

An Overview of Approaches to Correct for the Effects of the Current Population Survey Health Insurance Verification Item When Constructing a Time Series

The March Demographic Supplement to the Current Population Survey (CPS) provides estimates of state health insurance coverage. Up until March 2000 the CPS questionnaire used a residual approach to measure health insurance coverage. A series of "yes" or "no" questions were asked of the respondents about whether they had health insurance through an employer, Medicare, Medicaid, military health care, privately purchased insurance, or some other kind of insurance. If the respondent answered "no" to each one of these s/he was considered uninsured.

In the March 2000 Supplement to the CPS a new "verification" item was added to the health insurance module. The verification item asked those people who responded that they did not have any of the specific types of health insurance whether they were uninsured. Around 8.1 percent of the respondents in the 2000 and 2001 CPS reported actually being insured when asked directly if they were not covered by a health plan at any time during the year. After thoroughly evaluating this question, the Census Bureau decided to use the verification item in its estimates of health insurance coverage (Nelson and Mills 2001).

While laudable from a methodological standpoint, the downward correction in the uninsurance rates attributed to inclusion of the verification item may cause problems for those interested in trending health care coverage over time. This paper provides a brief overview of two approaches designed to foster the continued use of the CPS data in conducting time series analyses. The first approach consists of using the verified years (1999 and beyond) to develop an adjustment factor to re-calibrate the rates obtained in earlier years for which there are no "verified" health coverage information. The second

State Health Access Data Assistance Center (SHADAC) | University of Minnesota School of Public Health 612-624-4802 | fax: 612-624-1493 | <u>www.shadac.org</u>

approach alters the "verified" information to conform to the information collected in earlier, "non-verified" years.

Developing state-specific adjustment factors

In order to construct a verified adjustment for calendar year state data prior to 1999 an average verification "adjustment ratio" can be constructed for 1999 and 2000. The adjustment ratio is the percent of the people living within a state who would have been classified as uninsured if the verification question had not been asked. The Census Bureau used data from calendar year 1999 and 2000 to construct a ratio that was used to adjust the 1998 numbers. The adjusted 1998 numbers were included as part of the 3-year averages (1998,1999, and 2000) released in September 2001 by the Census Bureau (Table D. Percent of People Without Health Insurance Coverage Throughout the Year by State (3-year Average): 1998 to 2000).

These state adjustment ratios appear in the table titled, "1998 State Adjustment Ratio for the Current Population Survey's 3-year (1998-2000) Estimate of Health Insurance Coverage" in Appendix A. All ratios are less than one and therefore reduce the state estimate of the percent of people who are uninsured for 1998. To illustrate an example, the calendar year estimates for Iowa are adjusted using the Iowa's ratio:

•The formula to adjust an unverified rate:

unverified rate * adjustment ratio

•Iowa has an adjustment ratio of .88 based on an average of the calendar years 1999 and 2000 ratios.

•Calendar year estimates of the uninsurance rate in Iowa using the adjustment ratio:

-1995=11.3 =11.3*(.87)=9.9 -1996=11.6 =11.6*(.87)=10.1 -1997=12.0 =12.0*(.87)=10.4 -1998=9.3 =9.3*(.87)=8.1 -1999=7.5 already verified -2000=8.7 already verified

State Health Access Data Assistance Center (SHADAC) | University of Minnesota School of Public Health 612-624-4802 | fax: 612-624-1493 | www.shadac.org

Altering recodes in verified years

The other way to obtain consistency would be to construct unverified state health insurance recodes for years when the verification question was asked. This can be done by accessing the CPS data directly and recoding those people who answered "yes, I have insurance" to the verification question as being uninsured.¹ This approach will yield consistent time series estimates and may be important for states that prefer to have a consistent time series with the past CPS data (e.g., a state may have calibrated a Medicaid forecasting model to the prior CPS estimates). See Appendix B for a list of CPS health insurance recode fields that are updated by the verification question and sample SAS code that may be used to "unverify" these fields.

Conclusion

The selection of either of these approaches is contingent upon the intended use of the time series information. If the purpose of the trend analysis were to characterize movement in health coverage in recent years, use of the adjustment ratio method would be preferred. However, the further back in time you go from 1999, the less reliable the ratio-adjusted rates become. The verification question "picks up" a higher percent of the uninsured in those states where the uninsurance rate is the lowest (this is because the base of the percent change is the smallest). Applying an adjustment ratio calculated in a state that currently has low uninsurance rates, may not adequately reflect the pick up that would have been achieved at some point in the past when the state had a higher uninsurance rate. If longer time series are desired or if consistency with past Census Bureau practice is desired, then latter of the two approaches might be most relevant. The latter approach is consistent with how the Census Bureau measured coverage in the past and will produce consistent time series numbers, however, the time series will lack the validity of the verified time series.

¹ Because of a minor editing problem in the 2001 CPS, those people who answered "yes" to the SCHIP question and were in universe for the verification question should be considered "insured" even though they answered yes to the verification question.

State Health Access Data Assistance Center (SHADAC) | University of Minnesota School of Public Health 612-624-4802 | fax: 612-624-1493 | <u>www.shadac.org</u>

1998 State Adjustment Ratio for the Current Population Survey's 3-year (1998-2000) Estimate of Health Insurance Coverage	
State	Adjustment Ratio
United States	0.92
Alabama	0.93
Alaska	0.97
Arizona	0.93
Arkansas	0.94
California	0.93
Colorado	0.91
Connecticut	0.87
Delaware	0.89
Dist. of Columbia	0.89
Florida	0.94
Georgia	0.93
Hawaii	0.88
Idaho	0.91
Illinois	0.90
Indiana	0.88
Iowa	0.87
Kansas	0.95
Kentucky	0.93
Louisiana	0.94
Maine	0.92
Maryland	0.89
Massachusetts	0.87
Michigan	0.91
Minnesota	0.89
Mississippi	0.92
Missouri	0.87

Appendix A

State Health Access Data Assistance Center (SHADAC) | University of Minnesota School of Public Health 612-624-4802 | fax: 612-624-1493 | <u>www.shadac.org</u>

State	Adjustment Ratio
Montana	0.95
Nebraska	0.92
Nevada	0.87
New Hampshire	0.87
New Jersey	0.88
New Mexico	0.95
New York	0.91
North Carolina	0.93
North Dakota	0.94
Ohio	0.92
Oklahoma	0.95
Oregon	0.94
Pennsylvania	0.88
Rhode Island	0.85
South Carolina	0.89
South Dakota	0.93
Tennessee	0.91
Texas	0.95
Utah	0.94
Vermont	0.91
Virginia	0.92
Washington	0.89
West Virginia	0.91
Wisconsin	0.89
xx7 ·	0.02

1998 State Adjustment Ratio for the Current Population Survey's

State Health Access Data Assistance Center (SHADAC) | University of Minnesota School of Public Health 612-624-4802 | fax: 612-624-1493 | <u>www.shadac.org</u>

Appendix B

Recodes Updated by the Verification Question:

COV HI – Covered by insurance through employer, union or private purchase recode.

MCAID – Medicaid recode.

MCARE – Medicare recode.

CHAMP – Military health care recode.

CH_HI – Child covered by health insurance.

CH MC – Child covered by Medicaid.

COV GH - Health insurance group coverage, including dependents.

HIEMP - Health insurance offered through employer.

HIOWN - Health insurance in own name.

HIPAID - Health insurance paid by employer – all or part.

HI YN – Private health insurance coverage.

IHSFLG – Indian Health Service coverage.

Sample SAS Code to "Unverify" Recodes:

```
if h year = 2001 and pchip = 1 then if ahiper = 1
 then do ahiper = 0;
         ahityp1 = 0;
          ahityp2 = 0;
          ahityp3 = 0;
          ahityp4 = 0;
          ahityp5 = 0;
          ahityp6 = 0;
          end;
if h year in (2000,2001) and ahiper = 1 then do;
     if cov hi = 1 then cov hi = 2;
    if ch hi in (1,2) then ch hi = 3;
    if mcare = 1 then mcare = 2;
    if mcaid = 1 then mcaid = 2;
    if champ = 1 then champ = 2;
    if ch mc = 1 then ch mc = 2;
    if cov gh = 1 then cov gh = 2;
    if hiemp = 1 then hiemp = 0;
    if hiown = 1 then hiown = 0;
    if hipaid in (1,2) then hipaid = 0;
    if hi yn = 1 then hi yn = 2;
    if ihsflg = 1 then ihsflg = 2;
     end;
```

State Health Access Data Assistance Center (SHADAC) | University of Minnesota School of Public Health 612-624-4802 | fax: 612-624-1493 | www.shadac.org