurance for the entire year as opposed to those without insurance for some portion of the year. The NHIS, SIPP, and MEPS can not provide state-level analysis similar to the March CPS, but these surveys do offer additional data to explore many questions about the uninsured. For example, the NHIS contains data to relate health insurance status to health risk factors and general health issues. Additionally, SIPP and MEPS collect data for every month that the individual is part of the survey and therefore, in addition to providing estimates of those without health insurance for an entire year, these surveys may also be used to examine changes in health insurance and other characteristics month-to-month or over a period of time, tasks that are not possible using the March CPS. MEPS also asks the most comprehensive questions about the type and source of people's health insurance. With data from these four surveys, it is possible to answer many questions about the uninsured. Because the estimates among the surveys differ by so much, however, the results should always be interpreted with some caution until the differences can be reconciled.

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[2] There are other federal sources for estimates of the uninsured, including the Behavioral Risk Factor Surveillance System (BRFSS) and the National Survey of Family Growth (NSFG). We did not include these particular surveys because they are not representative of the entire U.S. population. BRFSS collects information only on the adult who answers the phone, which excludes all of the children and the other adults in the household. The responding adult is not necessarily representative of the rest of the household, particularly the children. NSFG, a valuable survey of women's health, limits its sample to women aged 15 to 44. In addition, it does not occur annually; the latest survey was conducted in 1995. There are also non-federal sources for estimates of the uninsured. Analysis of these sources is beyond the scope of this report.

[3] We chose to discuss the surveys in this order simply for the benefit of our readers. It is not intended to represent any survey's importance or reliability.

Overview of the Surveys

Appendix A illustrates in a tabular format the characteristics of the four surveys discussed in this report. Each of these surveys is briefly described below.

March Supplement to the Current Population Survey (CPS). The CPS, conducted by the U.S. Census Bureau, is the primary source of information on the labor force characteristics of the U.S. civilian noninstitutionalized population. The CPS is a cross-sectional survey, which means that it does not have the ability to track the same individuals from year to year. Although CPS interviews take place every month, the questions regarding health insurance status are asked only in March, in the CPS's Annual Demographic Survey (often referred to as "the March supplement"), at which time individuals are asked to identify their sources of health insurance for the entire preceding year. Therefore, the March supplement to the CPS (herein referred to as the March CPS) supports estimates only of those who do not have health insurance for the *entire year* preceding their March interview. Of the four surveys reviewed in this report, the CPS has the largest sample size (approximately 50,000 households) and is the only one of the four surveys able to produce representative estimates for each of the 50 states and the District of Columbia. The formula that allocates funds to states for the SCHIP uses CPS state-level data.[4]

The Census Bureau releases data from the March CPS around September every year. The most recent data available are from the March 2001 CPS, and these data represent the *previous* calendar year (so the March 2001 CPS represents information for all of 2000). Of the four surveys reviewed in this report, the March CPS data provide the most recent full-year information on the uninsured. However, because the March CPS data is not designed to allow researchers to track individuals who may remain in the sample from year to year, it cannot pinpoint changes in an individual's health insurance status across time. Therefore, researchers using the March CPS can estimate the total number of uninsured for a given year and compare the total number of uninsured across a number of years (for example, 1997 through 1999), but can not examine individual changes in health insurance coverage throughout the year, or estimate the number of uninsured at a specific point in time during the year.

Survey of Income and Program Participation (SIPP). In addition to the CPS, the Census Bureau also conducts the SIPP, a survey with detailed information on respondents' income as well as their participation in government programs. Unlike the CPS, the SIPP is a longitudinal survey, which means that individuals who are part of the sample are interviewed multiple times over the life of the survey, referred to as a "panel," so that changes in various individual characteristics may be observed. Respondents in the SIPP sample are interviewed every four months, with these cycles referred to as "waves." Historically, the SIPP panels ranged in duration from 2½

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[4] For each state, the allocation is based on a 3-year average of the number of uninsured children under 19 years of age in families below 200% of the poverty thresholds. In some states, the number of children in these low-income families for whom the CPS obtains data may be small. This may cause the estimates to be less reliable and increase the variability in the estimates of the uninsured from year to year. The 3-year averages are used to counter these effects.

years to 4 years. Although representative at the national level, SIPP does not support reliable state-by-state estimates. The sample size is approximately 37,000 households.

The most recent available data are from the 1996 SIPP panel, which followed a sample of individuals for 4 years, through March 2000.[5] Given the longitudinal design of the SIPP (as discussed above), these data may be used to estimate the total number of people uninsured for any month, for any part of the year, for an entire year, or over the life of the panel. The next SIPP panel, which will be over a 3-year period, began earlier this year, with the first wave of results expected in the first quarter of 2002. However, there is no set schedule for SIPP data releases.

National Health Interview Survey (NHIS). The National Center for Health Statistics (NCHS) oversees NHIS, a survey completed annually to gather information on Americans' health. Similar to the CPS, the NHIS is a cross-sectional survey and therefore does not allow analyses of the same people from year to year. NHIS is representative of the U.S. civilian noninstitutionalized population and has the ability to produce estimates for some large states; however, state-level estimates for all 50 states and the District of Columbia are not supported. The sample size is approximately 42,000 households.

The most recent available data from NHIS are for 2000. Although NHIS is similar to the CPS because it is a cross-sectional survey, the NHIS collects more detailed information on health insurance status among the survey sample than the March CPS. Therefore, NHIS can produce estimates of the total number of people who were ever uninsured during the year, for the entire year, or at the time of the survey. In addition to health insurance status, NHIS collects detailed health information on illnesses, chronic conditions, activity limitations and health risk behaviors. Another benefit of NHIS is that the survey serves as the sampling framework for a number of other smaller, federally administered surveys such as the Medical Expenditure Panel Survey (discussed below) and the National Survey of Family Growth (NSFG). Therefore, individuals in these smaller surveys have also been interviewed in NHIS. By linking these datasets, researchers may have a broader collection of health-related information for a subset of the population.

Medical Expenditure Panel Survey (MEPS). The Agency for Healthcare Research and Quality (AHRQ) administers MEPS in conjunction with NCHS. MEPS has been conducted annually since 1996. It is the most recent in a series of medical expenditure surveys that began in 1977 as the National Medical Care Expenditure Survey and later became the National Medical Expenditure Survey (NMES). The primary focus of MEPS is on the use of and expenditures for health care. MEPS is a longitudinal survey, like the SIPP, and interviews the same individuals five times over a period of 2 years. MEPS does not support state-level estimates of the uninsured, although (like the other three surveys discussed above) it does provide a nationally representative picture of the U.S. civilian noninstitutionalized population.

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[5] The core content of these files is available. The SIPP also includes additional survey questions that are included in selected waves on special topics. These questions are referred to as "topical modules." Examples include topical modules on health care expenditures and utilization, disabilities and limitations, and home health care.

MEPS has the smallest sample size of the surveys, with 12,000 eligible households interviewed each year.

Unique to MEPS are the "overlapping panels" — although individuals are followed for 2 years, each year a new sample is drawn from the previous year's NHIS, so the sample is replenished annually.[6] For example, the 1998 full-year MEPS data represents information from year 2 of households in the 1997 panel and year 1 of households in the 1998 panel. The implications of this are discussed in greater detail later in this report.

The most recent available full-year data for MEPS is 1998. However, MEPS also produces "point-in-time" files, which represent the first 6 months of a given year. Point-in-time information is available for 2000. Researchers using the full-year MEPS data can estimate the total number of uninsured for any month, for any part of the year, for an entire year, or over the life of the panel. In addition to health insurance status, MEPS supplies the most detailed information about Americans' health insurance benefits and premiums, as well as on health care use and spending.

Comparing Uninsured Statistics Among the Surveys

Figure 1 illustrates statistics on the uninsured from 1998, the most recent year in which the full data from all four surveys are available. All four surveys provide a nationally representative picture of the U.S. population, however the estimates of the uninsured vary widely among the surveys, as **Figure 1** illustrates. These uninsured estimates are presented in a tabular format in **Appendix B**.

In 1998, using data from the March CPS, 43.6 million individuals (16.3% of the U.S. civilian noninstitutionalized population) were uninsured for the entire year. This compares to 31.5 million (11.8%) from MEPS. NHIS estimates that 25.8 million (9.7%) were uninsured for all of 1998. Using SIPP data, this number was 21.2 million (7.9%), which is less than half of the March CPS estimate — a difference of more than 22 million people.[7]

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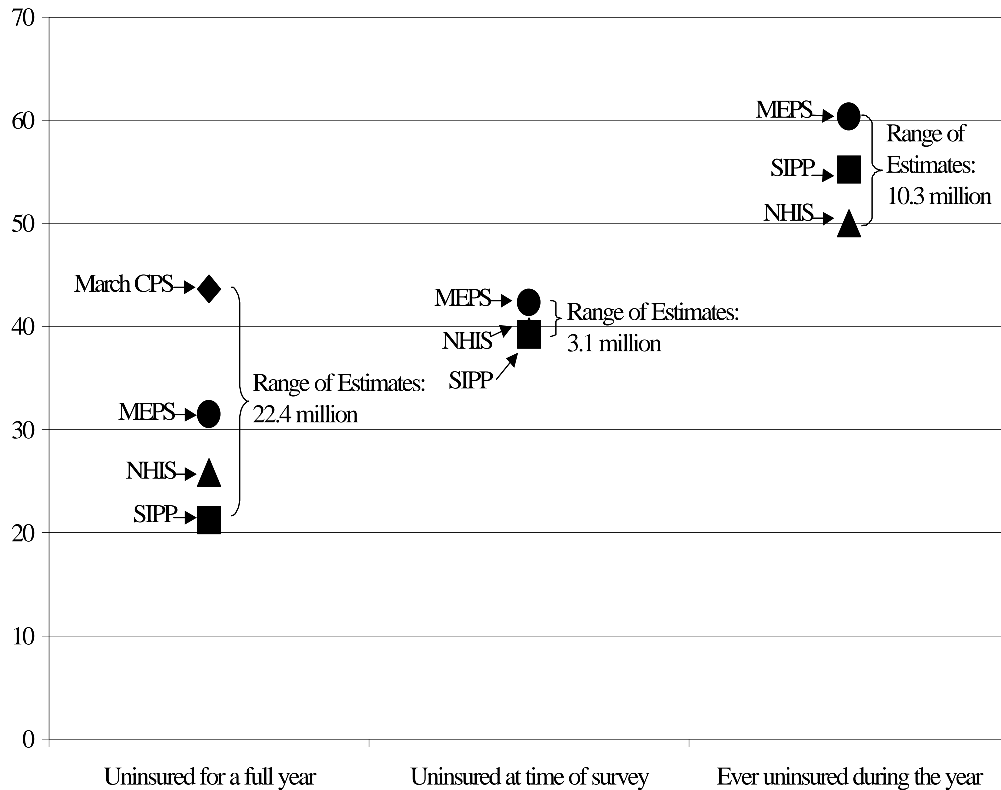
[6] As mentioned above, the NHIS serves as the sampling framework for MEPS, and therefore the MEPS survey sample is a subsample of the previous year's NHIS sample (which is considerably larger).

[7] For SIPP and MEPS, the percentage of uninsured for the full year excludes those who did not provide data for all 12 months.

Figure 1. Uninsured U.S. Civilian Noninstitutionalized Population from Federally Administered Surveys, 1998
(in millions of individuals)



Source: Congressional Research Service (CRS) analysis of the March CPS, SIPP, NHIS, and MEPS.

Notes: As discussed in the memorandum, the March CPS does not support estimates of the number uninsured at the time of the survey or the number ever uninsured during the year, and therefore is not illustrated. Estimates for the number uninsured at the time of the survey (a point-in-time estimate) using SIPP data are from March 1998, while NHIS data are from interviews throughout the year and MEPS data are from the first half of 1998. For SIPP and MEPS, the percentage of uninsured for the full year and at any time excludes those who did not provide data for all 12 months.

Examining the number uninsured at a point in time yields higher estimates than the full-year analysis as illustrated in **Figure 1**: 39.2 million (14.6%) from SIPP, 39.5 million (14.7%) from NHIS, and 42.3 million (15.8%) from MEPS (the March CPS does not support these estimates).[8] Compared to the number uninsured for an entire year, the point-in-time estimates among these three surveys is higher because the number of people uninsured at a point in time would include those uninsured for the entire year plus those individuals who were uninsured at the time of the survey.

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[8] For the point-in-time estimate, SIPP data are from March 1998, NHIS data are from interviews throughout the year, and MEPS data are from the first half of 1998.

Finally, **Figure 1** also illustrates estimates of those *ever* uninsured during the year from NHIS, MEPS, and SIPP (the March CPS does not support these estimates). As illustrated in **Figure 1**, these estimates are higher than the point-in-time estimates produced in each survey. This is expected, since the estimate of those who were ever uninsured during the year would include everyone uninsured at the time of the survey plus those individuals who were uninsured at any other time during the year. NHIS estimates that 50.0 million individuals (18.9%) were ever uninsured in 1998. This compares to 55.2 million (20.7%) using SIPP and 60.3 million (22.7%) based on MEPS.[9]

Potential Reasons for Variation in Survey Estimates of the Uninsured

As **Figure 1** illustrates, the estimates of the uninsured among the surveys vary substantially. The March CPS produces the largest estimate of the number of uninsured for a full year and SIPP produces the lowest estimate. MEPS produces estimates of the uninsured that are higher than NHIS and SIPP in every time frame measured. The following discussion describes differences among the surveys that may account for some of the variation in the estimates.

Health Insurance Verification Question. One explanation for the differences in the uninsured estimates may be the variation in how the surveys determine who is uninsured. Until 2000, the March CPS asked respondents (generally an adult giving information on everyone in the household) whether anyone in the family was enrolled in a number of health insurance coverage categories, including private health insurance, Medicare and Medicaid at any time during the entire preceding year. If a respondent answered "yes" to any of the sources of coverage, the name(s) of those with that coverage was requested. Therefore, the March CPS produces estimates of the number of individuals ever covered by Medicare, ever covered by Medicaid, etc., in the entire preceding year. The number who *do not* have health insurance is calculated by looking at the household roster (given by the respondent at the start of the interview) to determine if a source of health insurance coverage was mentioned for every individual. Those in the household whose names were not given for any source of coverage were then considered uninsured for the entire preceding year; however, this was not verified with the respondent, as there was no survey question on the March CPS to confirm that those individuals were indeed uninsured for the entire preceding year. It is possible that individuals often may not recognize their family member's coverage from the interviewer's list of health insurance types, or that the respondent may simply neglect to mention a family member's name. However, when asked directly to confirm that a family member was uninsured, respondents may be prompted to share that person's coverage.

To respond to this concern, a health insurance verification question was added in the March 2000 CPS to verify the uninsured status of individuals during 1999 (the entire preceding year). That is, beginning in March 2000, if an individual in the household was not mentioned as being covered by a health insurance category, the

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[9] For SIPP and MEPS, as with the full year estimates, the percentage of uninsured at any time excludes those who did not provide data for all 12 months.

respondent was asked to verify that this individual was in fact uninsured in the entire preceding year. In an analysis of this new question conducted by the Census Bureau released in August 2001, about 8% of those previously calculated as uninsured because they did not indicate that they were covered by any source of health insurance coverage, when asked directly whether they were in fact uninsured, indicated that they did have coverage. Because this analysis was conducted *after* the March 2000 CPS data had been released, it was not included the original data source. However, the analysis completed by the Census Bureau indicates that, had these results been available and included when the data were first released, the Census Bureau would have reported that the number of uninsured was 39.3 million in 1999 — 3.3 million less than the 42.6 million previously published. Because of these results, the Census Bureau is making the verification question a permanent part of the survey and, beginning with the March 2001 CPS, their estimates of the uninsured will be based on the verification question.[10] However, results without the verification question will also be available for those wanting to make historical comparisons.[11]

Figure 2 compares selected health insurance coverage estimates from the March CPS with and without the verification question to the SIPP, the only other survey that has released comparable full-year data for 1999. Although the verification question led to a significant decrease in the number of uninsured reported by the March CPS, to 39.3 million people (14.3%), it is still much higher than the SIPP estimate of 21.2 million uninsured individuals (7.7%) in 1999 — a difference of 18.1 million people (6.6 percentage points).

Before the addition of the verification question, Census Bureau staff had analyzed differences between the March CPS and the SIPP.[12] They concluded that the differences were probably due largely to issues with the March CPS — in particular, underreporting of private coverage. The addition of the verification question to the March CPS addressed this in part by increasing the March CPS estimates of the percent ever covered by private health insurance during the year to 72.1%, compared to the previous estimate of 71.0%. While this narrowed the gap between the March CPS and the SIPP estimates of the percent enrolled in private health insurance, a difference of 10.4 percentage points (28.1 million people) remains, as shown in **Figure 2**. The verification question also did little to substantially narrow the gaps between the surveys' estimates of those ever covered by Medicare or Medicaid during the year.

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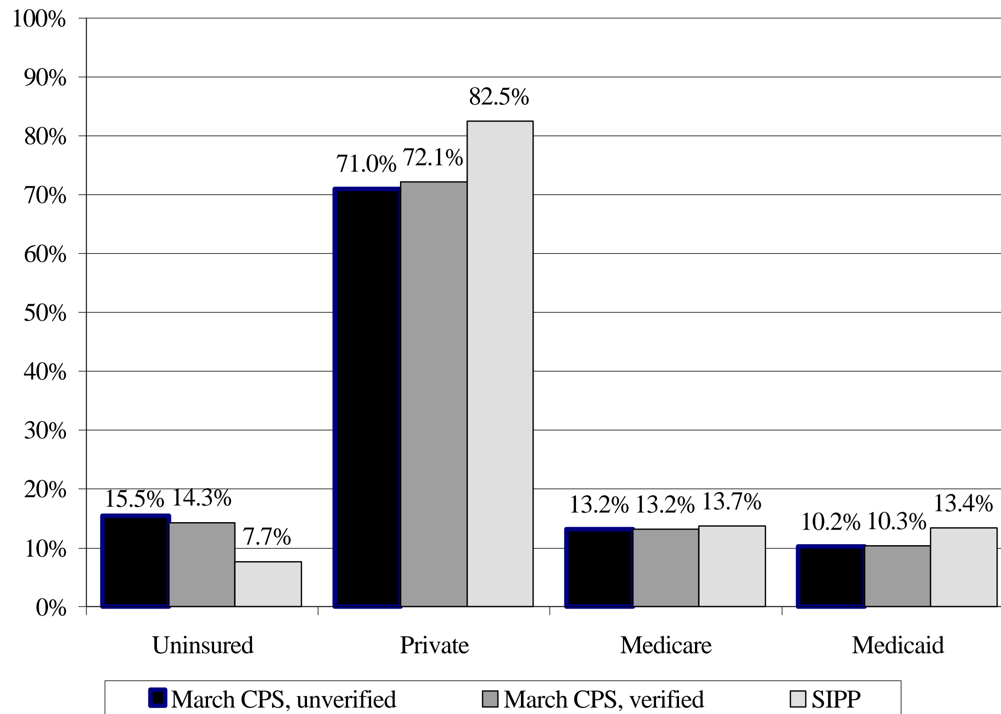
[10] For information on the insured and uninsured population in 2000 based on the March 2001 CPS, see CRS Report 96-891, *Health Insurance Coverage: Characteristics of the Insured and Uninsured Populations in 2000*, by Chris L. Peterson.

[11] See Nelson, Charles T., and Robert J. Mills, *The March CPS Health Insurance Verification Question and Its Effect on Estimates of the Uninsured*. August 2001, [http://www.census.gov/hhes/hlthins/verif.html].

[12] U. S. Bureau of the Census *A Comparative Analysis of Health Insurance Coverage Estimates: Data from CPS and SIPP*, by Robert L. Bennefield, 1996 (Hereafter cited as *Bennefield, A Comparative Analysis of Health Insurance Coverage Estimates).*

Figure 2. Source of Health Insurance Coverage for Any Part of 1999, March CPS and SIPP, Percent of U.S. Civilian Noninstitutionalized Population



Source: Congressional Research Service (CRS) using census-reported percentages for the March CPS, and CRS analysis of SIPP.

NHIS is the only other survey reviewed in this report that includes a direct health insurance verification question.[13] Unlike the March CPS data, however, the impact of the verification question on NHIS estimates of the uninsured has not been significant.[14] This may be because of the detailed followup questions asked of NHIS respondents when they do not indicate coverage — questions such as "About how long has it been since you last had health care coverage?" If a respondent had neglected to mention any source of coverage, these questions may make the respondent aware of the error and provide the opportunity to correct it. The March CPS is the only one of the four surveys reviewed in this report that does not ask such detailed followup questions about respondents' uninsured status. This could explain why the verification question yielded a significant difference in estimates of the uninsured in the March CPS but not NHIS. In fact, staff at AHRQ believe that the addition of a direct health insurance verification question in MEPS would be unnecessary because of the detailed followup questions asked in that survey.

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[13] This direct health insurance verification question was added to NHIS in 1997.

[14] From conversations with Robin Cohen, statistician at the National Center for Health Statistics, Hyattsville, Maryland, who works with the health insurance variables in NHIS.

While the March CPS now includes a question to verify that an individual is uninsured, it does not attempt to verify the coverage of those who indicate they are insured. In the 2000 NHIS, such a question was added that directly asks for a confirmation that the person was covered by comprehensive health insurance. According to a preliminary analysis by NCHS, most of the respondents who had originally claimed coverage but changed their answer did so because they were covered by less-than-comprehensive coverage, such as dental or workers' compensation insurance. The impact of this verification question was relatively small and approximately offset the effect of the uninsured-verification question on the NHIS.[15] Unfortunately, it is not possible to know what effect adding a verification question for those claiming insurance might have on the March CPS estimates.

Medicaid Under-reporting. Another commonly cited concern with the March CPS estimates of insurance status is the extent to which the number of people on Medicaid may be underestimated. In 1998, the Centers for Medicare and Medicaid Services (CMS, formerly known as the Health Care Financing Administration) reported that 38.6 million noninstitutionalized Americans (14.2%) were covered by Medicaid. **Figure 3** compares CMS's count of those covered by Medicaid to estimates from the March CPS, SIPP and MEPS in 1998 (NHIS cannot be used to estimate the number of people ever covered by Medicaid during the year).

The March CPS data yield the lowest estimate of the number ever covered by Medicaid in 1998 — 26.4 million people (9.7%), 12.2 million people less than the number using CMS data.[16] As seen in **Figure 3**, SIPP and MEPS data also produce estimates of Medicaid coverage that are lower than CMS's tabulations, though not as low as the March CPS. Survey respondents may under-report their coverage by Medicaid because they do not want to admit being covered by a public assistance program, and this may also contribute to the lower estimates of Medicaid coverage among the March CPS, SIPP and MEPS when compared to the CMS administrative data. In addition, if a survey's list of Medicaid programs does not include the particular state's name (or names) of its Medicaid program, respondents may not affirm that they are on Medicaid because the name of their state-specific program was not mentioned. For example, a paper from the Employee Benefit Research Institute includes an instance where a Medicaid managed care plan in Maryland was not listed in the March 1999 CPS and may have been responsible for undercounting Medicaid coverage in that state.[17] While the March CPS, SIPP and MEPS report a lower number ever covered by Medicaid than reported by CMS, it is worth noting that some analysts believe the data supplied by CMS may be of poor quality due to variations in state reporting styles, double counting of enrollees, and classification errors.[18]

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[15] *Ibid.*

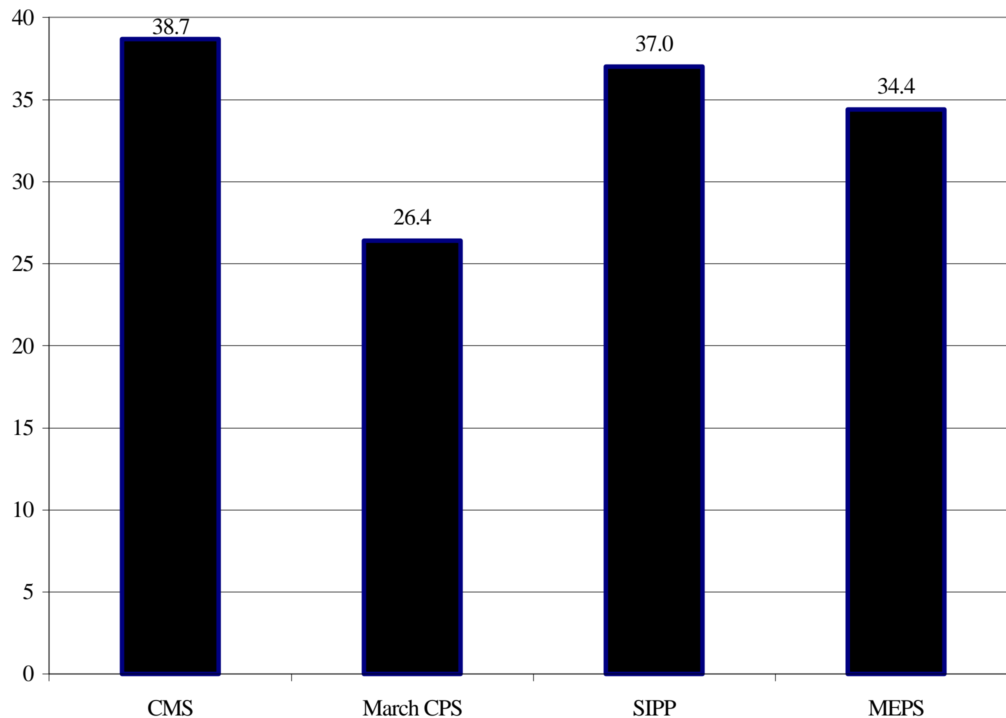
[16] The CMS data are for fiscal year 1998; the survey data are for the calendar year 1998.

[17] See: Employee Benefit Research Institute. *Counting the Uninsured: A Comparison of National Surveys*, by Paul Fronstin.

[18] For a discussion of the reliability of Medicaid program data, see CRS Report RL30733, *Medicaid Expenditures and Enrollees, 1998*, by Evelyne Baumrucker and Jean Hearne.

The addition of the health insurance verification question beginning with the March 2000 CPS was expected to reduce the differences in the estimate of the number ever covered by Medicaid in a given year between the CMS and the March CPS. Although this report focuses on 1998 data in examining the underreporting of Medicaid, the addition of the health insurance verification question to the March 2000 CPS resulted in approximately 331,000 more people being classified as ever covered by Medicaid in 1999 (again, this was the first year this verification question was included as part of the survey). Therefore, while the addition of this question has led to more individuals reporting Medicaid coverage, it appears that the difference between estimates of Medicaid coverage between the March CPS and CMS remains sizable.

Figure 3. Ever Covered by Medicaid During 1998, U.S. Civilian Noninstitutionalized Population
(in millions of individuals)



Source: Congressional Research Service (CRS) using data from the Centers for Medicare and Medicaid Services (CMS), the March CPS, SIPP, and MEPS. The CMS data cover the fiscal year 1998, while the other data are for the calendar year 1998. Efforts were made to increase the comparability of these estimates by adjusting the CMS data to reflect only the noninstitutionalized population. Three categories reflect services to the institutionalized Medicaid population: mental health facility services (MHF), nursing facility services (NFS), and intermediate care facility-mentally retarded services (ICF/MR). It is possible that individuals may receive more than one of these services, and therefore simply subtracting all three categories of services may underestimate the total noninstitutionalized Medicaid population. Based on conversations with CMS officials, the CMS number was adjusted for **Figure 3** by subtracting the number of recipients of NFSs and ICFs/MR. However, as it is possible that residents of MHF may also receive one of the other two previous services, these individuals remain in the estimate (accounting for approximately 125,000 of the 38.7 million reported by CMS).

Recall Period. Another issue that may explain some of the variation in the uninsured estimates is the length of time respondents are asked to remember their health insurance status (the recall period). Individuals who are asked to report their status for a period of time might not accurately report changes in their health insurance status over that period of time. The March CPS requires respondents to recall their coverage over the longest time period (15 months), compared to the other surveys. For example, respondents were asked in the March 2001 CPS about their sources of health insurance coverage during the calendar year 2000. NHIS asks about health insurance coverage during the previous 12 months, SIPP during the previous 4 months, and MEPS during the previous 3 to 5 months. The longer the amount of time, the more likely that respondents may forget a source of coverage, particularly if the duration of that coverage was short.

Additionally, some respondents, when asked to report their health insurance status for the entire preceding year, may answer the health insurance questions based on their current coverage. If true, this could explain why the March CPS's full-year uninsured estimates are higher than those from the other surveys but are similar to their point-in-time estimates. However, aside from similar estimate values (as illustrated in **Figure 1**) there is little evidence to support this argument. In fact, according to the analysis by Census Bureau staff comparing the March CPS and SIPP, the respondents in the March CPS "do not report annual health insurance coverage information based on their current status rather than the previous year."[19] Instead, the analysis found that the key cause for the differences between the surveys is that March CPS respondents tended to underreport health insurance coverage from private sources when compared to SIPP respondents.[20]

Longitudinal Design. Unlike the CPS and NHIS, the SIPP and MEPS re-interview the same people over multiple years in order to track changes over time. With respect to health insurance, therefore, the SIPP and MEPS have the advantage of being able to analyze the duration of spells without insurance on a month-to-month basis and over the entire duration of the panel. These longitudinal surveys do present unique issues, however. With each wave of interviews, fewer people respond, so the sample size and response rates shrink over the life of the panel. In the first wave of the 1996 SIPP panel, the response rate was 92%, but by the final wave 4 years later, the response rate was 65% of the original 1996 eligible sample. This may affect the estimates of the uninsured if those who are uninsured are either more or less likely to drop out of the survey than those who are insured. In other words, if over the life of the panel we see the percentage of uninsured individuals dropping, this may be because the number is truly dropping or because those who are uninsured are less likely to continue responding and therefore be counted in the survey.

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[19] U.S. Bureau of Census. *A Comparative Analysis of Health Insurance Coverage Estimates: Data from CPS and SIPP*, by Robert L. Bennefield.

[20] The recent results from the Census Bureau's paper on the verification question may lend more credence to this statement. That paper stated that 89% of those who were initially classified as uninsured but who ultimately reported coverage because of the verification question revealed that they had private coverage.

The SIPP follows its respondents for 4 years, while MEPS follows its respondents for 2 years. Because the MEPS study period is shorter than the SIPP, MEPS does not experience a similar reduction in sample size. MEPS is also unique because its panels (i.e., survey samples) overlap. Each year, MEPS is administered to a new sample of individuals (who are drawn from the previous year's NHIS sample), and these individuals are followed for a period of 2 years. This allows a number of estimates to be produced. For example, the 1996 MEPS panel provides information on health care utilization and expenditures for calendar year 1996 and 1997, as the panels are followed for 2 years. In addition to the information provided in 1997 by the 1996 panel, a *new* panel of individuals is introduced in 1997 for whom information is also collected. Because information is available for both panels for 1997, they both contribute to a calendar year data file for 1997. By combining the two samples, the total combined sample size increases. Therefore, attrition will be a concern in analyzing data for the *same* panel of individuals (for example, looking at 2 years of information for the 1996 MEPS panel), as is the case with the 1996 SIPP. However, the calendar year data, which combine the overlapping MEPS panels, are valuable because the larger combined sample size enhances the reliability of estimates produced on the uninsured.

One advantage of longitudinal analyses is following the changing composition of households and families throughout the life of the panel. For example, suppose a single mother and her two children were uninsured at the time of her first interview for the 1996 SIPP. This mother would be interviewed 12 times the 4-year panel. In that time, it is possible that she would marry, at which point her husband would become part of her family. If her husband has health insurance, the mother and her two children may then be covered under his health insurance. Therefore, as a result of the change in family composition over the survey period (in this case, a marriage), the health insurance status of the woman and her children has changed. However, while panel surveys permit more types of analyses, they are also more complicated, and care must be taken when using these surveys' longitudinal capabilities. In order to follow changes in health insurance status over time within families or households, it is necessary to decide how the household and family changes will be handled.[21]

Full-year Analysis. The four surveys in this report can be used to count the uninsured using three different time periods: the number of people uninsured for a full year, at a point in time, and ever during the year. Each time period gives analysts a slightly different perspective on the uninsured. The full-year estimate looks at those who were chronically uninsured — those who were not enrolled in insurance at all during the year. However, many may move in and out of the ranks of the uninsured. Approximately twice as many people are ever uninsured during the year compared to the number uninsured for the entire year, according to SIPP, NHIS and MEPS estimates, as previously illustrated in **Figure 1** and shown in **Appendix B**.[22]

Full-year analyses of the uninsured are also complicated by the presence of those who were not eligible for the survey over the entire year, particularly infants (defined

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[21] This is not a major concern for analyses that are of individuals rather than families or households.

[22] The March CPS provides only full-year estimates.

here as those less than a year old). AHRQ economists exclude infants from their full-year analyses using MEPS, as they are interested in a person's unchanged uninsured status over a 12-month period. However, the Census Bureau includes infants in its estimate of the uninsured and in the formula to allocate funds to states for the SCHIP program. The March CPS questionnaire flows in such a way that infants who were uninsured for their entire lives, even if they were alive for only 1 month in the survey year, would be counted as uninsured for a full year.[23] Individual researchers need to decide what is best for their purposes.

Discussion

The four surveys reviewed in this report have unique strengths and limitations, resulting from differences in each survey's purpose, sample, and questions. One major concern about the March CPS has recently been addressed, with the decision to include a question that requires respondents to verify that one or more household members are uninsured. While the addition of this question has decreased the number reported without health insurance, the March CPS estimates remain much higher than those from the other surveys. Nevertheless, the March CPS continues to be the data source of choice by most for estimates of the uninsured because it provides the most recent full-year information and is representative of all 50 states and the District of Columbia. However, its focus is not health insurance but work, income and poverty statistics, and it does not delve deeply into issues of insurance coverage. In addition, the March CPS can not provide estimates of those uninsured at a point in time during the year or of those ever uninsured during the year; it permits estimates only of those individuals uninsured for the entire year. As a result, the other surveys provide additional useful detail related to people's enrollment in health insurance and their circumstances without it.

As policymakers develop proposals to reduce the number of uninsured, questions continue to be raised that relate to characteristics of the uninsured. Given the limitations of the March CPS, it becomes important to consider other sources for health insurance information, such as those available in NHIS, MEPS and SIPP. For analyses that relate health insurance status to health risk factors and general health issues, NHIS supplies the most complete data. In addition, NHIS is able to link to other surveys, such as MEPS and the National Survey of Family Growth (NSFG), which allows researchers to examine a broader range of issues. While NHIS collects more detailed information on health insurance coverage, the inability to produce reliable estimates for all 50 states and the District of Columbia limits its usefulness in evaluating proposals for the uninsured.

SIPP and MEPS both are useful in examining changes in health insurance and other characteristics over time because of their longitudinal designs. SIPP is most valuable in its capacity to relate people's insurance status to their income, poverty status, assets and liabilities, as well as their participation in government programs. MEPS, on the other hand, supplies the most detailed information to relate insurance

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[23] As a result, one might expect the full-year estimate for infants to be closer to the point-in-time estimate, compared to other age cohorts. Although our preliminary estimates bear this out, an in-depth discussion of this point is beyond the scope of this report.

status to people's use of and spending on health care. Of the surveys, MEPS also asks the most comprehensive questions about the type and source of people's health insurance. However, these panel surveys that delve deeper into issues face higher costs and longer interview periods with individuals, factors that often limit the size of the survey sample. Both MEPS and SIPP have smaller sample sizes than NHIS and CPS. Therefore, although these surveys may also produce representative estimates of the U.S. population, their inability to produce reliable estimates of the 50 states and the District of Columbia also hampers their usefulness in evaluating proposals for the uninsured.

With data from these four surveys, it is possible to answer many questions about the uninsured. As discussed in this report, the information collected among the four surveys varies, but by exploring the various aspects covered in each survey researchers are able to delve deeper into issues that affect the uninsured U.S. population. Because the estimates among the surveys differ by so much, however, the results should always be interpreted with some caution until the differences can be reconciled. In addition, given the variation among states in their policies and programs that affect the uninsured, the ability to calculate reliable estimates for each of the 50 states and the District of Columbia remains important. To this end, the March CPS remains the most widely cited estimate of the uninsured because of its ability to calculate reliable state-level estimates.

Appendix A. Comparison of Characteristics of Federally Administered Surveys

	March supplement to the CPS	SIPP	NHIS	MEPS
Survey overview				
Primary Focus of Survey	To provide information on labor force characteristics	To provide information on income, program participation	To provide information on the health of the U.S. population	To provide information about the use of and expenditures for health care
Survey Design	Cross-sectional (i.e., not designed for analyses of the same person/household from year to year)	Longitudinal — For 1996 panel, followed each household in survey for 4 years. Subsequent panels to be 3 years in length	Cross-sectional	Longitudinal — follows each household for 2 years, with new households chosen annually (overlapping panels). Sample drawn from previous year's NHIS
Universe	U.S. civilian noninstitutionalized population and those members of the Armed Forces with a civilian adult in the household	U.S. civilian noninstitutionalized population and those members of the Armed Forces stationed locally and living in sample unit	U.S. civilian noninstitutionalized household population	Same as NHIS
Geographic Area	50 states and the District of Columbia.	Same	Same	Same
Most Recent Data	2000 data from March 2001 supplement	November 1999 to February 2000 (Wave 12 of 1996 Panel)	2000 (provisional release)	2000 point-in-time data; 1998 full-year, month-to-month data
How often is data released?	Annually, typically in September	Periodically, with first wave of 2001 panel data to be released early 2002	Annually, though at no particular time of year	Periodically, with various data files released throughout the year
History	Health insurance questions added in March 1980 survey, though consistent data is only available beginning with 1988	Annual overlapping panel surveys ran from 1984 to 1993; in 1996, 4-year panel; new panels to be 3 years	Annually, beginning in 1957	Annually, beginning in 1996. Historically, two surveys (1977 NMCES and 1987 NMES) are considered predecessors
Administering Agency	Census Bureau and Bureau of Labor Statistics (BLS)	Census Bureau	National Center for Health Statistics (NCHS)	Agency for Healthcare Research and Quality (AHRQ), partnering with NCHS

	March supplement to the CPS	SIPP	NHIS	MEPS
Survey details (Analytic Issues)				
Nationally representative estimates?	Yes	Yes	Yes	Yes
State-level estimates?	Yes	No	Largest states only	No
Respondent(s)	**One person**, usually the individual who owns or rents the housing unit, for everyone in the household. If that person is not knowledgeable regarding the other adults in the household, attempts are made to contact them.	**All household members 15 years old and over**, if possible; otherwise proxy response is permitted. Adult(s) provides information on any children in the household.	**All adult members of the household 17 years of age and over** who are at home at the time of the interview are invited to participate and to respond for themselves. For children as well as adults not at home during the interview, information is provided by a responsible adult family member (18 years of age and over) residing in the household.	The **one person in the household** most knowledgeable about the household's medical situations provides information for everyone in the household. For information difficult for respondent to know, MEPS obtains permission to collect information from their employers, providers, and plans.
Information collected for everyone in household?	Yes	Yes	Yes	Yes
Definition of Household	All the persons who occupy a house, an apartment, or other group of rooms or a room, when occupied as separate living quarters.	All the persons for whom the sampled address is their usual place of residence (i.e., where a person normally lives and sleeps). Newcomers to the household during the panel are included. Those 15 and older who move from the household are contacted and that household is considered another household, with all residents interviewed.	An occupied dwelling unit with one or more civilian members.	Same as NHIS, except that college-aged students living away from home during the school year were interviewed at their place of residence for the NHIS but were identified by and linked to their parents' household for MEPS.
Sample Size	Approximately 50,000 eligible households (2001).	Approximately 37,000 eligible households (1996 panel).	Approximately 42,000 eligible households (1998).	Approximately 12,000 eligible households (2000 point-in-time file).

	March supplement to the CPS	SIPP	NHIS	MEPS
Units of Analysis	• Person • Family • Household	• Person • Family • Household • Program participants	• Person • Household • Condition • Doctor visit • Hospital stay	• Person • Family • Medical event • Condition • Job
Time Period Respondent Asked to Recall	15 months	4 months	Up to 12 months	3 to 5 months
Populations Oversampled	Hispanics	Low-income individuals	Blacks and Hispanics	Blacks and Hispanics. Panel 2 (1997) also oversampled the functionally impaired, children with limited activity, individuals predicted to have high medical expenditures, and those predicted to have family income less than 200% of the poverty level.
Health Insurance Information				
Direct question to confirm uninsured status?	Yes (beginning in March 2000)	No (however, questions that restate respondents' insurance status may elicit a correction)	Yes (beginning in 1997)	No (however, questions that restate respondents' insurance status may elicit a correction)
Measurable Periods Without Insurance	• An entire year	• Any month • At time of survey (point-in-time) • Ever during year • An entire year • For entire panel (e.g., 1996-1999)	• At time of survey • Any part of year • An entire year	• Any month • At time of survey (point-in-time) • Ever during year • An entire year • For entire panel (e.g., 1998-1999)
Able to follow an individual's changes in insurance status?	No	Yes (by month)	No	Yes (by month)

Source: Congressional Research Service (CRS).

Appendix B. Uninsured U.S. Civilian Noninstitutionalized Population, from Federally Administered Surveys, 1998

	March Supplement to CPS	SIPP	NHIS	MEPS
Uninsured for full year[a]	43.6 million (16.3%)	21.2 million (7.9%)	25.8 million (9.7%)	31.5 million (11.8%)
Uninsured at time of survey (point in time)	N/A	39.2 million (14.6%)	39.5 million (14.7%)	42.3 million (15.8%)
Ever uninsured during the year[a]	N/A	55.2 million (20.7%)	50.0 million (18.9%)	60.3 million (22.7%)

Source: Congressional Research Service (CRS) analysis of March CPS, SIPP, NHIS, and MEPS.

Notes: The percentages represent the share of the U.S. civilian noninstitutionalized population without health insurance. As discussed in the memorandum, the March CPS does not support estimates of the number uninsured at the time of the survey or the number ever uninsured during the year. For the point-in-time estimate, SIPP data are from March 1998, NHIS data are from interviews throughout the year, and MEPS data are from the first half of 1998. For SIPP and MEPS, the percentage of uninsured for the full year and at any time excludes those who did not provide data for all 12 months.

[a] Excludes infants (i.e., those less than a year old). Although the commonly cited March CPS estimates of the full-year uninsured and CRS's own estimates include infants, infants are excluded from our full-year analysis here for purposes of comparability. Given differences among the surveys, it was not possible to calculate comparable estimates that include infants among the surveys. As a result, infants were dropped in all of the surveys' full-year analyses. For similar reasons, infants were also excluded from the any-time-in-year estimates. Similar concerns and complications do not exist for point-in-time estimates, so infants are included in those estimates.