

Findings from a Field Test Experiment on a New Approach to Measuring Health Insurance in the Current Population Survey

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1. Introduction

The Census Bureau's Current Population Survey Annual Social and Economic Supplement (called the CPS hereafter) is a key data source for health insurance estimates, but under-reporting of coverage has been a persistent problem, prompting research on improving the data quality of the CPS (DeNavas-Walt et al, 2011). New questions are also arising regarding the relative data quality across surveys and interpretation of the estimates as the American Community Survey (ACS) now collects data on health insurance, and estimates were released for the first time in fall of 2009. In an attempt to understand and reduce measurement error associated with these surveys, a series of research projects has been underway at the Census Bureau, the most recent component of which is the Survey of Health Insurance and Program Participation (SHIPP) – a split-panel field test of three different question series, each designed to measure health insurance coverage. Two of the panels mimicked the health insurance questions from the CPS and ACS, and the third panel included an experimental questionnaire on health insurance coverage (the "Redesign" or EXP for short). The EXP was developed primarily to reduce measurement error in the CPS and the focus of this report is limited to that comparison. Future reports will examine differences between the EXP and ACS, and differences between the ACS and CPS.

Past research has indicated that particular survey design features of the CPS are associated with measurement error, and among them the calendar year reference period has probably received the most attention (Bhandari, 2004; Bennefield, 1996; Davern, 2009; Lewis, Ellwood and Czajka, 1998; Marquis and Moore, 1990; Ringel and Klerman, 2005; Rosenbach and Lewis, 1998; Swartz, K., 1986). Results from cognitive testing of the CPS show that some respondents ignore the calendar year reference period and instead report on their current status or their most recent spell of coverage, and that those with recent coverage are more likely to report accurately than those with coverage in the more distant past (Pascale, 2008/2009), and related research shows similar results (Resnick et al, 2004; Lynch, 2006). Nevertheless, providing data on calendar year coverage is a goal of the CPS. Thus the EXP takes a new approach to questions on

time period of coverage, beginning by asking about current coverage status, and then asking about duration of coverage (at the month-level) during the past calendar year.

The household-level CPS design has also been shown to risk underreporting for certain household members (Hess et al, 2001; Pascale, Roemer and Resnick, 2009), and yet a person-level design lengthens the survey, inducing respondent fatigue and underreporting (Blumberg et al, 2004). The EXP employs a hybrid approach. It begins by asking questions at the person-level and if a particular plan type is identified, questions are asked to determine whether other household members are also covered by that same plan. Subsequent people on the roster are then asked about by name, one at a time, and for those who had been reported as covered under a previously-reported plan, that coverage is simply verified and a question is asked to determine if they had any additional plans.

A third problematic feature of the CPS is the way in which plan type is determined – through a series of eight fairly detailed questions on source of coverage – which often challenges respondents' sometimes limited knowledge of the complex maze of health insurance plans and programs (Cafferata, 1984; Cantor et al, 2008; Davern et al, 2008; Loomis, 2000; Pascale, 2009c; Roman, Hauser and Lischko, 2002; Walden et al, 1984). This routine may also contribute to the persistent problem of Medicaid under-reporting (Blumberg and Cynamon, 1999; Call et al, 2008; Card et al, 2001; Eberly, Pohl and Davis, 2008; Klerman, Ringel and Roth, 2005; Lynch and Resnick, 2009; Research Project (aka SNACC), 2008; Roemer, 2007). The EXP takes a different approach, first asking about any coverage at all, then identifying general source (job, government or some other way) and then following up with tailored questions to elicit the necessary detail.

Due to these measurement issues, a comprehensive research agenda has been underway at the Census Bureau for several years to both examine better ways of collecting retrospective data on health insurance coverage and, more generally, to detect other survey design features that could be contributing to measurement error. There are, however, certain fixed constraints regarding any kind of redesigned questionnaire. For example, in spite of the mounting evidence that the calendar year reference period (perhaps compounded by the 3-month lag time) is problematic, the CPS is nevertheless still charged with collecting data on the entire calendar year, and it has the constraint of being fielded in March of the subsequent year. Thus the research agenda included an exploration of ways of asking about both current and past calendar year coverage within the same set of questions. The rationale was two-fold: research suggests current status estimates are more accurate than calendar year estimates (at least those generated under current CPS methodology), and it was also hoped that a revised set of retrospective questions could improve on the calendar year estimates (Blair and Ganesh, 1991; Loftus et al, 1990). Indeed the new questions on current status may be able to be leveraged to serve as an anchor which may help elicit reports of past year coverage more accurately than the standard methodology (Crespi and Swineheart, 1982; Pascale, 2009b).

Thus far the overall research tasks have included an extensive and ongoing literature review (Czajka and Lewis, 1999; ASPE, 2005; Pascale, 1999), multiple rounds of cognitive testing (Pascale, 2008/2009, Pascale, 2003), several split-ballot experiments (Pascale, 2007; Pascale, 2004; Pascale, 2001), development of a redesigned questionnaire including both current and

calendar year questions, cognitive testing of the redesign (Pascale, 2009b), a pretest of the redesign fielded in March 2009 (Pascale, 2009a) and, most recently, a large-scale split-ballot field test conducted in the spring of 2010 (the SHIPP). Results from the first several stages of this research have been reported elsewhere, as noted above. The main focus of this report is the SHIPP field test.

2. Methods Overview

The SHIPP survey was carried out from March 22 through May 10 of 2010 by the Census Bureau's telephone interviewing staff in Hagerstown, Md., via three discreet but consecutive 10-day field periods. The survey was administered over the telephone using a CATI instrument and took an average of 17 minutes per household to complete (see Appendix A for details on the methodology). The content of the survey included basic demographics of all household members, disability, labor force participation and earnings, participation in government programs (such as Food Stamps), health insurance, a respondent debriefing, and a request for consent to link data to administrative records. The sample was drawn from two sources – a Random Digit Dial (RDD) frame and Medicare enrollment files (MCARE). The goal was to complete 3,000 household interviews from the RDD sample and 2,000 interviews from the Medicare sample. That goal was exceeded for both sample types: there were 3,081 (57%) completed interviews from the RDD sample and 2,295 from the Medicare sample. In total these 5,376 households represented 12,743 people. Because average household size was larger among the RDD sample than the Medicare sample, at the person-level 59 percent of the interviews pertained to people from the RDD sample and the remaining 41 percent pertained to people from the Medicare sample. Response rates (based on the AAPOR RR4 definition) were 47.6 percent for the RDD sample and 61.4 percent for the Medicare sample. See Appendix A for a more complete summary of the SHIPP field test methods.

3. Results

3.1 Demographic Profile Across Panels

Though independent samples were drawn for each treatment (within sample type and even field period), the demographic profile of respondents across treatments was different, and the extent of these differences depends on which comparisons one is making. For the CPS and EXP RDD sample, most demographic characteristics were fairly well-balanced, with the exception of race (see Table 1a). The EXP treatment resulted in more white non-Hispanics than the CPS treatment, by almost three and a half percentage points, and the CPS in turn had higher levels of both black non-Hispanics (by almost one a half percentage points), and those in the “other” race category (by more than two percentage points). The MCARE sample showed a similar imbalance on race (though the EXP had more in the “other” race category than the CPS), and there were also more Hispanics in the EXP treatment than in the CPS. The CPS also had more people under 18 and fewer people over 65 than the EXP. And finally, the CPS had more people below the household income threshold¹, more people not in the work force and fewer non-full-time workers (see Table

¹ A single household income question was asked in which respondents were asked if their total combined household income was above or below a certain threshold. The dollar amount of that threshold was determined by the number of household members and the presence of children under 18 and was meant to loosely approximate the poverty level.

1b). When both the RDD and MCARE samples are combined, some of these differences are reduced (see Table 1c), though the race and employment status differences remain. While many of these demographic characteristics are correlated with key outcome measures on health coverage (such as public coverage and uninsured rates), as a first step we present preliminary results on unweighted, unadjusted estimates across treatments. Forthcoming versions of this paper will adjust for the demographic imbalances across treatments and address statistical issues involved in combining the RDD and MCARE samples.

3.2 RDD Sample Estimates

Overall, there were very few significant differences between estimates from the CPS and EXP panels for the RDD sample – across plan types and even within subgroups (see Table 2, excel attachment). The rate of uninsured was virtually the same (EXP was 0.01% higher than CPS) and there were no significant differences in the uninsured rate across subgroups. For public and private coverage overall, and within each plan type (employer-sponsored insurance or ESI, Medicaid, etc.) there were no significant differences except in the “other coverage” category, where the CPS estimate was 2.45 percentage points higher than the EXP. The only other notable finding is within the Medicare category, where the EXP resulted in significantly higher estimates than the CPS among those under 18 and over 65 years old, those in non-full-time employment, and those below the income threshold.

3.3 MCARE Sample Estimates

There were a fair number of significant differences among the Medicare sample (see Table 3, excel attachment). The overall uninsured rate in the EXP was 2.22 percentage points lower than in the CPS (and significant), and the direction of the gap was consistent across all subgroups. That is, the EXP uninsured estimate was lower than the CPS estimate for all subgroups. Among certain subgroups the CPS-EXP difference in the uninsured was particularly pronounced and significant – those 18-64, black non-Hispanics, and those below the income threshold. Among non-Hispanics the CPS-EXP gap was 2.11 percentage points and significant, and among Hispanics the gap was 9.38 percentage points but did not reach statistical significance.

For public coverage overall (Medicaid and Medicare combined) the EXP estimate was 2.34 percentage points higher than CPS. This difference did not reach statistical significance but for all subgroups the EXP estimate was higher than the CPS, and among those 65 and older, black non-Hispanics and those below the income threshold the difference was significant. For Medicaid there was virtually no difference overall (0.08 percentage points), and for most subgroups the CPS-EXP gap was not statistically significant and went in different directions – that is, for some subgroups the CPS estimate was higher than the EXP estimate, and for some subgroups the reverse was true. But for Hispanics and those below the income threshold the EXP estimate was significantly higher than for the CPS estimate. For Medicare the only significant difference was among those 65 and older, where the EXP estimate was 3.11 percentage points higher than the CPS.

For private coverage overall (ESI and directly purchased combined), there were no significant differences overall and among subgroups only one significant difference – the CPS estimate was

higher for those 65 and over. For ESI coverage there were no significant differences, overall or by subgroup, and the magnitude of the differences was rather low and went in both directions across subgroups. For directly purchased coverage, however, there were a number of differences. Overall the CPS estimate was higher than the EXP, the direction of this difference was consistent across all subgroups, and for some subgroups the difference was significant – those 65 and over, non-working, and those above the income threshold.

3.4 Overall Sample Estimates

The RDD and MCARE samples were each drawn from different universes, so statistical inferences cannot be made with regard to significance levels. However, for purposes of examining differences by subgroup, the samples were combined to examine differences in levels and patterns of reporting.² For the most part results show similar patterns as those found for the RDD and MCARE samples (see Table 4, excel attachment). The EXP estimate of the uninsured was slightly lower than the CPS (by 0.87 percentage point), and across all subgroups the EXP estimate was lower than CPS. For some subgroups in particular the difference was especially pronounced – black non-Hispanics, those below the income threshold, Hispanics and those in non-full-time employment.

For public coverage the EXP estimate was 2.43 percentage points higher than the CPS and across all subgroups the EXP estimate was higher. The gap was especially pronounced among those 65 and older, those not in full-time employment, black non-Hispanics and those in the “other” race category, Hispanics, and those below the income threshold. For Medicaid, the CPS-EXP gap among all subgroups was less than a percentage point except for Hispanics, where the gap was 8.88 percentage points, those in the “other” race category (3.19 percentage points) and black non-Hispanics (1.25 percentage points). For Medicare the EXP estimate was 2.06 percentage points higher than CPS, and for almost all subgroups the EXP was higher (for “other” race and Hispanics the CPS was higher but by 0.06 and 0.14 percentage point respectively). For most other subgroups the EXP estimates was 3 to 4 percentage points higher than the CPS.

For private coverage overall, the CPS estimate was higher than the EXP and for all subgroups CPS was higher. For some subgroups the difference was especially pronounced – Hispanics and those 65 and over. For ESI coverage the CPS estimate was slightly higher, by 0.71 percentage point. For most subgroups differences were small except for those 65 and over, where CPS was almost three percentage points higher than EXP, and among Hispanics, where the gap was over six percentage points. For directly purchased coverage the overall difference, and among all subgroups, was very small – less than a percentage point in most cases.

4. Summary

Successful fielding of SHIPP indicated that this instrument can be used to capture multiple time points of coverage, vastly expanding the utility of the data from the current CPS module which capture’s only coverage ‘at any point in the past year’. SHIPP provided coverage estimates for

² Standard errors and p-values are shown in the tables. However, these values should be disregarded for tables with the full sample since statistics from the combined RDD and Medicare sample reflect two different universes.

current point-in-time, over a year's worth of month-level data that could capture gaps in coverage, and of course, coverage at any point in the past year.

Estimates for the RDD sample indicate virtually no difference between the EXP and CPS designs in the uninsured rate or private coverage, and higher reporting of public coverage in the EXP for disadvantaged and elderly subgroups. For the Medicare sample the EXP results in a lower estimate of the uninsured for the overall sample, higher reporting of public coverage among disadvantaged and elderly subgroups, and virtually no change in private coverage reporting compared to the CPS. When both sample types are pooled the same general pattern emerges – under the EXP design the uninsured rate is lower overall and for all subgroups (and the magnitude of the gap is particularly pronounced among disadvantaged subgroups), reporting of public coverage is higher overall and for all subgroups (again the gap is higher among elderly and disadvantaged subgroups), and private coverage estimates are lower overall and among all subgroups (with the gap being higher among elderly and disadvantaged subgroups). These patterns suggest that the EXP design is more effective than the CPS at eliciting public coverage reporting for the subgroups most likely to be eligible for public coverage, and hence these subgroups are less likely to be misclassified as uninsured. The reduced reporting of private coverage among disadvantaged subgroups suggests there may be some degree of swapping going on – that is, under the CPS public coverage may be mistakenly reported as private coverage for certain subgroups.

The SHIPP was entirely telephone-based and did not include a cell-phone-only or face-to-face component. Individuals missed through this methodology tend to be young adults, minorities and low income individuals – in other words, people with characteristics highly associated with public coverage eligibility and being uninsured. Thus, while the patterns observed in the SHIPP experiment are promising, the observed differences would likely be more pronounced if the subgroups most affected by the differences in questionnaire design were represented properly in the sample. If these patterns of reporting do hold up under more intense scrutiny – that is, if the EXP design really does prompt more accurate reporting, specifically by capturing more public coverage and reducing misreporting of public coverage as private – it will be important to be able to disentangle methods effects from real change that can be attributed to health reform when the Affordable Care Act (ACA) is implemented in 2014.

SHIPP is designed to capture coverage even when specific plan-type is unclear to respondents- by first determining that there is coverage, and then funneling to more specific questions to piece out coverage type. This instrument structure may confer a distinct advantage in coming years as health insurance sources change in response to the ACA. Our next step is to test the incorporation of SHIPP into the broader CPS instrument to ensure it functions correctly as an integrated instrument before we switch away from the older CPS ASEC health insurance module. We anticipate instrument testing for this will be facilitated by multiple test scenarios already detailed from our last round of testing.

REFERENCES

- Bennefield, R. 1996. A Comparative Analysis of Health Insurance Coverage Estimates: Data from CPS and SIPP. Presentation at the 1996 Joint Statistical Meetings of the American Statistical Association.
- Bhandari, S. 2004. People with Health Insurance: A Comparison of Estimates from Two Surveys. Survey of Income and Program Participation (SIPP) Working Paper No. 243. Washington, D.C.: U.S. Census Bureau.
- Blair, Edward A. and Gopala K. Ganesh. 1991. "Characteristics of Interval-Based Estimates of Autobiographical Frequencies." *Applied Cognitive Psychology* 5:33, 237-250, Wiley.
- Blumberg, S. J., and M. L. Cynamon. 1999. Misreporting Medicaid Enrollment: Results of Three Studies Linking Telephone Surveys to State Administrative Records. Proceedings of the Seventh Conference on Health Survey Research Methods, pp. 189–195.
- Blumberg, S. J., L. Osborn, J. V. Luke, L. Olson, and M. R. Frankel. 2004. Estimating the Prevalence of Uninsured Children: An Evaluation of Data from the National Survey of Children with Special Health Care Needs, 2001. *Vital Health Statistics* 2(136). Hyattsville, Md.: National Center for Health Statistics.
- Cafferata, Gail Lee. 1984. "Knowledge of Their Health Insurance Coverage by the Elderly." *Medical Care* 22:835–47.
- Call, K. T., G. Davidson, M. Davern, and R. Nyman. 2008. Medicaid Undercount and Bias to Estimates of Uninsurance: New Estimates and Existing Evidence. *Health Services Research* 43(3):901–914.
- Cantor, J. C., A. C. Monheit, S. Brownlee, and C. Schneider. 2007. The Adequacy of Household Survey Data for Evaluating the Nongroup Health Insurance Market. *Health Services Research* 42(2):1739–1757.
- Card, David, Andrew K.G. Hildreth, and Lara D. Shore-Sheppard. 2001. "The Measurement of Medicaid Coverage in the SIPP: Evidence from California, 1990–1996." National Bureau of Economic Research, Working Paper 8514, Cambridge, MA.
- Crespi, Irving and James Swineheart. 1982. "Some Effects of Sequenced Questions Using Different Time Intervals on Behavioral Self-Reports: A Field Experiment," Paper presented at the American Association for Public Opinion Research.

Czajka, J., and K. Lewis. 1999. Using Universal Survey Data to Analyze Children's Health Insurance Coverage: An Assessment of Issues. Washington, D.C.: Mathematica Policy Research, Inc.

Davern, Michael. 2009. "Unstable Ground: Comparing Income, Poverty & Health Insurance Estimates from Major National Surveys." Paper presented at the AcademyHealth Annual Research Meeting, June 29, 2009. Chicago.

Davern, M., K. Call, J. Ziegenfuss, G. Davidson, T. Beebe, and L. Blewett. 2008. Validating Health Insurance Coverage Survey Estimates: A Comparison of Self-Reported Coverage and Administrative Data Records. *Public Opinion Quarterly* 72(2):241-259.

DeNavas-Walt, Carmen, Bernadette D. Proctor and Jessica C. Smith. 2011. "Income, Poverty and Health Insurance Coverage in the United States: 2010." U.S. Census Bureau Current Population Report P60-239. Washington, DC.

Eberly, T., M. Pohl, and S. Davis. 2008. Undercounting Medicaid Enrollment in Maryland: Testing the Accuracy of the Current Population Survey. *Population Research and Policy Review* online April 30. <http://www.springerlink.com/content/d56459733gr81vu2/>

Hess, Jennifer, Moore, J. Pascale, J. Rothgeb, J. and Keeley, C. (2001), "The Effects of Person level vs. Household-level Questionnaire Design on Survey Estimates and Data Quality." *Public Opinion Quarterly*, Winter 2001, 65:574-584.

Klerman, J. A., J. S. Ringel, and B. Roth. 2005. Under-Reporting of Medicaid and Welfare in the Current Population Survey. RAND Working Paper WR-169-3. Santa Monica, Calif.: RAND.

Lewis, K., M. Ellwood, and J. Czajka. 1998. Counting the Uninsured: A Review of the Literature. Washington, D.C.: The Urban Institute. *Inquiry*/Volume 45, Winter 2008/2009 436

Loftus, Elizabeth F., Mark R. Klinger, Kyle D. Smith and Judith Fiedler. 1990. "A Tale of Two Questions: Benefits of Asking More Than One Question." *Public Opinion Quarterly*, Vol. 54, No. 3. (Autumn, 1990), pp. 330-345.

Loomis, L. 2000. Report on Cognitive Interview Research Results for Questions on Welfare Reform Benefits and Government Health Insurance for the March 2001 Income Supplement to the CPS. July 25. Washington, D.C.: Center for Survey Methods Research, Statistical Research Division, U.S. Census Bureau.

Lynch, Victoria. 2006. "Causes of Error in Survey Reports about Who in the Household Gets Welfare." Unpublished paper. Joint Program in Survey Methodology, College Park, MD.

Lynch, Victoria and Dean Resnick, 2009. "Misreporting Health Insurance Status: Medicaid Enrollees in the Medical Expenditure Panel Survey, 2003." Paper presented at the American Association for Public Opinion Research, Hollywood, Fla.

Marquis, Kent H., and Jeffrey C. Moore. 1990. "Measurement Errors in the Survey of Income and Program Participation (SIPP) Program Reports." Proceedings of the Bureau of the Census 1990 Annual Research Conference, Arlington, VA.

Office of the Assistant Secretary for Planning and Evaluation, Health and Human Services. 2005. "Understanding Estimates of the Uninsured: Putting the Differences in Context." Updated September 5. (<http://aspe.hhs.gov/health/reports/05/uninsuredunderstanding-ib/#estimates>);

Pascale, Joanne, Marc I. Roemer, and Dean M. Resnick. 2009. Medicaid Underreporting in the CPS: Results from a Record Check Study. *Public Opinion Quarterly*. 73: 497-520.

Pascale, Joanne (2009a), "Findings from a Pretest of a New Approach to Measuring Health Insurance in the Current Population Survey." Paper prepared for the Federal Committee on Statistical Methodology Research Conference, November 2-4, 2009.

Pascale, Joanne. 2009b. "Survey Measurement of Health Insurance Coverage: Cognitive Testing Results of Experimental Questions on Integrated Current and Calendar Year Coverage." Unpublished Census Bureau report submitted to the Housing and Household Economic Statistics Branch, February 2009

Pascale, Joanne. 2009c. "Health Insurance Measurement: A Synthesis of Cognitive Testing Results." Paper presented at the Questionnaire Evaluation Standards (QUEST) meeting, Bergen, Norway.

Pascale, Joanne 2008/2009. "Measurement Error in Health Insurance Reporting." *Inquiry* 45(4):422-37.

Pascale, Joanne. 2007. "Questionnaire Design Experimental Research Survey (QDERS) 2004 Results Overview." Unpublished Census Bureau report.

Pascale, Joanne. 2004. "Medicaid and Medicare Reporting in Surveys: An Experiment on Order Effects and Program Definitions." Proceedings of the American Association for Public Opinion Research, American Statistical Association.

Pascale, Joanne (2003), "Questionnaire Design Experimental Research Survey (QDERS) 2004: Cognitive Testing Results on Health Insurance Questions." Unpublished Census Bureau Report, November 5, 2003.

Pascale, Joanne (2001). Measuring Private and Public Health Coverage: Results from a Split-Ballot Experiment on Order Effects. Paper presented at the American Association for Public Opinion Research, Montreal, Quebec, Canada.

Pascale, J. (1999). Methodological Issues in Measuring the Uninsured. Proceedings of the Seventh Health Survey Research Methods Conference, pp. 167-173.

Research Project to Understand the Medicaid Undercount: The University of Minnesota's State Health Access Center, the Centers for Medicare and Medicaid Services, the Department of Health and Human Services Assistant Secretary for Planning and Evaluation, The National Center for Health Statistics, and the U.S Census Bureau. "Phase II Research Results: Examining Discrepancies between the National Medicaid Statistical Information System (MSIS) and the Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC)." March 12, 2008. <http://www.census.gov/did/www/shadac/shadac.html>.

Resnick, D., S. Love, C. Taeuber, and J. M. Staveley. 2004. Analysis of ACS Food Stamp Program Participation Underestimate. Paper presented at the 2004 Joint Statistical Meeting, Toronto, Canada.

Ringel, J. S., and J. A. Alex Klerman. 2005. Today or Last Year? How Do Interviewees Answer the CPS Health Insurance Questions? RAND Labor and Population working paper series WR-288. Santa Monica, Calif.: RAND.

Roemer, Marc. 2007. Presentation on preliminary results from "Research Project to Understand the Medicaid Undercount: Phase 2 Research Results: Examining Discrepancies between the National MSIS and CPS March Supplement (ASEC); July 17." Washington, DC.

Roman, A. M., A. Hauser, and A. Lischko. 2002. Measurement of the Insured Population: The Massachusetts Experience. Paper presented at the 2002 Annual Meetings of the American Association for Public Opinion Research, St. Pete's Beach, Fla.

Rosenbach, M., and K. Lewis. 1998. Estimates of Health Insurance Coverage in the Community Tracking Study and the Current Population Survey. Document no. PR98-54. Washington, D.C.: Mathematica Policy Research, Inc.

Swartz, K. 1986. Interpreting the Estimates From Four National Surveys of the Number of People Without Health Insurance. *Journal of Economic and Social Measurement* 14: 233–242.

Walden, Daniel C., Constance M. Horgan, and Gail Lee Cafferata. 1984. "Consumer Knowledge of Health Insurance Coverage." *Proceedings of the Fourth Conference on Health Survey Research Methods*, Washington, DC.

Appendix A: SHIPP Methodology Summary

A. QUESTIONNAIRE

1. Content:

- \$ Demographics
- \$ Disability
- \$ Labor force
- \$ Unearned income
- \$ Health insurance (three treatments)
 - CPS ASEC: Current Population Survey Annual Social and Economic Supplement
 - ACS: American Community Survey
 - EXP: Experimental version
- \$ Respondent Debriefing, Linking Request, Address

2. Experimental version captures coverage for job-based and directly-purchased private plans (policyholder and dependent), Medicare, Medicaid, other government programs, military coverage, school-based coverage, coverage from somebody outside the household, and a residual ‘other’ category. In future iterations we would like to add Indian Health Services (HIS) to this list.

3. Mode: CATI

4. Length: 17 minutes

B. SAMPLE

The sample unit is phone number, drawn from two sources: (1) RDD and (2) addresses of people enrolled in Medicare as of May, 2009, from the Centers for Medicare and Medicaid Services (CMS). Because the Medicare files contain address but not phone number, Telematch was used to search for a phone number for these addresses.

C. EXPERIMENTAL DESIGN

1. Interviewers

- \$ Census Bureau’s Telephone Facility, Hagerstown, Md., all with experience on health surveys
- \$ Three groups of seven interviewers per group, balanced by experience and skill levels
- \$ Four main supervisors, two supervisory assistants, and eight monitors, all cross-trained on all questionnaire versions at commencement of project

2. Field Periods

In order to allow each questionnaire version “equal access” to fresh sample and fresh interviewers, the field period was divided into three time periods of two weeks each, and within each time period all three questionnaire versions were worked evenly.

3. Rotation of Interviewers Through Questionnaire Versions and Field Periods

Each interviewer group was first assigned to one questionnaire version, and the group worked on only that version during the first time period (Weeks 1-2). At the end of Week 2, each interviewer group was rotated off of that first questionnaire version and on to a different questionnaire version. They received a brief training on the new questionnaire version, focusing just on the differences between their previous questionnaire and the new one. They then worked on just that second questionnaire version throughout the second time period (Weeks 3-4). At the end of Week 4 interviewers were again rotated to their third and final questionnaire version and received a brief training on the new version, and during the last time period (Weeks 5-6) they worked on only that version. Over the course of the survey, all interviewers worked in all 3 time periods and all 3 questionnaire treatments. In any given time period, an interviewer worked on a single questionnaire treatment.

4. Samples

In order to accommodate the assignment of interviewer groups described above, there were nine independent samples – one for each unique combination of interviewer group/questionnaire version/field period. For example, Interviewer Group 1 was assigned to work on CPS during Weeks 1-2. At the end of Week 2, that particular sample was closed out for good. Interviewer Group 1 then moved on to the ACS questionnaire and a new sample was released for them to work on that version during Weeks 3-4. At the end of Week 4 this sample was closed out for good and Interviewer Group 1 moved on to the EXP questionnaire and another new sample was released for them to work on that version during Weeks 5-6. This same routine was repeated for Interviewer Groups 2 and 3, for a total of 9 independent samples.

5. Training and Field Period

Time Period	Training			Data Collection
	Content	Dates	Time	
1	Base training (all interviewer groups together)	March 18 (a.m.)	4 hours	March 22-April 6
	ACS health section (interviewer group A)	March 18 (p.m.)	3 hours	
	CPS health section (interviewer group B)	March 19 (a.m.)	3 hours	
	EXP health section (interviewer group C)	March 19 (p.m.)	3 hours	
2	ACS health section (interviewer group B)	April 7 (a.m.)	2 hours	April 9-23
	CPS health section (interviewer group C)	April 7 (a.m.)	2 hours	
	EXP health section (interviewer group A)	April 8 (a.m.)	4 hours	
3	ACS health section (interviewer group C)	April 24 (a.m.)	2 hours	April 26-May 10
	CPS health section (interviewer group A)	April 24 (p.m.)	2 hours	
	EXP health section (interviewer group B)	April 24 (p.m.)	4 hours	

6. Interviewer Groups and Field Periods

	Interviewer Group 1	Interviewer Group 2	Interviewer Group 3
Field period 1 <i>(weeks 1-2)</i>	CPS Health Qs	ACS Health Qs	EXP Health Qs
Field period 2 <i>(weeks 3-4)</i>	ACS Health Qs	EXP Health Qs	CPS Health Qs
Field period 3 <i>(weeks 5-6)</i>	EXP Health Qs	CPS Health Qs	ACS Health Qs

D. PRODUCTION

1. **Advance Letters:** mailed in all households where we had an address (56% of households).

2. Completed Interviews

	CPS		ACS		EXP		TOTAL	
	HHs	People	HHs	People	HHs	People	HHs	People
RDD	1,059	2,640	1,033	2,483	989	2,370	3,081	7,493
Medicare	747	1,757	774	1,747	774	1,746	2,295	5,250
TOTAL	1,806	4,397	1,807	4,230	1,763	4,116	5,376	12,743

3. Response Rates (preliminary) AAPOR RR4

	CPS	ACS	EXP	TOTAL
RDD	48.96%	47.91%	45.51%	47.46%
Medicare	63.19%	60.02%	61.03%	61.37%

Appendix B: Demographic Profile Across Panels and Samples

Table 1a: Demographics Across Treatments: RDD Sample CAL

Table of panel by ager1 (p=0.81)							
panel	ager1						Total
	< 18	18-24	25-34	35-44	45-64	65+	
CPS	825 31.25	129 4.89	149 5.64	260 9.85	714 27.05	563 21.33	2640
EXP	736 31.05	112 4.73	144 6.08	216 9.11	673 28.4	489 20.63	2370
Total	1561	241	293	476	1387	1052	5010

Table of panel by ager2 (p=0.78)				
panel	ager2			Total
	< 18	18-64	65+	
CPS	825 31.25	1252 47.42	563 21.33	2640
EXP	736 31.05	1145 48.31	489 20.63	2370
Total	1561	2397	1052	5010

Table of panel by senior (p=0.55)			
panel	senior		Total
	< 65	65+	
CPS	2077 78.67	563 21.33	2640
EXP	1881 79.37	489 20.63	2370
Total	3958	1052	5010

Table of panel by race (p=0.01)				
panel	race			Total
	blkno his	other	whtno his	
CPS	214 8.11	354 13.41	2072 78.48	2640
EXP	159 6.71	269 11.35	1942 81.94	2370
Total	373	623	4014	5010

Table of panel by hispan (p=0.67)			
panel	hispan		Total
	No	yes	
CPS	2481 93.98	159 6.02	2640
EXP	2234 94.26	136 5.74	2370
Total	4715	295	5010

Table of panel by educ (p=0.74)							
panel	educ						Total
	AA	BA	HSgrad	Prof	lessHS	smcol I	
CPS	163 7.54	448 20.71	649 30	268 12.39	275 12.71	360 16.64	2163
EXP	144 7.47	371 19.25	614 31.86	240 12.45	231 11.99	327 16.97	1927
Total	307	819	1263	508	506	687	4090
Frequency Missing = 920							

Table of panel by sex (p=0.55)			
panel	sex		Total
	Female	Male	
CPS	1373 52.11	1262 47.89	2635
EXP	1254 52.96	1114 47.04	2368
Total	2627	2376	5003
Frequency Missing = 7			

Table of panel by hinc (p=0.58)			
panel	hinc		Total
	Above	below	
CPS	1819 72.1	704 27.9	2523
EXP	1618 71.37	649 28.63	2267
Total	3437	1353	4790
Frequency Missing = 220			

Table of panel by empstat (p=0.20)				
panel	empstat			Total
	FT-FY	NotW r	Other	
CPS	716 33.65	893 41.96	519 24.39	2128
EXP	624 33.17	753 40.03	504 26.79	1881

Total	1340	1646	1023	4009
Frequency Missing = 1001				

Table 1b: Demographics Across Treatments: MCARE Sample CAL

panel	ager1						Total
	< 18	18-24	25-34	35-44	45-64	65+	
CPS	373 21.23	63 3.59	82 4.67	81 4.61	575 32.73	583 33.18	1757
EXP	324 18.56	71 4.07	84 4.81	98 5.61	548 31.39	621 35.57	1746
Total	697	134	166	179	1123	1204	3503

panel	ager2			Total
	< 18	18-64	65+	
CPS	373 21.23	801 45.59	583 33.18	1757
EXP	324 18.56	801 45.88	621 35.57	1746
Total	697	1602	1204	3503

panel	senior		Total
	< 65	65+	
CPS	1174 66.82	583 33.18	1757
EXP	1125 64.43	621 35.57	1746
Total	2299	1204	3503

panel	race			Total
	blkno his	other	whtno his	
CPS	225 12.81	174 9.9	1358 77.29	1757
EXP	160 9.16	187 10.71	1399 80.13	1746
Total	385	361	2757	3503

panel	hispan		Total
	no	yes	
CPS	1674 95.28	83 4.72	1757
EXP	1638 93.81	108 6.19	1746

Total	3312	191	3503
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Table of panel by educ (p=0.32)							
panel	educ						Total
	AA	BA	HSgrad	Prof	lessHS	smcolI	
CPS	120 7.68	184 11.77	630 40.31	147 9.4	209 13.37	273 17.47	1563
EXP	112 7.14	215 13.7	630 40.15	128 8.16	189 12.05	295 18.8	1569
Total	232	399	1260	275	398	568	3132
Frequency Missing = 371							

Table of panel by sex (p=0.99)			
panel	sex		Total
	Female	Male	
CPS	920 52.42	835 47.58	1755
EXP	914 52.41	830 47.59	1744
Total	1834	1665	3499
Frequency Missing = 4			

Table of panel by hinc (p=0.12)			
panel	hinc		Total
	above	below	
CPS	1002 59.68	677 40.32	1679
EXP	1038 62.3	628 37.7	1666
Total	2040	1305	3345
Frequency Missing = 158			

Table of panel by empstat (p=0.10)				
panel	empstat			Total
	FT-FY	NotW r	Other	
CPS	229 14.67	1020 65.34	312 19.99	1561
EXP	229 14.55	982 62.39	363 23.06	1574
Total	458	2002	675	3135
Frequency Missing = 368				

Table 1c: Demographics Across Treatments: Entire Sample CAL

Table of panel by ager1 (p=0.71)							
panel	ager1						Total
	1	2	3	4	5	6	
CPS	1198 27.25	192 4.37	231 5.25	341 7.76	1289 29.32	1146 26.06	4397
EXP	1060 25.75	183 4.45	228 5.54	314 7.63	1221 29.66	1110 26.97	4116
Total	2258	375	459	655	2510	2256	8513

Table of panel by ager2 (p=0.27)				
panel	ager2			Total
	1	2	3	
CPS	1198 27.25	2053 46.69	1146 26.06	4397
EXP	1060 25.75	1946 47.28	1110 26.97	4116
Total	2258	3999	2256	8513

Table of panel by senior (p=0.34)			
panel	senior		Total
	0	1	
CPS	3251 73.94	1146 26.06	4397
EXP	3006 73.03	1110 26.97	4116
Total	6257	2256	8513

Table of panel by race (p=0.00)				
panel	race			Total
	blknohis	other	whtnohis	
CPS	439 9.98	528 12.01	3430 78.01	4397
EXP	319 7.75	456 11.08	3341 81.17	4116
Total	758	984	6771	8513

Table of panel by hispan (p=0.40)			
panel	hispan		Total
	0	1	
CPS	4155 94.5	242 5.5	4397
EXP	3872 94.07	244 5.93	4116
Total	8027	486	8513

Table of panel by educ (p=0.59)							
panel	educ						Total
	AA	BA	HSgrad	Prof	lessHS	smcoll	
CPS	283 7.6	632 16.96	1279 34.33	415 11.14	484 12.99	633 16.99	3726
EXP	256 7.32	586 16.76	1244 35.58	368 10.53	420 12.01	622 17.79	3496
Total	539	1218	2523	783	904	1255	7222
Frequency Missing = 1291							

Table of panel by sex (p=0.65)			
panel	sex		Total
	Female	Male	
CPS	2293 52.23	2097 47.77	4390
EXP	2168 52.72	1944 47.28	4112
Total	4461	4041	8502
Frequency Missing = 11			

Table of panel by hinc (p=0.70)			
panel	hinc		Total
	above	below	
CPS	2821 67.13	1381 32.87	4202
EXP	2656 67.53	1277 32.47	3933
Total	5477	2658	8135
Frequency Missing = 378			

Table of panel by empstat (p=0.04)				
panel	empstat			Total
	FT-FY	NotWrkg	Other	
CPS	945 25.62	1913 51.86	831 22.53	3689
EXP	853 24.69	1735 50.22	867 25.09	3455
Total	1798	3648	1698	7144
Frequency Missing = 1369				