

The Maryland Current Population Survey Medicaid Undercount Study

July 25, 2005

Todd Eberly
Center for Health Program Development and Management

Mary Pohl and Stacey Davis
Maryland Department of Health and Mental Hygiene



CENTER FOR HEALTH PROGRAM
DEVELOPMENT AND MANAGEMENT

UMBC
AN HONORS UNIVERSITY IN MARYLAND

Executive Summary

According to the U.S. Census Bureau's Current Population Survey (CPS), approximately 441,000 individuals were enrolled in the Maryland Medicaid program at some point in calendar year 2003. State Medicaid enrollment data, however, recorded that nearly 713,600 of the state's residents participated in Medicaid during that period – a discrepancy of about 272,600 individuals. Depending on the source of the discrepancy, the CPS either understated Medicaid enrollment by 38 percent, or Maryland enrollment data overstated participation by 62 percent. Beyond the Maryland discrepancy, the CPS estimated that 33 million Americans were enrolled in Medicaid at some point in calendar year 2003. According to Centers for Medicare and Medicaid Services (CMS), however, there were in excess of 41 million Medicaid enrollees during that same time period.

In an effort to better understand the source of the discrepancy, the Maryland Department of Health and Mental Hygiene (DHMH), the state agency responsible for the Medicaid program, retained the Center for Health Program Development and Management (Center) at the University of Maryland, Baltimore County to conduct a survey to evaluate the completeness of the CPS data on reported Medicaid-eligible individuals in Maryland.

Through the administration of a survey modeled after the CPS questionnaire, the Center found that:

- Three-quarters of respondent households (selected from Medicaid enrollment files) indicated that at least one member of the household had been enrolled in Medicaid, HealthChoice, or the Maryland Children's Health Program.

- An additional 12.5 percent indicated enrollment when we added a question not contained in the CPS instrument, which identified Medicaid by the name “Medical Assistance.”

The findings from this study indicate that the discrepancy between the CPS estimate of Medicaid enrollment in the state and Maryland’s administrative data estimates results primarily from an undercount on the part of the CPS that could be significantly corrected if Medical Assistance was included in the CPS survey instrument as an alternate name for the Maryland Medicaid program. We estimate that the inclusion of the Medical Assistance option in the CPS questionnaire would have resulted in an estimated undercount of between 22 and 27 percent for 2003, a considerable improvement over the current 34 to 38 percent.

Introduction

The U.S. Census Bureau's Current Population Survey (CPS) is a monthly household survey conducted for the Bureau of Labor Statistics to provide information about employment, unemployment, and other characteristics of the civilian population.¹ In addition to the core survey, monthly supplements provide additional demographic and social data. The Health Insurance component of the CPS is administered as part of the Annual Social and Economic Supplement each March (March supplement) and gathers information on household insurance status during the calendar year immediately preceding the survey.² Although the CPS is the most commonly cited source for demographic information, such as estimates of the insurance status of Americans, there are concerns that the data may not provide accurate estimates of participation in public programs such as Medicaid.³

As a result, the Maryland Department of Health and Mental Hygiene (DHMH), the state agency responsible for the Medicaid program, retained the Center for Health Program Development and Management (Center) at the University of Maryland, Baltimore County to conduct a survey to evaluate the completeness of the CPS data on reported Medicaid-eligible individuals in Maryland.

¹ <http://nces.ed.gov/surveys/cps/>

² Nelson C. and R. J. Mills. 2001. "The March CPS Health Insurance Verification Question and its Effect on Estimates of the Uninsured." Housing and Household Economic Statistics Division U.S. Bureau of the Census. <<http://www.census.gov/hhes/www/hlthins/verif.html>>

³ Childstats.gov <<http://www.childstats.gov/ac1999/surveys.asp>>

Background

According to the 2004 CPS March supplement, approximately 441,000 individuals were enrolled in the Maryland Medicaid program at some point in calendar year 2003.⁴ This would equal about 8 percent of the state's 5.5 million residents. State Medicaid enrollment data, however, recorded that nearly 713,600, or about 13 percent of the state's residents participated in Medicaid during that period – a discrepancy of about 272,600 individuals. Depending on the source of the discrepancy, the CPS was either understating the true Medicaid enrollment in Maryland by 38 percent, and/or Maryland administrative data⁵ was overstating enrollment by 62 percent. As shown in Table 1, even if the true number were to be found somewhere between these two estimates, the discrepancy between the CPS estimate and DHMH's Medicaid administrative data enrollment count well exceeds the +/- 32,000 error margin of the CPS. Even when accounting for the CPS error margin, the undercount ranges from 34 to 38 percent.

Table 1: CPS Estimates of Maryland Medicaid Enrollment as Compared to State Administrative Data

CPS Estimate	CPS Estimate Upper Bound	State Administrative Count	CPS Undercount Range
441,000	473,000	713,600	33.7% - 38.3%

The discrepancy between state reported Medicaid administrative data enrollment figures and CPS estimates of Medicaid participation is not unique to Maryland. The Census Bureau estimated that 33 million Americans were enrolled in Medicaid at some point in calendar year 2003.⁶ According to the Centers for Medicare and Medicaid Services (CMS) state-reported

⁴ U.S. Census Bureau, Current Population Survey, 2004 Annual Social and Economic Supplement. Table HI05. Health Insurance Coverage Status and Type of Coverage by State and Age for All People: 2003. <http://pubdb3.census.gov/macro/032004/health/h05_000.htm>

⁵ For the purposes of this report, the term “administrative data” will be used to refer to state Medicaid and SCHIP enrollment records.

⁶ U.S. Census Bureau. <<http://www.census.gov/hhes/www/hlthins/hlthin03/hlth03asc.html>>

administrative data, however, there were an excess of 41 million Medicaid enrollees during that same time period – a discrepancy of 8 million.⁷ Although the national discrepancy is not as severe as Maryland's, the data suggest that CPS was either understating Medicaid enrollment by 20 percent, or CMS was overstating enrollment by nearly 25 percent.

Comparing the Data Sources

Before discussing the specifics of this study, it is important to note that the CPS and individual states gather and report estimates of Medicaid participation in very different ways. In Maryland, DHMH Medicaid eligibility/enrollment administrative data are generated when individuals apply for benefits at the Social Security Administration, DHMH, a local health department or the local departments of social services. Individuals must complete a paper application and program eligibility is means tested; some eligibility categories test only income while others test assets as well. State eligibility records are checked for duplicate applicants/enrollees and eligibility records from local agencies are transmitted to DHMH. State reported enrollment estimates are generated from these eligibility records.

In contrast to the data gathering approach employed by Maryland and other states, the CPS is a questionnaire administered by the Census Bureau to about 57,000 households monthly. The households are scientifically selected on the basis of area of residence to represent the nation as a whole, as well as individual states. The questions from the March supplement refer to activities during the calendar year preceding the survey. One person generally responds for all eligible members of the household and that individual, termed the “reference person,” must be 15 years of age or older and is typically the person who owns or rents the housing unit. In most

⁷ Medicaid Enrollment and Beneficiaries, Selected Fiscal Years. Centers for Medicare and Medicaid Services, November 2003. <http://www.cms.hhs.gov/researchers/pubs/datacompendium/2003/03pg34.pdf> (CL-030)

circumstances the reference person provides the health insurance information for all persons in the household.⁸ With regard to Medicaid enrollment, the CPS surveyor asked whether any one in the household was enrolled in Medicaid at any point during the preceding calendar year.

Although common, the use of survey data to obtain healthcare information can be unreliable as respondents are subject to recall bias and tend to provide “socially desirable” responses.^{9&10} Both problems could hamper the CPS as respondents are requested to provide information exclusive to a 12-month period that ended nearly three months prior to the survey and, to the extent that there is a stigma associated with Medicaid participation, respondents may consider it to be more socially desirable to deny program participation.

These distinct approaches to estimating Medicaid participation could certainly be expected to generate disparate results. The severity of the discrepancy, especially with regard to Maryland, suggests that there is a need to better understand the sources of the discrepancy as well as find ways to alleviate them.

Policy Implications

Whether enrollment is being understated or overstated may be viewed by some as largely an academic question about the reliability and validity of two separate data sources. Individuals actually enrolled in Medicaid may be expected to access and receive services regardless of whether or not their numbers are accurately reported. In actuality, however, the data

⁸ Annual Social and Economic Supplement (ASEC). Methodology and Documentation. 2004 Public Use File Technical Documentation. <<http://www.census.gov/apso/techdoc/cps/cpsmar04.pdf>>

⁹ Fowles, J., K. Rosheim, E. Fowler, C. Craft and L. Arrichiello. 1999. “The Validity of Self-Reported Diabetes Quality of Care Measures.” *International Journal for Quality in Health Care* 11:407-412.

¹⁰ Lieu, T., P. Lozano, J. Finkelstein, F. Chi, N. Jensvold, A. Capra, C. Quesenberry, J. Selby, and H. Farber. 2002. “Racial/Ethnic Variation in Asthma Status and Management Practices Among Children in Managed Medicaid.” *Pediatrics* 109(5):857-865.

discrepancies could reveal important problems that demonstrate that the problem is more than a mere academic issue. If state reported administrative data enrollment counts are correct, it is possible that millions of Medicaid enrollees are either refusing to acknowledge enrollment or are unaware that they or another family member is enrolled.

It is generally accepted that the discrepancy between the CPS estimate of Medicaid enrollment and the Medicaid participation figures reported by state data may result from respondents not admitting Medicaid coverage: 1) due to a stigma associated with public assistance programs; 2) because they are not currently receiving health services; or 3) because they do not realize that they are enrolled in Medicaid. With the emergence of Medicaid managed care, it is also possible that respondents who are enrolled in a managed care are reporting enrollment in private coverage.¹¹

Individuals who resist Medicaid participation due to a perceived stigma associated with receiving public assistance, or those who are unaware that they or their dependents are enrolled, may be foregoing the receipt of necessary and beneficial health care services. Additionally, the CPS provides the most commonly cited estimate of the nation's uninsured. Individuals unwilling to admit or unaware of Medicaid enrollment may be reporting that they are uninsured, resulting in an upward bias of the CPS estimates.

The CPS estimated that there were 45 million uninsured Americans in 2003, but other research and government estimates place the number more than 50 percent lower.¹²

Additionally, if individuals already enrolled in Medicaid are reluctant to admit program

¹¹ Lewis, Kimball, Marilyn Ellwood, and Czajka. 1998. "Counting the Uninsured: A Review of the Literature." *Assessing the New Federalism*, Occasional Paper No. 8. Washington, D.C.: The Urban Institute.

¹² "Coverage & Access: Number of Uninsured Might Be Overstated, New Research Suggests," *The Henry J. Kaiser Family Foundation*, Kaiser Daily Health Policy Report, April 25, 2005.
http://www.kaisernetwork.org/daily_reports/rep_index.cfm?hint=3&DR_ID=29604

participation due to a perceived stigma, it is likely that many eligible individuals resist ever enrolling . Uncertainty with regard to the true number of uninsured as well as what causes eligible individuals to forego public coverage, such as Medicaid, makes it difficult for policymakers to design and propose programs intended to combat uninsurance.

If the CPS data are correct, then states may have serious flaws in their enrollment data files. The increasing prevalence of capitated managed care as the delivery model for Medicaid services would serve to amplify the necessity of reliable enrollment counts. Under the capitated managed care model, states contract with private insurers for the health care delivery and management of Medicaid enrollees. These insurers are paid prospectively for Medicaid enrollees.

Some enrollees will incur expenses beyond the capitated rate, while others will not. Some enrollees will incur no expenses at all. If states appropriately account for these varying different utilization levels in their methodology to set capitation rates, states should not be overpaying the private insurers. Regardless, it still is important to know whether or not the enrollment numbers are correct for quality monitoring purposes.

The Maryland Study

Officials with DHMH have long been aware of the discrepancy between the CPS estimates and state reported administrative data enrollment counts. In recent years DHMH has undertaken several system checks to determine whether there are any extensive problems with enrollment files. In 2003 and again in 2004 DHMH compiled a list of individuals who had been enrolled in Medicaid during each of the preceding three years (155,000 people) and then checked Medicaid data to see how many of those enrollees had never received a single medical service.

As shown in Table 2, the 2003 study found that 5.1 percent (7,887 recipients) of the enrollees were found to have had no services; by 2004 the rate had fallen to 2.8 percent (4,436 recipients).

Table 2: Long Term Enrollees with No Record of Service Utilization

Enrollment Period (Calendar Years)	Percent with No Record of Medicaid Service
2000-2002	5.1%
2001-2003	2.8%

DHMH staff used the study results to improve the accuracy of enrollment records through such efforts as providing local health department or local departments of social services with lists long-term non-users for the purpose of verifying active enrollment. Their work resulted in a noticeable improvement evidenced by the decline in non-users between the two study periods.

It is possible that some of the non-users are individuals who are unaware of their Medicaid enrollment or who were enrolled in Medicaid as a result of applying for some other public assistance benefit. Some individuals applying for Temporary Assistance for Needy Families (TANF) or Supplemental Security Income (SSI) may simply be seeking financial assistance but simultaneously be enrolled in Medicaid.

DHMH has attempted to test the accuracy of their Medicaid enrollment administrative count via service utilization studies and although the studies have revealed the potential for minimal overcounting, the findings have largely served to validate state enrollment records. The studies that have been conducted suggest that any administrative overcount was far less than the 58 percent discrepancy of the CPS data. As part of an ongoing effort to improve data accuracy and to ensure a proper count of the number of Medicaid enrollees in Maryland, DHMH retained the Center to undertake a new project in late 2004.

On July 1, 2002, Maryland was one of twelve states to receive a State Planning Grant from the Department of Health and Human Services' Health Resources and Services Administration (HRSA). Using funds from the HRSA grant, the state sought to replicate the Health Insurance component of the March CPS supplement with the dual goals of verifying state enrollment data and testing the validity/accuracy of the CPS Health Insurance questionnaire. The state decided to administer the CPS questionnaire to a random selection of Medicaid enrollees drawn from state enrollment files.

DHMH contracted with the Center to assist with the design, implementation, and analysis of the survey. The survey was administered by the Schaefer Center for Public Policy, an academic survey and research firm at the University of Baltimore.

Methods

Data Source

The study population consisted of all enrollees in Maryland Medicaid during the year immediately preceding survey administration in January 2005. The data source utilized for this study was the Maryland Medicaid Management Information System (MMIS), which contains a record of all Medicaid enrollees.

Sample

The study sample was drawn from the population of 713,629 individuals who were enrolled in Medicaid or in the Maryland Children's Health Program (MCHP; the Maryland

iteration of the State Children's Health Insurance Program)¹³ at any point during the 12 months preceding administration of the survey in January 2005.¹⁴ A sample of 1,257 enrollee households was successfully interviewed. A review of household member names revealed that 299 responding households did not contain accurate contact information. Consequently, these households were removed from the sample, resulting in 958 completed interviews. A more thorough discussion of these 299 households and the decision to remove them from the sample is presented in the *Findings* section of this report.

Survey Administration

The Maryland survey was administered via telephone and the interviewer asked to speak with the person most knowledgeable of the health insurance status of household members. Although the Health Insurance component of the CPS March supplement was administered in its entirety, the actual questionnaire used for this study did deviate from the source material in some respects.¹⁵ The CPS March supplement contains several hundred questions in separate sections covering issues ranging from education to the receipt of public assistance, including the Health Insurance component. The DHMH survey was limited solely to the Health Insurance component of the CPS March supplement. The DHMH survey also included an introductory statement in which the interviewer stated that he/she was calling on behalf of the state of Maryland. Respondents were assured that their answers would be confidential and would in no way impact

¹³ The Maryland Children's Health Program is not operated as a stand-alone program, but rather as a Medicaid expansion.

¹⁴ Recipients of limited-benefit state only programs such as pharmacy assistance and family planning services were excluded from the study population as were dually eligible Medicare enrollees and individuals in foster care (as case workers are typically listed as contacts).

¹⁵ Unlike the CPS, the Maryland survey was conducted only English, possibly resulting in an English bias.

their receipt of any state benefits. Questions were also added to the very end of the questionnaire, but were only asked after all of the relevant CPS questions.

The additional questions were tied to a theory that the CPS undercount of Medicaid enrollment may result from survey respondents not knowing that they, or a household member, are enrolled in Medicaid. Although Medicaid is jointly funded by federal and state dollars, the program is administered by individual states and may be comprised of multiple programs and thus be known by separate names. The CPS questionnaire attempts to compensate for this diversity by offering the names appropriate to a respondent household's state of residence. In Maryland, for example, interviewers asked:

“At any time in 2002, (were you/was anyone in this household) covered by Medicaid/HealthChoice?”

HealthChoice is the name of the Maryland Medicaid managed care program which enrolls 80 percent of the state's Medicaid recipients. The list of alternative Medicaid program names provided by the CPS is not exhaustive; in most cases it is limited to one alternative name per state (i.e. HealthChoice in Maryland, Medi-Cal in California, Salud! in New Mexico, and MassHealth in Massachusetts). In cases where a recipient is enrolled in Medicaid but associates their health coverage with a different and unasked program name, the CPS will underreport Medicaid enrollment. In Maryland, there are several possible names that people may provide or identify with instead of Medicaid. Historically, the Maryland Medicaid program has been referred to as Maryland Medical Assistance. New enrollees receive red and white benefit cards that identify the program as Medical Assistance. Individuals enrolling in the HealthChoice managed care program also receive red and white Medical Assistance cards that entitle them to health benefits until they are enrolled into a managed care provider – at which time they receive

benefit cards featuring the name of the managed care organization (MCO) and the individual may associate benefits with the name of the MCO. Given these circumstances, it would be entirely possible for Medicaid enrollees to be simply unaware that they are in fact, enrolled in a program named Medicaid or HealthChoice.

To address the possibility of program misidentification the CPS questionnaire was amended for this study to include questions regarding enrollment in programs/insurers specific to Maryland Medicaid. Additional options included the term Medical Assistance, a description of program benefit cards, names of HealthChoice managed care organizations, and the names of various special population programs.¹⁶ These questions were added to the very end of the CPS questionnaire and were only administered after all relevant/appropriate CPS questions were answered. With this approach, it was possible to test the validity of the CPS questionnaire with regard to accurately identifying Medicaid enrollees and test whether the inclusion of additional state-specific options would improve accuracy.

Findings

One of the immediate findings from the survey had nothing to do with the questionnaire and was not totally unexpected. It became apparent shortly after the survey was fielded that there were problems with the accuracy of the contact information contained in state enrollment records. Of the 1,257 sampled interviews, 299 households had missing or incorrect phone numbers. Not surprisingly, the vast majority of such respondents indicated that no household members were enrolled in Medicaid.

¹⁶ Additional listed programs were: the Developmental Disabilities waiver program, the Rare and Expensive Care Management (REM) program, the Older Adults waiver program, the Living at Home: Maryland Community Choices program and the Autism waiver program.

It was decided that for these respondents, the surveyors we were not talking to the household that they had intended to reach. We, therefore, removed these respondent households from our sample and were left with a sample of 958 completed interviews.

After eliminating the households with no administrative name match, we found, as shown in Table 3, that nearly 6 in 10 respondent households indicated that at least one member of the household had been enrolled in Medicaid or HealthChoice during the past year. Responses to the next question concerning enrollment in the Maryland Children's Health Program (MCHP) showed that nearly 75 percent of our sample (drawn from Medicaid and MCHP enrollment records) indicated that at least one household member had been enrolled in one of the two programs in the past year.

Table 3: Question: At any time in the past year, were you or any one in your household covered by

	Medicaid or HealthChoice	Medicaid/ HealthChoice/ Maryland Children's Health Program	Medicaid/ HealthChoice/ Maryland Children's Health Program/ Medical Assistance	Medicaid/ HealthChoice/ Maryland Children's Health Program/ Medical Assistance/Other Program Names+
Percent	59.8%	74.7%*	87.5%*	89.4%
Affirmative	(56.6, 63.0)	(71.5, 77.9)	(84.3, 90.7)	(86.2, 92.6)
(Confidence Interval)				
P>.05	n=958	n=958	n=958	n=958

Percentages reflect cumulative totals from previous question.

* Denotes a statistically significant difference.

+Other program names included individual MCO names, descriptions of Medicaid enrollment card, etc...

As previously discussed, the 2004 CPS understated Medicaid enrollment (based on administrative data) in Maryland by approximately 37 percent. Administering the CPS questionnaire to a population drawn from enrollment files resulted in an undercount of just over 25 percent. The question remained whether there truly was an undercount resulting from the construction of the questionnaire or an overcount resulting from erroneous state enrollment data. Upon completion of the replicated CPS questionnaire, all respondents that had indicated no

household Medicaid, HealthChoice, or MCHP enrollment (referred to collectively in this paper as Medicaid enrollment) were asked whether any members had been enrolled in Medical Assistance. As shown in Table 3, the inclusion of the term Medical Assistance boosted our match rate to 87.5 percent. As one final step, a litany of other Medicaid/HealthChoice program names was provided. This boosted our total match rate to 89.4 percent, which indicated that 10.6 percent of our sample were either not enrolled in Medicaid or still were not correctly indicating enrollment.

In an effort to determine the extent to which state enrollment records may indeed have been overstating enrollment, we created a database comprised of the enrollees in the 10.6 percent of sampled households where no enrollment was indicated. Their health service utilization histories during the past year (the period during which respondents indicated no one was enrolled) were then examined from state Medicaid utilization data (the state tracks data on all medical encounters for all Medicaid enrollees). We found that 86 percent of the enrollees living in the 10.6 percent of households indicating no enrollment during the past year had in fact utilized at least one Medicaid service during that period.

As shown in Table 4, if those individuals who used services were added to the respondent households indicating program enrollment our administrative data match rate would increase to just over 98 percent.

Table 4: Administrative Data Match Rate Based on Respondent Answers and Service Utilization Files

	Medicaid/ HealthChoice/ Maryland Children's Health Program/ Medical Assistance	Medicaid/ HealthChoice/ Maryland Children's Health Program/ Medical Assistance/Other Program Names+	Medicaid/ HealthChoice/ Maryland Children's Health Program/ Medical Assistance/Other Program Names/Record of Service Utilization during Preceding 12 Months
Percent Affirmative (Confidence Interval)	87.5% (84.3, 90.7)	89.4% (86.2, 92.6)	98.4%* (95.2, 100)
P>.05	n=958	n=958	n=958

Percentages reflect cumulative totals from previous question.

* Denotes a statistically significant difference.

+Other program names included individual MCO names, descriptions of Medicaid enrollment card, etc...

Questions remained unanswered as to whether the 10.6 percent of respondents who indicated no enrollment intentionally provided a false answer or were truly unaware of enrollment. We theorized that respondents were either unaware of Medicaid coverage or chose to not admit such coverage. We believed that one likely cause of respondents being unaware of coverage could result from cash assistance recipients (TANF, SSI) either being unaware of simultaneous Medicaid coverage. We further theorized that respondents from households with higher incomes may be less likely to admit Medicaid enrollment due to a perceived stigma.

Enrollees in Maryland Medicaid are assigned to very specific eligibility categories upon entry to the program. These categories are based on the information provided during the initial application or application renewal process and help to define the benefits for which enrollees are eligible. There are several coverage categories that specifically identify recipients of cash assistance (TANF, SSI) as well as higher income enrollees (MCHP).

As shown by the data in Table 5, there was little indication that the receipt of cash assistance influenced respondent answers. Whether measured by the receipt of TANF or SSI there was no significant difference between those respondents who acknowledged Medicaid enrollment and those who denied such enrollment. This finding, combined with the finding that 86 percent of the enrollees identified by survey respondents as not being enrolled had in fact used Medicaid services (Table 4), suggests that many respondents simply did not wish to report that a household member received Medicaid and not that they are unaware of concordant Medical enrollment.

Table 5: Comparison of Enrollment Category by Respondent Acknowledgment of Medicaid Enrollment

	Among Households Acknowledging Enrollment	Among Households Denying Enrollment
Temporary Assistance for Needy Families (Confidence Interval)	15.1% (11.8, 18.4)	13.2% (3.5, 22.9)
Supplemental Security Income (Confidence Interval)	7.0% (3.7, 10.3)	9.9% (0.2, 19.6)
Maryland Children's Health Program (Confidence Interval)	17.8%* (14.5, 21.1)	34.1%* (24.4, 43.8)
Anyone in the Household with Employer Sponsored Insurance (Confidence Interval)	44.3%* (41.0, 47.6)	61.5%* (51.8, 71.2)
<i>P</i> > .05	n=859	n=90

* Denotes a statistically significant difference.

There were, however, indications that a person's willingness to answer may be related to income. If there is a stigma associated with admitting participation in public assistance programs such as Medicaid or MCHP then it may be reasonable to theorize that individuals with higher incomes may be more hesitant to admit participation. That theory is at least partially supported by the findings presented in Table 5. The households that denied Medicaid enrollment were significantly more likely to contain an enrollee participating in the Maryland Children's Health Program. Enrollment in MCHP is limited to children living in families with incomes between

185 and 300 percent of the federal poverty line, which is the upper income level covered by Maryland Medicaid. Additionally, the households where the respondent denied any Medicaid enrollment were significantly more likely to contain at least one person who was covered by employer sponsored insurance and there is a direct and positive link between income and the likelihood of being covered by employer sponsored insurance.¹⁷ Taken together, these findings could suggest that upper income individuals are less willing to acknowledge program participation. Additional research would be required to better understand the factors that influence responses to questions about participation in Medicaid or other public assistance programs.

Implications for CPS and State Administrative Data

Although the inclusion of the additional names for the Maryland Medicaid program and a check of the utilization history of enrollees in respondent households indicating no program enrollment provided a very high match rate, there still remained about 1.6 percent of households from our sample that indicated no enrollment and had no record of service utilization. That 1.6 percent, although small, would still translate into approximately 10,500 enrollees in a program believed to include over 700,000 individuals.

It is also important to remember that 299 respondent households were excluded from our initial sample because we could not link the names of any household members to the enrollee listed in our administrative data source file. This represented nearly 24 percent of our initial sample. If we were to assume that the 24 percent was indicative of an overall error in state enrollment data files, then enrollment may be overstated by about 166,000 in addition to the

¹⁷ Agency for Healthcare Research and Quality, Center for Financing, Access and Cost Trends. 2002 Medical Expenditure Panel Survey-Insurance Component.

10,500 estimated from our survey findings.. We found, however, that 75 percent of those 299 enrollees used services during the 12 months preceding the survey. Based on this finding, we concluded that the state had correctly counted their enrollment, but their contact information was either out of date or otherwise incorrect.

There still remained, however, nearly 25 percent of enrollees in the removed households and 1.5 percent of enrollees from the remaining sampled households that had no record of service utilization during the study period. Combined, they represented approximately 7 percent of the initial 1,259 sample. As with our earlier stated theory that respondents may have been unaware of Medicaid coverage that resulted from an application for cash assistance (TANF, SSI), we were concerned that the enrollees who did not use services may have been disproportionately cash assistance recipients. If we were to find such a relationship then this would suggest that the state is not overestimating Medicaid enrollment; rather there are a number of cash assistance recipients who are not using available services. In some case, these individuals may be unaware of the Medicaid coverage or they may choose to not avail themselves of the services provided.

To test this theory, we examined the eligibility categories of the enrollees identified with 299 households that we removed from the sample. As shown in Table 6, we found that enrollees in the removed households were no more or less likely to be enrolled in a cash assistance eligibility category when compared to the rest of the study sample.

Table 6: Comparison of Enrollment Category by Respondent Acknowledgment of Medicaid Enrollment

	Among Households Acknowledging Enrollment	Among Households Denying Enrollment	Among Households Removed from the Sample
Temporary Assistance for Needy Families (Confidence Interval)	15.1% (11.8, 18.4)	13.2% (3.5, 22.9)	13.7% (8, 19.4)
Supplemental Security Income (Confidence Interval)	7.3% (4.0, 10.6)	9.9% (0.2, 19.6)	10.7% (5, 16.4)
<i>P>.05</i>	n=859	n=90	n=299

We also found that the individuals who had not used Medicaid services during the relevant study year were less likely to be enrolled in a cash assistance coverage group when compared to those who had used Medicaid services (see Table 7). This finding was contrary to our expectation, but it is important to note that the differences were not statistically significant (at the .05 level). We also checked enrollment records to determine whether the individuals who had not used Medicaid services were more likely to have some type of insurance beyond just Medicaid, referred to in enrollment files as third party liability (TPL).

Table 7: Comparison of Individuals Identified as Not Enrolled and Individuals Residing in Households Removed from Study Sample, by Medicaid Service History

	Among Individuals Who Used No Services	Among Individuals Who Used Services
MCHP (Confidence Interval)	28.1% (18.9, 37.3)	14.5% (8.6, 20.4)
SSI (Confidence Interval)	1.8% (0, 11.0)	14.2% (8.3, 20.1)
TCA (Confidence Interval)	9.6% (0.04, 18.8)	15.3% (9.4, 21.2)
All Others (Confidence Interval)	57.9% (48.7, 67.1)	56.0% (50.1, 61.9)
Third Party Liability (Confidence Interval)	16.7% (7.5, 25.9)	9.5% (3.6, 15.4)
<i>P>.05</i>	n=114	n=275

We theorized that individuals with TPL may be accessing services outside of the Medicaid system. This would account for their lack of recorded Medicaid services and possibly explain why they were not identified by survey respondents as being enrolled in Medicaid. We

did find that individuals who had not used Medicaid services were more likely to have TPL, when compared to those who had used services, but the difference was not statistically significant (at the .05 level).

The TPL findings could suggest, at least anecdotally, that individuals with some type of alternate insurance are less likely to acknowledge Medicaid enrollment and may be accessing care using other health care insurance.

Collectively, these findings could suggest that a maximum of 7 percent of our sample, comprised of individuals who had used no Medicaid services and were either not identified as having been enrolled or were among the 299 removed from the sample, may represent a state enrollment overcount. This overcount cannot be explained by controlling for either enrollment in cash assistance programs or by the presence of alternative insurance. The 7 percent from our study would translate into a maximum potential overcount of 50,666 enrollees, if extrapolated to the state's reported Medicaid enrollment of 713,600, resulting in a revised lower bound enrollment count of about 663,000.

It should be noted, however, that basing an overcount estimate on service utilization likely inflates the magnitude of any potential overcount. Simply being enrolled in Medicaid neither ensures nor necessitates that an enrollee will use services during a given year and the service utilization look back employed in this study was limited to only a single year. Additionally, research has found that approximately 7.5 percent of Medicaid recipients forego or delay Medical care in a given year.¹⁸ It is also important to note that nearly 12 percent of the enrollees living in surveyed households that acknowledged Medicaid enrollment had no record of a received Medicaid service during the year under study. Given these caveats, it is probable

¹⁸ Schiller, Adams, Coriaty Nelson. 2005. "Summary health statistics for the U.S. population: National Health Interview Survey, 2003." National Center for Health Statistics. Vital Health Stat 10(224).

that any true state data overcount is well below 7 percent. A more reasonable estimate would be based on the 2.8 percent of long term enrollees found to have not used services in a prior DHMH study (see Table 2). Only about 26 percent of enrollees in a given year are enrolled for three consecutive years, so the 2.8 percent of long-term enrollees not using services would represent a smaller subset of a given year's population. In 2003, that equaled about 4,500 enrollees from the states managed care population – less than 1 percent. Extrapolating that figure to the state's reported 713,600 Medicaid enrollees would result in a more feasible potential overcount of approximately 7,136, resulting in a revised lower bound enrollment count of about 706,464.

Current federal law recognizes and allows for the possibility of state eligibility errors. States are permitted to make “erroneous excess payments for medical assistance” services delivered to technically ineligible individuals provided those payments do not exceed 3 percent of total state expenditures.¹⁹ This would suggest that CMS recognizes that some degree of error is inherent in any large administrative database and allowances are made for small errors.

Additional Findings

There were several other findings from this study worth noting beyond the question of the discrepancy between the CPS and Maryland administrative data estimates of Medicaid enrollment. The CPS March supplement questionnaire asks respondents to detail the health care experience of household members during the past calendar year. It has been theorized that, regardless of the question's wording, many respondents provide answers specific to the point-in-time when the question is asked. We attempted to test this theory by comparing the enrollment

¹⁹ See § 1903. [42 U.S.C. 1396b] (u) of the Social Security Act.

files of respondents who indicated that a household member had been enrolled in Medicaid (or HealthChoice or MCHP) in the past year with those indicating no enrollment.

Table 8: Contemporaneous Enrollment Status Compared to Past Enrollment Acknowledgement

	Households indicating that a member was not enrolled during the past year	Households indicating that a member was enrolled during the past year
Household Member Enrolled at the Time of the Survey	52%* (42.3, 61.7)	83%* (79.5, 86.5)
$P > .05$	n=90	n=859

* Denotes a statistically significant difference.

As shown in Table 8, respondents in households with a contemporaneously enrolled member were considerably more likely to affirm enrollment in the past year. This finding lends credence to the belief that many survey respondents provide their answer based on current circumstances – regardless of the question asked.

Other independent research supports that the CPS overestimates the number of uninsured in Maryland. Recent research has suggested that the CPS may be overestimating the actual number of uninsured by 20 percent or more.²⁰ The overcount is largely attributed to individuals enrolled in Medicaid indicating that they are (or were) uninsured.²¹ Separately, research conducted in other states has found that approximately 4 to 11 percent of Medicaid enrollees self-report being uninsured.²² We found that approximately 4.5 percent of the Medicaid enrollees in our sample were identified by survey respondents as having been uninsured for the entire 12-month period preceding the survey.

²⁰ “Number of Uninsured May be Overstated, Studies Suggest,” *Los Angeles Times*, April 26, 2005.

<http://www.latimes.com/news/nationworld/nation/la-na-uninsured26apr26,1.2553979.story>

²¹ “9 Million Fewer Uninsured?” Meeting Summary, American Enterprise Institute for Public Policy Research, April 2005. <http://www.aei.org/events/filter.all.eventID.1042/summary.asp>

²² Call, Kathleen Thiede. 2005. “Cumulative Evidence: The Impact of Response Error on Survey Estimates of Uninsurance.” Presentation, State Health Access Data Assistance Center, May 2005, Washington, DC.

Furthermore, research has found that stigma plays a significant role in whether an individual enrolls in Medicaid.²³ Individuals not enrolled in Medicaid are also more likely to hold a negative view of public assistance programs than individuals who are enrolled.²⁴ If, as the findings from this study suggest, individuals are reluctant to admit Medicaid participation then it is also likely that an even greater number of individuals are resisting program participation altogether; resulting in a greater number of uninsured.

Conclusion

Based on the findings from this survey, we estimate that the inclusion of the Medical Assistance option in the CPS questionnaire would have boosted reported Medicaid enrollment for 2003 from 441,000 (Table 1) to 518,000 (with an upper bound error range for 550,000). As shown in Table 8, the combination of adding the Medical Assistance option to the CPS questionnaire with the maximum possible Maryland administrative data overcount results in an estimated undercount of between 22 and 27 percent – a dramatic (though not perfect) improvement over the current 34 to 38 percent range detailed in Table 1, and very close to the 20 to 25 percent national discrepancy between the CPS estimate and the CMS-reported administrative count.

Table 8: Projected Impact of CPS Questionnaire Change and State Administrative Data Correction on CPS Undercount

Projected CPS Estimate with "Medical Assistance" Option	Projected CPS Estimate Upper Bound with "Medical Assistance" Option	State Administrative Count Lower Bound	Resultant CPS Undercount Range
518,000	550,000	706,464	22.1% - 26.7%

²³ Stuber, Jennifer, et al., 2000. "Beyond Stigma: What Barriers Actually Affect the Decisions of Low-Income Families to Enroll in Medicaid?" George Washington University Center for Health Services Research and Policy.

²⁴ Levinson, A. & S Rhardja. 2004. "Medicaid Stigma."
<<http://www.georgetown.edu/faculty/aml6/pdfs&zips/stigma.pdf>>

The findings from this study indicate that the discrepancy between the CPS estimate of Medicaid enrollment in the state and Maryland's administrative data estimates results primarily from an undercount on the part of the CPS. We believe that the undercount could be significantly corrected if the CPS were to include Medical Assistance as an alternate name for the Maryland Medicaid program. We further believe that any improvement in the accuracy of the CPS estimate of Medicaid enrollment would improve estimates of the number of uninsured in Maryland.

The combined effects of adding a Medical Assistance option to the CPS questionnaire and continuing efforts to improve the accuracy of administrative data could greatly reduce the current discrepancy between the two data sources and bring the Maryland discrepancy more in line with the observed discrepancy nationally and in other states.²⁵

²⁵ Call, K. T., et al. 2002. "Uncovering the Missing Medicaid Cases and Assessing their Bias for Estimates of the Uninsured" *Inquiry*, 38(4), 396-408.