

**A Preliminary Evaluation of Health Insurance Coverage in the  
2008 American Community Survey<sup>^</sup>**

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<sup>^</sup> This paper is released to inform interested parties of ongoing research and to encourage discussion of work in progress. The views expressed are those of the author and not necessarily those of the U.S. Census Bureau.

## **Introduction**

The U.S. Census Bureau added a question about health insurance coverage to the 2008 American Community Survey (ACS) leading to the release of the first set of estimates in September 2009. The purpose of adding health insurance content was to enable the U.S. Department of Health and Human Services and other federal agencies to more accurately distribute resources and better understand state and local health insurance needs.

Measuring health insurance coverage status in a survey is difficult because the topic is often confusing for survey respondents. Changing public programs, complex insurance and other health financing products, and employment benefits that vary over time make it difficult for even astute health consumers to interpret survey items. The optimal methods for collecting coverage data are not fully known. Given these difficulties it is not surprising that health insurance estimates vary widely between surveys and often disagree with administrative records (Congressional Budget Office, 2003 and Davern et al). Also, surveys that undergo design changes have been shown to impact the estimates of coverage (Nelson, 2001). Survey mode, reference period, coverage definitions, and overall survey complexity contribute to these variations.

The purpose of this paper is to introduce data users to the ACS health insurance data and to foster an understanding of the methodological challenges of collecting these data on the ACS. The first section describes how the Census Bureau will disseminate the data. The second section provides a brief overview of the ACS so that data users can understand the context of these new data. That section also discusses how the health insurance question was structured. The third section briefly covers challenges in collecting health insurance coverage in the ACS. The final section presents results from a preliminary evaluation of the new data. Study goals were to identify any anomalies apparent in the data, study reporting patterns, and show key estimates from the ACS alongside estimates from the Annual Social and Economic Supplement to the Current Population Survey (CPS ASEC) and the National Health Interview Survey (NHIS). The study was not meant to be comprehensive. The full report of the study is forthcoming.

## **Dissemination of ACS Data**

While the ACS includes the total population in its data collection, tabulations of health insurance coverage are of the U.S. civilian noninstitutionalized population. This population is comparable with other survey estimates of health coverage. These tables are available from American FactFinder, the main dissemination mechanism for ACS data.<sup>1</sup> Because some types of group quarters populations may have health insurance coverage distributions that are different from the household population, the distributions in the published tables may differ slightly from how they would look if the total population were represented. The tables available from American FactFinder may be expanded in future years.

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<sup>1</sup> Available on the Internet at <http://factfinder.census.gov>.

The Census Bureau publishes ACS single-year estimates for areas with populations of 65,000 or more, 3-year estimates for areas with populations of 20,000 or more, and 5-year estimates will be published for all statistical, legal, and administrative entities. The health insurance coverage data and all new content added to the 2008 questionnaire will have the first 3-year estimates released in 2011, based on 2008-2010. The first release of 5-year estimates will be in 2013, based on 2008-2012.

ACS health insurance data can also be obtained from the 2008 Public Use Microdata Sample (PUMS) file, available from American FactFinder. The PUMS file is a sample of respondents from the full ACS microdata file. The one-year file represents roughly one percent of the U.S. population.<sup>2</sup>

## **ACS Overview**

The ACS is a nationwide survey designed to collect and produce economic, social, demographic, and housing information annually. The ACS is part of the reengineered decennial census program, providing detailed information every year instead of every ten years.

The ACS is conducted in all U.S. counties and in all Puerto Rico municipios. About three million housing unit addresses are sampled annually throughout the United States and Puerto Rico. There are separate housing unit (HU) and group quarters (GQ) samples. Group quarters include nursing homes, correctional facilities, military barracks, and college/university housing among others.

ACS data are collected continuously using independent monthly samples (each approximately one-twelfth of the annual sample). ACS uses three modes of data collection for housing units: mailout, telephone nonresponse follow-up, and personal visit nonresponse follow-up.<sup>3</sup> During the mailout phase respondents are asked to fill out a paper questionnaire and return it to the Census Bureau for processing. During the telephone nonresponse follow-up, Census Bureau personnel contact people at addresses for which a telephone number could be identified and from which no mailback questionnaire was received. After the telephone phase, the remaining nonresponse cases are subsampled at a rate of about 1-in-3 and all selected cases are contacted in person. These nonresponse interviews are completed using an automated data collection instrument.

Respondents living in GQ facilities complete their forms using a different operation based on the size of the GQ. Some respondents fill out the paper form and some forms are completed by Field Representatives. For more details on the ACS, see the Design

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<sup>2</sup> PUMS accuracy of the data documentation is available on the Internet at [http://www.census.gov/acs/www/Products/PUMS/pumsaccuracy\\_archived.html](http://www.census.gov/acs/www/Products/PUMS/pumsaccuracy_archived.html).

<sup>3</sup> Telephone nonresponse follow-up is conducted through Computer Assisted Telephone Interviewing (CATI) and personal visit nonresponse follow-up is conducted through Computer Assisted Personal Interviewing (CAPI).

and Methodology report, and for program history and details on the entire ACS operation see the ACS Operations Plan.<sup>4</sup> The ACS overall response rate was approximately 98 percent in 2008 (U.S. Census Bureau, 2009).

## **2008 Health Insurance Question Overview**

The ACS questionnaire has two sections. In the housing characteristics section, the respondent answers questions for the household. In the personal characteristics section, the respondent answers a set of person-level questions for each member of the household.

Health insurance coverage data from the 2008 ACS were derived from answers to Question 15, which was asked of all respondents.<sup>5</sup> The respondent was instructed to report each person's current coverage by marking "yes" or "no" for each of the eight types listed (labeled as subparts a to h). The question text is reproduced below. To see an image of the actual item as it appears on the mail form see the Fact Sheet on Health Insurance Coverage or the full ACS Questionnaire.<sup>6</sup>

**Is this person CURRENTLY covered by any of the following types of health insurance or health coverage plans?** *Mark "Yes" or "No" for EACH type of coverage in items a – h.*

- a. Insurance through a current or former employer or union (of this person or another family member)
- b. Insurance purchased directly from an insurance company (by this person or another family member)
- c. Medicare, for people 65 and older, or people with certain disabilities
- d. Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability
- e. TRICARE or other military health care
- f. VA (including those who have ever used or enrolled for VA health care)
- g. Indian Health Service

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<sup>4</sup> The Design and Methodology report is available on the Internet at [http://www.census.gov/acs/www/SBasics/design\\_meth.htm](http://www.census.gov/acs/www/SBasics/design_meth.htm) and the ACS Operation Plan is available on the Internet at <http://www.census.gov/acs/www/Downloads/OpsPlanfinal.pdf>.

<sup>5</sup> On the 2009 questionnaire, health insurance coverage is asked in Question 16.

<sup>6</sup> Available on the Internet at <http://www.census.gov/acs/www/SBasics/SQuest/factsheet.htm> and <http://www.census.gov/acs/www/Downloads/SQuest08.pdf>, respectively.

h. Any other type of health insurance or health coverage plan – *Specify*

A space to write-in a response to subpart h

For each person, the health insurance coverage question occurs towards the beginning of the person-specific set of questions, before questions on disability, work, and income.

The health insurance coverage question asks about current coverage at the time of the survey. Because the ACS continuously collects data, a one-year estimate is based on data collected during twelve months of the calendar year. As with all content, ACS estimates combine data collected throughout the year and this is referred to as a period estimate.<sup>7</sup>

The health insurance question is designed to capture comprehensive plans. Plans that only cover specific health services, such as dental plans, are not considered health insurance coverage. Furthermore, it is important to note that subpart ‘d’ intends to capture all public means-tested health insurance programs and is not just an estimate of Medicaid coverage.

Missing responses to the question subparts ‘a’ to ‘g’ were assigned a “yes” or “no” response through editing and imputation (hot-deck allocation). During the editing process, write-in answers describing or naming the type of other health insurance or health coverage plan in subpart ‘h’ were classified into one of the first seven categories. Hence, only the first seven types of health coverage were part of the microdata file; subpart ‘h’ and the write-in were not included.

Using the complete edited data, people were considered insured if they had a “yes” in at least one of the coverage types: employer- or union-based plan; a private plan purchased directly; military health care; Medicare; Medicaid or other public; or VA health care. People who had no reported health coverage or those whose only health coverage was Indian Health Service were considered uninsured. Indian Health Service alone is not considered comprehensive coverage.

For reporting purposes, the Census Bureau broadly classifies health insurance coverage as private coverage or public coverage. Private health insurance is a plan provided through an employer or union; a plan purchased by an individual from a private company; or TRICARE or other military health care.<sup>8</sup> Public health coverage includes Medicare, Medicaid, Medical Assistance, or any kind of government assistance plan for those with low incomes or a disability, and the VA (including those who have ever used or enrolled for VA health care). The types of health insurance are not mutually exclusive; people may be covered by more than one type at the same time.

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<sup>7</sup> More detail on the interpretation of ACS estimates is available in “Statistical Issues of Interpretation of the American Community Survey’s One-, Three-, and Five-Year Period Estimates” at [http://acsweb2.acs.census.gov/acs/www/Downloads/MYE\\_Guidelines.pdf](http://acsweb2.acs.census.gov/acs/www/Downloads/MYE_Guidelines.pdf).

<sup>8</sup> Private health insurance includes individuals covered by the Consolidated Omnibus Budget Reconciliation Act (COBRA). Under COBRA, employees and their families have the opportunity for a temporary extension of group health benefits provided by their group health plans in certain instances where coverage under the plan would otherwise end.

## **Challenges in the collection of health insurance information on the ACS**

The ACS is the first major federal mailout/mailback survey to include health insurance questions. While it is true that the ACS uses a set of health insurance questions that are similar in scope to other surveys like the Annual Social and Economic Supplement to the Current Population Survey (CPS ASEC), there are differences that highlight the limitations of soliciting health coverage information in a mailout/mailback environment.

The ACS, since it utilizes a paper survey instrument, does not allow the customization of questions to reflect the specific state health programs (or Medicaid/Children's Health Insurance Program funding programs) that residents of a particular state or locality can access. The CPS ASEC, for example, which is conducted entirely through a computer-assisted instrument, is able to use state-specific public program names in its questions. This should help respondents identify public coverage and differentiate between public and private coverage.

## **Item Completeness and Imputation Rates**

In 2006, a Content Test was conducted which provided a preliminary indication of how respondents would interpret and answer the question and demonstrated the viability of asking questions on health insurance coverage in the ACS.<sup>9</sup> While the accuracy of responses and the underlying reason for missing data is beyond the scope of this research, examining reporting patterns provides some information on how people dealt with a health insurance question in the full ACS environment. This section examines patterns of nonresponse and imputation rates for the 2008 ACS.

This analysis of nonresponse and reporting patterns does not include write-in responses. The purpose is to describe how respondents approached the set of "yes" and "no" choices to the series of health insurance types. The part of the analysis which focuses on imputation rates is post-editing and is meant to inform people about how the editing rules accommodated partial response.

This part of the analysis focuses on the U.S. population and excludes respondents that were sampled in 2007 and returned their paper survey in 2008. Just over 27,000 forms, while included in the 2008 data, actually used the 2007 instrument. Thus, they could not answer the health insurance question and their values were fully imputed. In order to better assess the quality of item response, and to supply a benchmark that could be used to generalize about future ACS years, the 2007 mail respondents were omitted from the response analysis.

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<sup>9</sup> For additional information, see the "2006 American Community Survey Content Test Report P.8: Evaluation Report Covering Health Insurance" available on the Internet at [http://www.census.gov/acs/www/AdvMeth/content\\_test/P8\\_Health\\_Insurance.pdf](http://www.census.gov/acs/www/AdvMeth/content_test/P8_Health_Insurance.pdf).

Respondents with complete item response had a “yes” or “no” to each of the first seven types (a through g on the paper questionnaire). Respondents with no complete items had neither a “yes” nor a “no” to all seven items. The remainder had partial response, meaning that the response had at least one item with “yes” or “no”, but not all.

The percentage of people with responses (either ‘yes’ or ‘no’) to all, some, and none of 7 of the item subparts is described in Table 1. Across all modes, 73.0 percent of people had a ‘yes’ or ‘no’ response to each item; 23.2 percent responded to at least one, but not all items, and 3.8 percent left all items blank.

This varied by mode, with mail respondents the least likely to provide complete item response at 51.8 percent. In the GQ population, 81.0 percent had complete health insurance data. People in housing units interviewed through CATI and CAPI were the most likely to give complete item response at 96.1 percent. This pattern reflects both differences in the instruments and differences in the composition of people in each mode. These data show that the trained staff at the telephone centers and in the field are able to get more complete responses.

In addition to classifying the write-in responses, the editing process applied logical edit rules. If a respondent marked “yes” to one and only one of the types and all other subparts were left blank, the types associated with the blanks were assigned values of “no.” For example, a respondent marked “yes” for employer provided coverage (subpart ‘a’) and left the rest blank. The edited final response for that person would be a “yes” for employer- or union-based coverage and a “no” to all of the others: direct purchase, Medicare, Medicaid, military health care, VA, and Indian Health Service. The assumption was made that if a respondent checked one of the types of coverage as “yes” and left the rest blank, that these blanks were implied no’s. This process turned some partial responses into complete responses and they were not considered imputed. This editing choice was the result of analysis of respondents to the paper form. Additional analysis suggests this rule could be applied to respondents who checked “yes” to two types and left the rest blank. The Census Bureau is investigating further to determine whether a change is appropriate for the 2009 ACS.

Table 1 also presents the weighted allocation rate – the percentage of people who had an answer to at least one of the health insurance types obtained through hot deck allocation. In the population considered, 9.7 percent had at least one imputed health insurance variable.

The percentages of persons with any imputation, by mode, were: 14.7 percent for the mail population, 3.8 percent for the CATI and CAPI population and 15.6 percent for the GQ population.

## Health Insurance Coverage Estimates by Selected Characteristics

The remainder of the analysis focuses on the U.S. civilian noninstitutionalized population. This is the population most commonly used when estimating the rate of health insurance coverage in the U.S. People who listed their employment with the armed forces or who were living in military GQs are excluded from the tabulation universe. The institutionalized population, primarily composed of the population in correctional institutions and nursing homes, is also excluded from the tabulation universe.

Table 2 describes health insurance coverage rates by selected demographic subgroups. The health insurance coverage rate is the percentage of people with some type of coverage – public or private or both. Private and public coverage rates are also included. Because people may be covered by both private and public coverage, the sum of these two rates may be greater than the overall health insurance coverage rate. The uninsured rate is also presented. While people may have both private and public coverage, covered and not covered are mutually exclusive.

The percentage of people with health insurance coverage was 84.9 percent; 69.6 percent had private health insurance and 25.5 percent had public coverage. The uninsured rate was 15.1 percent.

At 89.4 percent, non-Hispanic Whites were more likely to have health insurance coverage than any other racial group.<sup>10</sup> Those reporting ‘some other race’ were the least likely to have coverage, 66.0 percent. The health insurance coverage rates for the remaining single-race groups fell in that range – 85.5 percent for Asians, 83.8 percent for Native Hawaiians and Other Pacific Islanders, 82.0 for Blacks, and 68.4 percent for American Indians and Alaska Natives. The health insurance coverage rate for Hispanics was 68.5 percent.<sup>11</sup>

As has been found in previous studies and surveys, the ACS also found that health insurance coverage varied by age. People 65 and over were the most likely to have health insurance coverage, 98.6 percent. Medicare is a key component of that result, and the 2008 ACS found that 92.6 percent of people 65 and over were covered by Medicare.<sup>12</sup> People under age 18 had a health insurance coverage rate (90.1 percent) that was lower than the rate for the older population and higher than the rate for people 18 to 64 years. This may be due, in part, to the government-sponsored programs that serve as a safety net for children. The 2008 ACS estimated that 28.3 percent of children under 18 had public health insurance – higher than the rate for adults 18 to 64 years (Table 2).

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<sup>10</sup> The ACS allows respondents to choose more than one race. Except for the Multiple Race category, race groups discussed in this report refer to people who indicated only one racial identity among the six major categories: White, Black or African American, American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander, and Some other race. The use of single-race population in this report does not imply that it is the preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches.

<sup>11</sup> The health insurance coverage rate for Hispanics was not statistically different from the rate for American Indians and Alaska Natives.

<sup>12</sup> Based on tabulations not shown in this paper.



Table 2 presents a variety of other characteristics that show differences in health insurance coverage rates. For instance, among adults age 18 and over, those who were married were more likely to have health insurance coverage (88.6 percent) than their non-married counterparts (77.1 percent). Employed people were covered at a rate of 82.7 percent, whereas just over one half of unemployed people had coverage.

Table 3 presents the number and percentage of people who are uninsured for each state, the District of Columbia, and Puerto Rico.<sup>13</sup> The state with the lowest uninsured rate was Massachusetts (4.1 percent). Nine states (Connecticut, the District of Columbia, Hawaii, Iowa, Massachusetts, Minnesota, Pennsylvania, Vermont, and Wisconsin) and Puerto Rico had uninsured rates below 10 percent. The state with the highest uninsured rate was Texas (24.1 percent). Five states had uninsured rates 20 percent or above (Alaska, Florida, Nevada, New Mexico, and Texas). Table 4 presents similar statistics for children under 18 and is provided for reference.

Figure 1 shows how states compare with the ACS national uninsured rate of 15.1 percent. One state (Utah) had an uninsured rate that was not statistically different from the national uninsured rate. Thirty-one states and the District of Columbia had uninsured rates that were lower than the national figure. All of the states in the Midwest and Northeast are included in this group. Nineteen states had uninsured rates higher than the national figure of 15.1 percent; ten of these states were located in the South and the other nine were located in the West.

### **Comparison of ACS to Other National Surveys**

The previous sections reviewed the quality of ACS data and described the results with regard to health insurance coverage rates by demographic characteristics, socioeconomic characteristics, and by state. These showed that the new data are consistent with expected national and state health insurance coverage patterns. Another method for evaluating the quality and consistency of ACS health insurance estimates is to compare them to other federal surveys that gather data on health insurance coverage. The following section presents coverage estimates from the ACS side-by-side with estimates from the Annual Social and Economic Supplement to the Current Population Survey (CPS ASEC) and the National Health Interview Survey (NHIS).

Neither the CPS ASEC nor the NHIS is a gold standard. Both surveys (described briefly below) produce estimates that are particular to their own contexts, question wording, and processing regimens. Several studies have been published comparing national estimates of health insurance coverage. These studies found that, compared with other surveys such as the NHIS, the CPS ASEC estimate of uninsured for the entire year more closely approximates the number of people who are uninsured at a specific point in time

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<sup>13</sup> To our knowledge the only other federal survey to collect health insurance data in Puerto Rico is the Behavioral Risk Factor Surveillance System.

(Congressional Budget Office, 2003). The reference section of this paper contains several papers covering this topic in addition to describing other national surveys.

The CPS is a monthly survey that the Census Bureau conducts for the Bureau of Labor Statistics to provide data on labor force participation and unemployment. Data on health insurance coverage are collected through the ASEC, which is administered February through April. Data are collected through a combination of telephone and in-person modes using computer-assisted instruments. The CPS ASEC income and health insurance coverage questions are asked at the household level, ie. "Does anyone in the household... ?" If the answer is "yes," the CPS ASEC goes on to ask "Who... ?" This is distinct from the ACS questionnaire that asks all the questions about each person individually, ie. "Does this person... ?" From a cognitive and operational perspective, each approach has benefits and challenges. The CPS ASEC universe is the civilian noninstitutionalized population of the U.S.<sup>14</sup>

The CPS ASEC is both nationally and state representative and includes approximately 76,200 households per year. It is the most widely used source for estimates of health insurance coverage at both the national and state level.

The CPS ASEC asks respondents to recall their insurance status for the prior calendar year (January through December). Hence, respondents need to recall insurance coverage for a period that began 14 to 16 months prior to the interview. The question series covers a comprehensive list of insurance types that include public program names specific to the state in which the interview is conducted. Finally, if the person does not indicate coverage, a verification question asks specifically about his/her coverage status.<sup>15</sup> The CPS ASEC health insurance question set and editing result in an estimate intended to be of those uninsured for all of the previous calendar year. Previous research has indicated that the long reference period is a limitation of the CPS ASEC methods and the estimate of the uninsured is too high for a "full year" measure. See appendix C of "Income, Poverty, and Health Insurance Coverage in the United States: 2007" P60-235, for more information about the quality of the CPS ASEC health insurance estimates.<sup>16</sup>

The NHIS is an ongoing survey conducted throughout the year by the National Center for Health Statistics to monitor the health of the nation. It has been conducted since 1957. Data are collected through an in-person survey using computer-assisted interviewing. The NHIS is a household survey and the universe is the civilian noninstitutionalized population of the U.S. The NHIS consists of a Basic Module, including the Family Core, the Sample Adult Core, and the Sample Child Core, as well as several supplements that vary from year to year.

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<sup>14</sup> Members of the Armed Forces living off post or with their families on post are included if at least one civilian adult lives in the household.

<sup>15</sup> For more information on health insurance in the CPS ASEC, see <http://www.census.gov/hhes/www/hlthins/hlthins.html>.

<sup>16</sup> Available on the Internet at <http://www.census.gov/prod/2008pubs/p60-235.pdf>.

The sample for the NHIS represents the 50 states and the District of Columbia. However, the lowest level of geography available is Census region. Hence, comparisons in this study are at the national level only. In recent years slightly less than 35,000 households were interviewed.

Like the ACS, the NHIS asks the respondent about insurance status and coverage type at the time of the survey. The NHIS also asks if the respondent has been uninsured for at least part of the year prior to the interview, and if the respondent has been uninsured for more than a year at the time of the interview. The question series includes a comprehensive list of insurance options that include public program names specific to the state in which the interview is conducted, as well as open-ended response options. A verification question is included to confirm that respondents who did not respond that they were enrolled in any insurance program are, in fact, uninsured. The NHIS also edits variables based on plan names and insurance cards that respondents display.<sup>17</sup>

In order to compare 2008 ACS data with data from the 2009 CPS ASEC (2008 calendar-year estimates) and the 2008 NHIS public use files, the study team defined health insurance characteristics in the CPS ASEC and the NHIS similar to ACS rules.<sup>18</sup> In this way, variables for each of the 7 ACS defined health insurance types were created for the CPS ASEC and the NHIS.

Comparisons are made for illustration to see how the ACS estimates of the uninsured fit in with these other national surveys. Differences in survey design may influence the results. All comparative statements have undergone statistical testing and are significant at the 90 percent confidence level unless otherwise noted.

It is important to note that the ACS edits for non-response did not use a rules-based assignment of health insurance coverage (called coverage or consistency edits). For example, in the CPS ASEC, if a person was 65 years old or over and reported Social Security income, but had not selected Medicare coverage, the person was automatically assigned Medicare coverage. In the ACS, these types of edits are being considered for implementation in future years.<sup>19</sup>

Table 5 shows the baseline rates of health insurance coverage from the three surveys. The ACS health insurance coverage rate was 84.9 percent, not statistically different from the NHIS rate of 85.2 percent. This high level of consistency is a good sign for the ACS, which is conceptually similar to the NHIS as they both measure current coverage. The CPS ASEC health insurance coverage rate was 84.6 percent. Although the statistical test of the difference between the ACS and the CPS ASEC showed evidence of difference, these two estimates do not appear meaningfully different – both round to 85 percent of the population.

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<sup>17</sup> For more information on the NHIS, see <http://www.cdc.gov/nchs/nhis.htm>.

<sup>18</sup> For example, the CPS ASEC estimate of Military health care was separated into TRICARE/other military health care and VA.

<sup>19</sup> Applying CPS ASEC type coverage edits to the ACS reduced the overall uninsured rate about 0.5 percent and reduced the uninsured rate for children under 18 about 0.3 percent.

The ACS had a higher percentage of people with employer-sponsored insurance (58.7 percent) than the NHIS (56.3 percent), but the estimates were reasonably close. The ACS rate of people with employer-sponsored insurance was not statistically different from the CPS ASEC rate (58.5 percent).<sup>20</sup> The ACS estimate of the percentage of people with direct purchase coverage (14.2 percent) was higher than the CPS ASEC (8.9 percent) and the NHIS (6.6 percent). It is possible that the ACS direct-purchase estimate is higher because some people who respond on paper may say yes to both employment-based coverage and direct-purchase coverage, but actually have only one health insurance plan. This respondent confusion would not impact the percentage of people with any private coverage. Future analysis will explore the extent to which the ACS may be overestimating direct purchase.

The health insurance coverage rates for children under 18 are also shown in Table 5. Both the ACS and CPS ASEC estimate 90.1 percent of children have health insurance coverage, while the NHIS estimates that 91.0 percent of children have health insurance coverage.

The ACS had a higher percentage of children under 18 with employer-sponsored insurance (56.2 percent) than the NHIS (54.0 percent) – consistent with the finding for people of all ages. The ACS had a lower percentage of children under 18 with employer-sponsored insurance than the CPS ASEC (58.9 percent). The ACS estimated a higher proportion of children with direct purchase coverage (9.2 percent) than the CPS ASEC (5.1 percent) or the NHIS (3.4 percent).

The ACS found fewer children under 18 with coverage from a public means-tested health insurance program (27.8 percent) than the CPS ASEC (30.3 percent) or the NHIS (31.4 percent).<sup>21</sup> This difference may reflect methodological differences in the data collection process – including the fact the ACS does not include a consistency edit. If all low-income children in families receiving TANF (Temporary Assistance to Needy Families) or other government support were assigned health insurance coverage, the ACS estimate might be higher. Future research will examine the impact of consistency edits on the coverage rates for children and determine whether these are appropriate for the ACS.

Table 6 presents health insurance coverage rates by selected demographic characteristics for each survey. The ACS had a higher rate of health insurance coverage for Whites (86.7 percent) than the CPS ASEC and NHIS (both at 85.5 percent).

Overall and for key subgroups, the ACS coverage estimates are highly consistent with the CPS ASEC and NHIS estimates. Future research will further explore the ACS and how it compares to other national surveys.

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<sup>20</sup> The CPS ASEC rate of employer-sponsored insurance was statistically different from the NHIS rate.

<sup>21</sup> The CPS ASEC Medicaid coverage rate for children under 18 was not statistically different from the NHIS rate.

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Table 1. Item Nonresponse and Allocation Rates for Health Insurance Coverage: 2008

Universe: U.S. Population, all people who responded to a 2008 questionnaire

	All Modes		HU - Mail		HU - CATI/CAPI		GQ	
	Estimate	Margin of Error <sup>1</sup> (+/-)	Estimate	Margin of Error <sup>1</sup> (+/-)	Estimate	Margin of Error <sup>1</sup> (+/-)	Estimate	Margin of Error <sup>1</sup> (+/-)
All People (number in thousands)	300,349	51	153,826	1,765	138,276	1,795	8,247	(x)
Before Editing								
Percentage with Complete Item Response	73.0	0.24	51.8	0.08	96.1	0.05	81.0	0.46
Percentage with at least One but not All Response	23.2	0.23	43.8	0.09	1.2	0.03	7.1	0.27
Percentage with No Complete Items (All Nonresponse)	3.8	0.03	4.4	0.04	2.7	0.05	11.8	0.37
After Editing								
Percentage with at least One Health Insurance Type Allocated	9.7	0.07	14.7	0.06	3.8	0.05	15.6	0.41

<sup>1</sup> Data are based on a sample and are subject to sampling variability. A margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number when added to and subtracted from the estimate forms the 90-percent confidence interval.

Note: Subpart 'h' of the question (Any other type of health insurance or health coverage plan) is excluded from the nonresponse calculation.

Source: U.S. Census Bureau, 2008 American Community Survey.

Table 2. People with Health Insurance Coverage by Selected Characteristics: 2008  
Universe: U.S. Civilian Noninstitutionalized Population

	Total (in thousands)	Percentage with Health Insurance Coverage						Percentage Uninsured	
		Any Health Insurance		Private Health Insurance <sup>1</sup>		Public Health Coverage <sup>2</sup>			
		Estimate	Margin of Error <sup>3</sup> (+/-)	Estimate	Margin of Error <sup>3</sup> (+/-)	Estimate	Margin of Error <sup>3</sup> (+/-)	Estimate	Margin of Error <sup>3</sup> (+/-)
All People	298,575	84.9	0.08	69.6	0.12	25.5	0.05	15.1	0.08
Mode									
Mail	157,071	90.7	0.06	78.9	0.10	25.9	0.07	9.3	0.06
CATI/CAPI	137,828	78.2	0.10	59.1	0.13	25.1	0.08	21.8	0.10
GQ (noninstitutional)	3,676	88.3	0.70	65.4	0.64	27.1	0.69	11.7	0.70
Age									
Under 18 years	73,786	90.1	0.10	64.1	0.18	28.3	0.14	9.9	0.10
18 to 24 years	29,207	71.4	0.20	61.9	0.21	10.9	0.11	28.6	0.20
25 to 34 years	39,145	73.3	0.18	65.0	0.19	9.8	0.10	26.7	0.18
35 to 44 years	41,860	80.8	0.14	73.8	0.15	8.9	0.07	19.2	0.14
45 to 64 years	77,368	86.6	0.10	77.9	0.11	13.0	0.07	13.4	0.10
65 years and over	37,209	98.6	0.04	69.4	0.16	92.6	0.08	1.4	0.04
Sex									
Male	146,112	83.4	0.10	69.3	0.13	23.8	0.06	16.6	0.10
Female	152,462	86.4	0.07	69.9	0.12	27.1	0.06	13.6	0.07
Race and Hispanic Origin									
White Alone	224,573	86.7	0.08	74.0	0.12	24.5	0.05	13.3	0.08
White Alone, not Hispanic or Latino	195,716	89.4	0.07	78.0	0.10	24.3	0.05	10.6	0.07
Black or African American Alone	36,247	82.0	0.15	55.5	0.22	33.6	0.21	18.0	0.15
American Indian and Alaska Native Alone	2,381	68.4	0.72	43.7	0.80	30.4	0.66	31.6	0.72
Asian Alone	13,327	85.5	0.25	72.6	0.33	17.6	0.19	14.5	0.25
Native Hawaiian and Other Pacific Islander Alone	416	83.8	1.33	67.9	1.66	21.4	1.43	16.2	1.33
Some Other Race Alone	14,754	66.0	0.37	42.0	0.45	26.6	0.30	34.0	0.37
Two or More Races	6,876	85.4	0.30	63.3	0.43	27.6	0.36	14.6	0.30
Hispanic or Latino (any race)	46,202	68.5	0.21	45.4	0.26	26.6	0.14	31.5	0.21
Citizenship Status									
U.S. citizen	277,161	87.3	0.07	71.7	0.11	26.4	0.05	12.7	0.07
Not a U.S. citizen	21,414	53.8	0.25	42.0	0.27	13.8	0.15	46.2	0.25

See footnotes at end of table.

Table 2. People with Health Insurance Coverage by Selected Characteristics: 2008 - Continued  
Universe: U.S. Civilian Noninstitutionalized Population

	Total (in thousands)	Percentage with Health Insurance Coverage						Percentage Uninsured	
		Any Health Insurance		Private Health Insurance <sup>1</sup>		Public Health Coverage <sup>2</sup>			
		Estimate	Margin of Error <sup>3</sup> (+/-)	Estimate	Margin of Error <sup>3</sup> (+/-)	Estimate	Margin of Error <sup>3</sup> (+/-)	Estimate	Margin of Error <sup>3</sup> (+/-)
People Age 18 and Over	224,788								
Marital Status									
Not Married	105,386	77.1	0.11	60.7	0.13	27.8	0.09	22.9	0.11
Married	119,402	88.6	0.07	80.9	0.09	21.8	0.05	11.4	0.07
Educational Attainment									
Less than high school graduate	33,592	68.1	0.18	40.9	0.21	41.6	0.14	31.9	0.18
High school graduate (includes equivalency)	64,296	79.7	0.12	65.7	0.14	29.4	0.09	20.3	0.12
Some college or associate's degree	69,324	85.3	0.11	76.7	0.12	19.6	0.08	14.7	0.11
Bachelor's degree or higher	57,577	93.5	0.06	89.3	0.09	15.3	0.07	6.5	0.06
People Age 18 to 64	187,579								
Employment Status									
Employed	138,389	82.7	0.10	79.2	0.10	5.3	0.04	17.3	0.10
Unemployed	9,114	51.9	0.32	35.8	0.30	18.0	0.23	48.1	0.32
Not in Labor Force	40,076	77.8	0.16	54.5	0.19	29.5	0.14	22.2	0.16

<sup>1</sup> Private coverage includes employer/union provided, direct purchase, and TRICARE/Military.

<sup>2</sup> Public coverage includes Medicare, Medicaid, and VA.

<sup>3</sup> Data are based on a sample and are subject to sampling variability. A margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number when added to and subtracted from the estimate forms the 90-percent confidence interval.

Source: U.S. Census Bureau, 2008 American Community Survey.



Table 3. Number and Percentage of People Without Health Insurance Coverage by State: 2008

(Numbers in thousands)

Universe: Civilian Noninstitutionalized Population

State	Total		Uninsured			
	Number	Margin of Error <sup>1</sup> (+/-)	Number	Margin of Error <sup>1</sup> (+/-)	Percentage	Margin of Error <sup>1</sup> (+/-)
United States	298,575	20	45,080	236	15.1	0.08
Alabama	4,574	2	642	17	14.0	0.38
Alaska	659	3	132	6	20.1	0.94
Arizona	6,403	3	1,196	25	18.7	0.40
Arkansas	2,802	2	505	15	18.0	0.54
California	36,161	7	6,430	56	17.8	0.15
Colorado	4,853	2	834	20	17.2	0.41
Connecticut	3,441	1	311	14	9.0	0.41
Delaware	856	2	88	7	10.3	0.77
District of Columbia	580	1	47	4	8.0	0.66
Florida	17,996	4	3,749	40	20.8	0.22
Georgia	9,473	4	1,780	31	18.8	0.33
Hawaii	1,237	3	83	6	6.7	0.52
Idaho	1,499	1	267	11	17.8	0.71
Illinois	12,709	2	1,623	31	12.8	0.24
Indiana	6,271	2	871	22	13.9	0.35
Iowa	2,951	1	268	11	9.1	0.37
Kansas	2,739	2	333	12	12.2	0.44
Kentucky	4,188	2	590	15	14.1	0.37
Louisiana	4,313	3	767	16	17.8	0.37
Maine	1,299	1	142	7	10.9	0.56
Maryland	5,530	3	611	15	11.1	0.28
Massachusetts	6,399	1	264	13	4.1	0.20
Michigan	9,866	1	1,132	21	11.5	0.22
Minnesota	5,151	1	447	13	8.7	0.25
Mississippi	2,868	3	512	17	17.9	0.57
Missouri	5,795	2	756	19	13.0	0.32
Montana	950	2	176	8	18.5	0.85
Nebraska	1,750	1	194	9	11.1	0.49
Nevada	2,568	2	548	18	21.3	0.69
New Hampshire	1,299	1	140	8	10.8	0.61
New Jersey	8,557	2	1,059	23	12.4	0.27
New Mexico	1,952	2	419	11	21.4	0.57
New York	19,207	3	2,258	36	11.8	0.19
North Carolina	9,004	5	1,434	25	15.9	0.28
North Dakota	624	1	66	5	10.5	0.79
Ohio	11,296	2	1,330	28	11.8	0.25
Oklahoma	3,550	2	692	14	19.5	0.40
Oregon	3,746	1	615	19	16.4	0.50
Pennsylvania	12,209	2	1,152	23	9.4	0.19
Rhode Island	1,030	4	108	7	10.5	0.71
South Carolina	4,373	3	761	17	17.4	0.38
South Dakota	784	1	92	6	11.7	0.73
Tennessee	6,113	2	834	22	13.6	0.36
Texas	23,827	5	5,745	41	24.1	0.17
Utah	2,705	2	419	15	15.5	0.56
Vermont	615	--	56	4	9.1	0.57
Virginia	7,520	5	899	21	12.0	0.28
Washington	6,428	4	842	20	13.1	0.30
West Virginia	1,788	1	283	10	15.8	0.58
Wisconsin	5,540	1	506	13	9.1	0.24
Wyoming	523	1	73	5	13.9	0.92
Puerto Rico	3,922	1	338	12	8.6	0.31

-- Represents or rounds to zero.

<sup>1</sup> Data are based on a sample and are subject to sampling variability. A margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number when added to and subtracted from the estimate forms the 90-percent confidence interval.

Source: U.S. Census Bureau, 2008 American Community Survey.

Table 4. Number and Percentage of Children Under 18 Without Health Insurance Coverage by State: 2008

(Numbers in thousands)

Universe: Civilian Noninstitutionalized Population

State	Total		Uninsured			
	Number	Margin of Error <sup>1</sup> (+/-)	Number	Margin of Error <sup>1</sup> (+/-)	Percentage	Margin of Error <sup>1</sup> (+/-)
United States	73,786	31	7,329	74	9.9	0.10
Alabama	1,120	2	90	7	8.0	0.62
Alaska	180	1	23	3	12.9	1.46
Arizona	1,706	1	276	13	16.2	0.75
Arkansas	701	2	61	6	8.7	0.79
California	9,348	3	1,011	26	10.8	0.28
Colorado	1,204	2	173	10	14.4	0.83
Connecticut	810	1	40	4	4.9	0.53
Delaware	206	--	16	3	7.8	1.57
District of Columbia	111	1	5	2	4.3	1.61
Florida	3,996	6	701	21	17.5	0.52
Georgia	2,536	4	291	14	11.5	0.54
Hawaii	284	--	10	3	3.6	0.95
Idaho	413	1	56	5	13.7	1.32
Illinois	3,176	3	179	10	5.6	0.33
Indiana	1,580	3	160	11	10.2	0.67
Iowa	708	2	40	4	5.6	0.60
Kansas	698	2	58	5	8.3	0.73
Kentucky	1,004	3	70	6	7.0	0.59
Louisiana	1,106	2	86	7	7.7	0.62
Maine	275	1	20	3	7.4	1.21
Maryland	1,339	1	70	6	5.3	0.48
Massachusetts	1,427	1	30	4	2.1	0.27
Michigan	2,389	3	124	7	5.2	0.31
Minnesota	1,248	1	79	5	6.3	0.39
Mississippi	763	2	97	8	12.7	1.07
Missouri	1,418	3	101	6	7.1	0.39
Montana	222	2	32	3	14.5	1.54
Nebraska	445	2	31	3	6.9	0.72
Nevada	667	1	135	8	20.2	1.25
New Hampshire	293	1	15	3	5.1	0.88
New Jersey	2,045	1	148	9	7.2	0.44
New Mexico	501	1	69	5	13.7	0.96
New York	4,402	3	255	12	5.8	0.26
North Carolina	2,237	3	219	11	9.8	0.49
North Dakota	141	1	11	2	7.7	1.40
Ohio	2,728	3	197	11	7.2	0.42
Oklahoma	903	3	117	6	12.9	0.68
Oregon	865	2	110	8	12.8	0.97
Pennsylvania	2,757	2	169	11	6.1	0.40
Rhode Island	228	1	13	2	5.7	0.99
South Carolina	1,064	2	134	8	12.6	0.73
South Dakota	196	1	17	2	8.4	1.11
Tennessee	1,476	3	106	8	7.2	0.51
Texas	6,714	5	1,196	24	17.8	0.36
Utah	849	1	111	8	13.1	0.94
Vermont	129	1	5	1	4.0	0.95
Virginia	1,815	3	138	9	7.6	0.47
Washington	1,540	2	130	9	8.5	0.56
West Virginia	385	1	26	4	6.7	0.92
Wisconsin	1,309	2	68	5	5.2	0.41
Wyoming	127	2	11	2	8.7	1.70
Puerto Rico	981	1	54	5	5.5	0.50

-- Represents or rounds to zero.

<sup>1</sup> Data are based on a sample and are subject to sampling variability. A margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number when added to and subtracted from the estimate forms the 90-percent confidence interval.

Source: U.S. Census Bureau, 2008 American Community Survey.

Table 5. Health Insurance Coverage by Survey: 2008  
Universe: U.S. Civilian Noninstitutionalized Population

	ACS		CPS ASEC			NHIS		
	Estimate	Margin of Error <sup>2</sup> (+/-)	Estimate	Margin of Error <sup>2</sup> (+/-)	ACS-CPS Difference	Estimate	Margin of Error <sup>2</sup> (+/-)	ACS-NHIS Difference
All People								
Any Coverage								
Insured	84.9	0.08	84.6	0.2	*	85.2	0.4	
Uninsured	15.1	0.08	15.4	0.2	*	14.8	0.4	
Coverage Type								
Employer Sponsored	58.7	0.10	58.5	0.2		56.3	0.7	*
Direct Purchase	14.2	0.05	8.9	0.1	*	6.6	0.3	*
Medicare	13.5	0.02	14.3	0.2	*	13.9	0.4	
Medicaid	13.4	0.05	14.1	0.2	*	13.9	0.4	*
TRICARE/Military Health Care	2.5	0.02	2.7	0.1	*	2.1	0.2	*
VA	2.1	0.01	1.2	--	*	1.0	0.1	*
Indian Health Service <sup>1</sup>	0.5	0.01	0.3	--	*	0.3	0.1	*
People Under 18 Years								
Any Coverage								
Insured	90.1	0.10	90.1	0.3		91.0	0.7	*
Uninsured	9.9	0.10	9.9	0.3		9.0	0.7	*
Coverage Type								
Employer Sponsored	56.2	0.17	58.9	0.5	*	54.0	1.1	*
Direct Purchase	9.2	0.08	5.1	0.2	*	3.4	0.5	*
Medicare	0.7	0.02	0.8	0.1	*	0.3	0.1	*
Medicaid	27.8	0.14	30.3	0.4	*	31.4	1.1	*
TRICARE/Military Health Care	2.3	0.04	2.6	0.1	*	2.1	0.4	
VA	0.1	0.01	0.4	0.1	*	0.1	0.1	
Indian Health Service <sup>1</sup>	0.6	0.01	0.4	0.1	*	0.4	0.2	

\* Statistically different from zero at the 90 percent confidence level.

-- Represents or rounds to zero.

<sup>1</sup> Indian Health Service is not considered coverage for the purpose of tabulating summary coverage measures.

<sup>2</sup> Data are based on a sample and are subject to sampling variability. A margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number when added to and subtracted from the estimate forms the 90-percent confidence interval.

Source: U.S. Census Bureau, 2008 American Community Survey.

Table 6. Health Insurance Coverage by Selected Characteristics in the ACS, CPS ASEC, and NHIS: 2008  
Universe: U.S. Civilian Noninstitutionalized Population

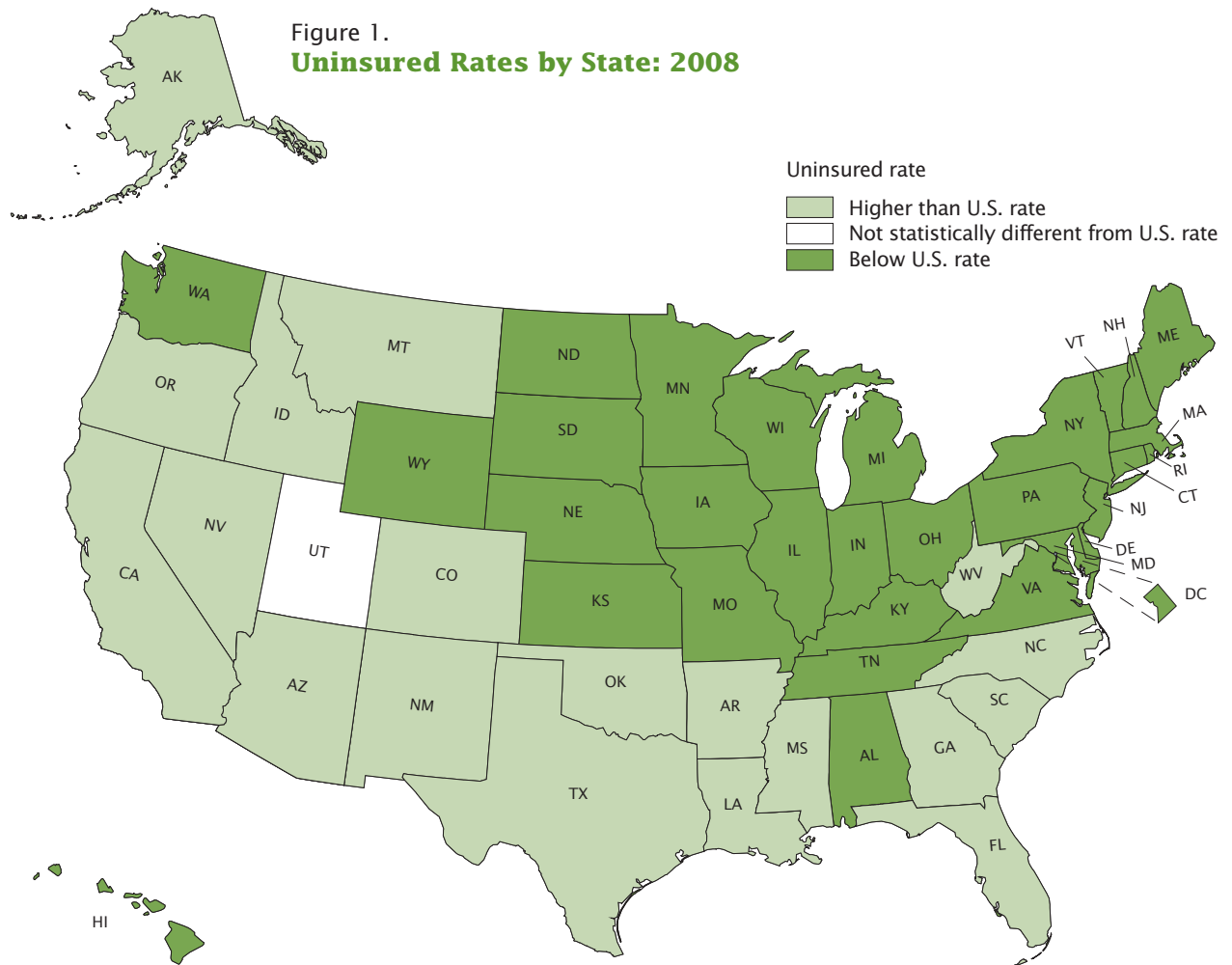
	ACS		CPS ASEC			NHIS		
	Estimate	Margin of Error <sup>1</sup> (+/-)	Estimate	Margin of Error <sup>1</sup> (+/-)	ACS-CPS Difference	Estimate	Margin of Error <sup>1</sup> (+/-)	ACS-NHIS Difference
Percentage of People with Coverage	84.9	0.08	84.6	0.2	*	85.2	0.4	
Age								
Under 18 years	90.1	0.10	90.1	0.3		91.0	0.7	*
18 to 64 years	80.2	0.10	79.7	0.2	*	80.1	0.5	
65 years and over	98.6	0.04	98.3	0.2	*	99.4	0.1	*
Sex								
Male	83.4	0.10	83.0	0.3	*	83.6	0.5	
Female	86.4	0.07	86.2	0.2		86.7	0.5	
Race and Hispanic Origin								
White Alone	86.7	0.08	85.5	0.2	*	85.5	0.5	*
White Alone, not Hispanic or Latino	89.4	0.07	89.2	0.2	*	89.4	0.5	
Black or African American Alone	82.0	0.15	80.9	0.6	*	83.4	0.8	*
Hispanic or Latino (of any race)	68.5	0.21	69.3	0.7	*	68.4	1.2	
People Age 18 and Over								
Marital Status								
Not Married	77.1	0.11	75.5	0.4	*	77.2	0.7	
Married	88.6	0.07	88.8	0.2		87.9	0.5	*

\* Statistically different from zero at the 90 percent confidence level.

<sup>1</sup> Data are based on a sample and are subject to sampling variability. A margin of error is a measure of an estimate's variability. The larger the margin of error in relation to the size of the estimate, the less reliable the estimate. This number when added to and subtracted from the estimate forms the 90-percent confidence interval.

Source: U.S. Census Bureau, 2008 American Community Survey.

Figure 1.  
**Uninsured Rates by State: 2008**



Source: U.S. Census Bureau, 2008 American Community Survey.