SHADAC
STATE HEALTH ACCESS DATA ASSISTANCE CENTER

Issue Brief

A Health Data Resource for States

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Impact of Changes to the Current Population Survey (CPS) on State Health Insurance Coverage Estimation

Congress recently provided specific appropriations to the U.S. Census Bureau to improve the Current Population Survey (CPS) for purposes of estimating health insurance coverage within states.[1] The legislation specifically required the Census Bureau to increase the CPS sample size in order to more accurately estimate the number of uninsured low-income children who are potentially eligible for the State Children's Health Insurance Program (SCHIP). This issue brief describes these changes, the time frame for adoption, and the potential impact on future CPS state coverage estimates.

Background

SCHIP funds are allocated to states using a formula that incorporates two factors: 1) a "state cost" factor based on annual average wages in the health services industry, and 2) a "number of children" factor based on the number of low-income children and the number of low-income, uninsured children in a state. (Low-income children are defined as those 18 years of age or younger living in families below 200 percent of the federal poverty level.)[2] The data for calculating the "number of children" factor for each state comes from the CPS March Supplement, which includes health insurance questions.

To reduce the amount of sampling error and increase the precision of the estimates used in the SCHIP formula, three-year rolling averages are used rather than single-year estimates. However, the three-year averages still have a large amount of sampling error, making it difficult to precisely measure changes in the number of uninsured children at the state level. In order to remedy this problem, Congress appropriated $10 million annually to produce more precise annual state estimates of the number of low-income children who do not have health insurance coverage.

Increase in CPS Sample Size

The Census Bureau plans to achieve more precise estimates of the number of low-income uninsured children in two ways: 1) by increasing the overall CPS sample size, and 2) by increasing the number of targeted CPS respondents to the CPS March Supplement. Through both strategies, the number of households that are sampled for the March Supplement will increase from approximately 64,990 in 2000 to 98,990 in 2001.

Table 1 shows the sample size for each state for the March Supplement prior to and after the planned sample expansion, the number of additional households, the percent of the sample increase within the state, and estimated

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percentage decrease in the standard error. The increased CPS sample will be devoted disproportionately to states where the CPS currently estimates uninsurance rates with the least precision (i.e., states with the largest variation in the estimates.) This variation is a function of the size of the state population, and its diversity in terms of demographic factors that are likely to influence health insurance characteristics. Most states will receive between one and two percent of the total increased sample size.

The Census Bureau plans to administer the March Supplement to additional targeted CPS sample households that are not in the March sample but are in the February and April samples. The targeted households include those with a member of a minority group or with children.

Sample Expansion from Existing Primary Sampling Units

The 2001 expansion of the CPS sample will be drawn from the existing CPS Primary Sampling Units (PSUs). The CPS divides states into PSUs composed of a metropolitan area, a large county, or a group of contiguous smaller counties. Some of the PSUs are then randomly selected for inclusion into the CPS sample. The goal of selecting PSUs is to ensure that the PSUs selected into the CPS sample are representative of the other PSUs that are not selected. PSUs consisting of major metropolitan areas are always included in the CPS sample.

The CPS undergoes a major redesign every ten years using data collected in the decennial census. The PSUs are evaluated to reflect changes in population, labor force characteristics, and county Metropolitan Statistical Area (MSA) status. New PSUs will be added and some will be taken out of the CPS once the current redesign is complete in 2003.

Impact of Sample Expansion on State Health Insurance Coverage Estimates

The increase in the sample size of the CPS will result in more precise state estimates of health insurance and uninsurance for all states, with the greatest impact on states with small and/or diverse populations (i.e., people with a broad range of socio-demographic characteristics live within the state). In general, the amount of error associated with a state estimate of coverage will decrease approximately 10-30 percent with the CPS expansion. For example, the largest reduction in error will occur in Connecticut from .80 to .49, a 38 percent reduction.

The CPS sample expansion will allow states to calculate more accurate state level estimates of uninsurance than in previous years. The sample expansion will also result in less random variation from year to year in state estimates of health insurance and uninsurance.

Single year estimates based on the expanded sample will be available starting with 2001 data; three year rolling average estimates using the expanded sample will be possible when the 2003 data is available.

Summary

The CPS March supplement continues to be the primary source of data to monitor health insurance coverage across states. The CPS is getting more attention as programs to increase access to health insurance coverage, such as SCHIP, are being developed, implemented and evaluated at the state level. In addition, data generated by the CPS are used in the SCHIP funding formula and have a direct impact on the amount of funds states receive under this new federal-state program.

Congress provided new funds to increase the sample size for the CPS March Supplement in an effort to improve the accuracy of the state-level estimates of insurance coverage. The expansion of the CPS sample size will result in more precise state estimates of health insurance coverage which in turn will provide the ability to observe more subtle changes in state coverage rates

year. While the increased state sample will not be enough to do all the sub-state analysis of interest to states (e.g., coverage estimates by county, or by minority groups) it will provide a more accurate account of insurance coverage rates from year to year.

The increase in the CPS sample is a positive step toward increasing the accuracy of the CPS estimates of health insurance coverage. The changes reduce the standard error by a considerable margin and should increase the usefulness of the CPS for state and national policy makers.

Table 1. Current Population Survey March Supplement sample size before and after planned expansion

States	Number of Households in CPS Before Expansion	Number of Households in CPS After Expansion	CPS Sample *Increase* Within the State	Standard Error for 1999 Annual Coverage Estimate	Estimated Standard Error for 2000 Annual Estimate*	Estimated Percent *Decrease* in Standard Error
Alabama	920	1600	74%	0.80	0.61	24%
Alaska	900	1590	77%	0.90	0.68	25%
Arizona	1100	1320	20%	0.90	0.82	9%
Arkansas	930	1190	28%	0.80	0.71	12%
California	5230	6570	26%	0.40	0.36	11%
Colorado	930	1890	103%	0.80	0.56	30%
Connecticut	630	1650	162%	0.80	0.49	38%
DC	720	1270	76%	0.80	0.60	25%
Delaware	810	1390	72%	0.90	0.69	24%
Florida	3560	4320	21%	0.50	0.45	9%
Georgia	1000	1390	39%	0.70	0.59	15%
Hawaii	560	1320	136%	0.80	0.52	35%
Idaho	1100	1370	25%	0.90	0.81	10%
Illinois	2500	3220	29%	0.50	0.44	12%
Indiana	850	1740	105%	0.70	0.49	30%
Iowa	800	1500	88%	0.60	0.44	27%
Kansas	900	1750	94%	0.80	0.57	28%
Kentucky	830	1320	59%	0.80	0.63	21%
Louisiana	870	1210	39%	0.90	0.76	15%
Maine	780	1760	126%	0.80	0.53	33%
Maryland	790	1720	118%	0.80	0.54	32%
Massachusetts	1400	1740	24%	0.50	0.45	10%
Michigan	2030	2700	33%	0.40	0.35	13%
Minnesota	870	1710	97%	0.60	0.43	29%
Mississippi	780	1040	33%	0.80	0.69	13%
Missouri	800	1500	88%	0.70	0.51	27%
Montana	920	1160	26%	0.90	0.80	11%
Nebraska	820	1520	85%	0.70	0.51	27%
Nevada	990	1790	81%	0.90	0.67	26%
New Hampshire	670	1710	155%	0.80	0.50	37%

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Table 1. Current Population Survey March Supplement sample size before and after planned expansion
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States	Number of Households in CPS Before Expansion	Number of Households in CPS After Expansion	CPS Sample *Increase* Within the State	Standard Error for 1999 Annual Coverage Estimate	Estimated Standard Error for 2000 Annual Estimate*	Estimated Percent *Decrease* in Standard Error
New Jersey	1840	2370	29%	0.50	0.44	12%
New Mexico	1110	1320	19%	1.00	0.92	8%
New York	4140	5240	27%	0.40	0.36	11%
North Carolina	1690	2190	30%	0.60	0.53	12%
North Dakota	890	1580	78%	0.80	0.60	25%
Ohio	2200	2930	33%	0.40	0.35	13%
Oklahoma	990	1440	45%	0.80	0.66	17%
Oregon	790	1480	87%	0.80	0.58	27%
Pennsylvania	2660	3380	27%	0.40	0.35	11%
Rhode Island	640	1620	153%	0.70	0.44	37%
South Carolina	720	1330	85%	0.90	0.66	26%
South Dakota	880	1640	86%	0.70	0.51	27%
Tennessee	860	1230	43%	0.70	0.59	16%
Texas	3530	4360	24%	0.50	0.45	10%
Utah	730	1090	49%	0.70	0.57	18%
Vermont	770	1730	125%	0.80	0.53	33%
Virginia	980	1640	67%	0.80	0.62	23%
Washington	770	1670	117%	0.90	0.61	32%
West Virginia	970	1490	54%	0.80	0.65	19%
Wisconsin	910	1850	103%	0.70	0.49	30%
Wyoming	930	1450	56%	0.90	0.72	20%
Total	64,990	98,990	52%	0.10	0.08	19%

Source: [3] US Census Bureau data available from SHADAC.[3]

* The 2001 standard errors were estimated by multiplying the 1999 standard errors by the square root of the old CPS sample size divided by the new CPS sample size.

Notes

[1] P.L. 106-113, The Medicare, Medicaid, and SCHIP Balanced Budget Act of 1999.

[2] Health Care Financing Administration. "Final SCHIP Allotments to States, Commonwealths and Territories for Fiscal Year 2000" (HCFA-2067-N). Federal Register, May 24, 2000. Available at URL: www.hcfa.gov/init/children.htm. The number of children factor for FY 2000 uses 75% of the low-income, uninsured children in a state and 25% of the low-income children in a state. For FY 2001-2007, the formula uses 50% of the low-income, uninsured children in a state and 50% of the low-income children in a state (HCFA, 2000).

[3] US Census Bureau. "U.S. Census Bureau Plans for Expanding the March Current Population Survey (CPS) Annual Demographic Supplement Sample." Unpublished data available from SHADAC.

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