

Response Error and the Medicaid Undercount in the 2009 Current Population Survey

James Noon, Leticia Fernandez, and Sonya Rastogi
U.S. Census Bureau

FedCASIC
March 4, 2015

Disclaimer: This presentation is released to inform interested parties of ongoing research and to encourage discussion of work in progress. The views expressed on technical, statistical, or methodological issues are those of the authors and not necessarily those of the U.S. Census Bureau.

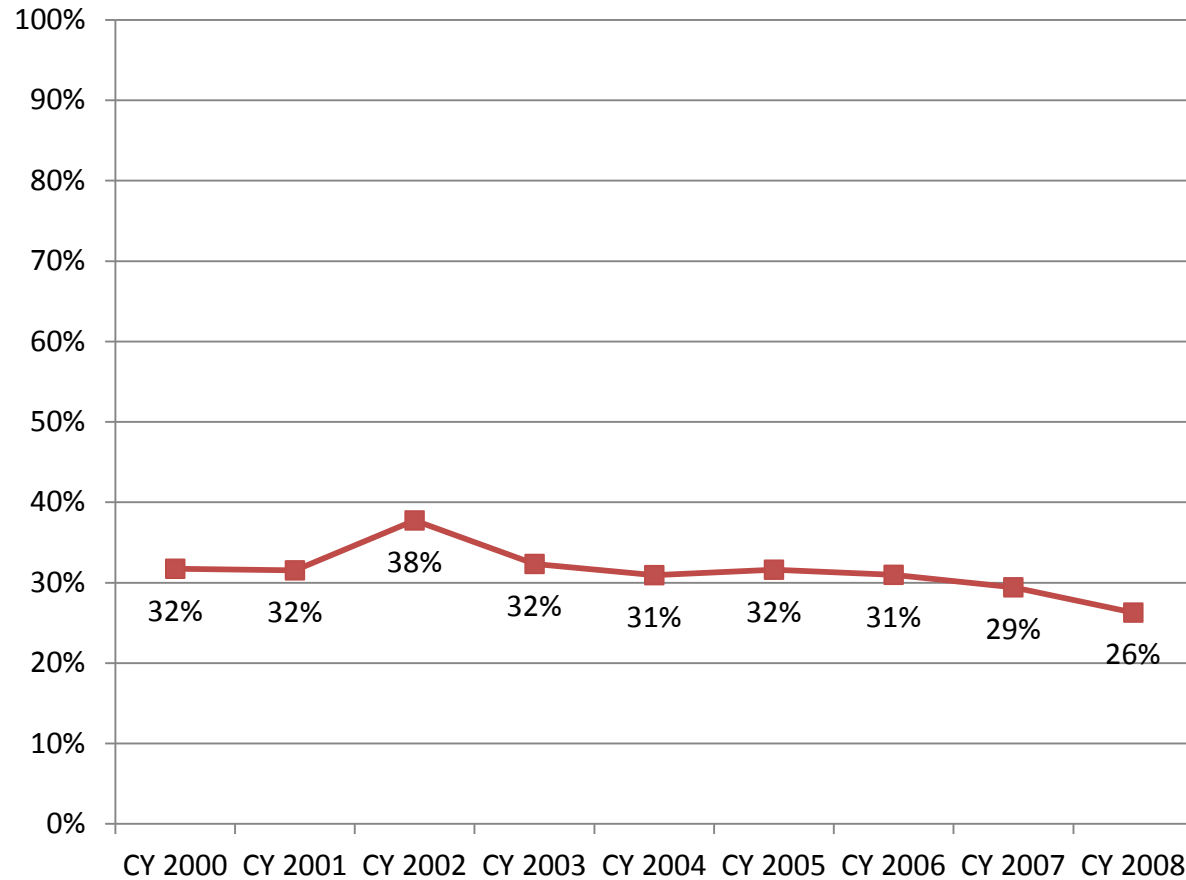
Overview of Presentation Topics

- Background on Medicaid undercount in the Current Population Survey Annual Social and Economic Supplement (CPS ASEC)
- Research Questions
- Data and Methodology
- Major Findings from Logistic Regression
- Conclusions

Background

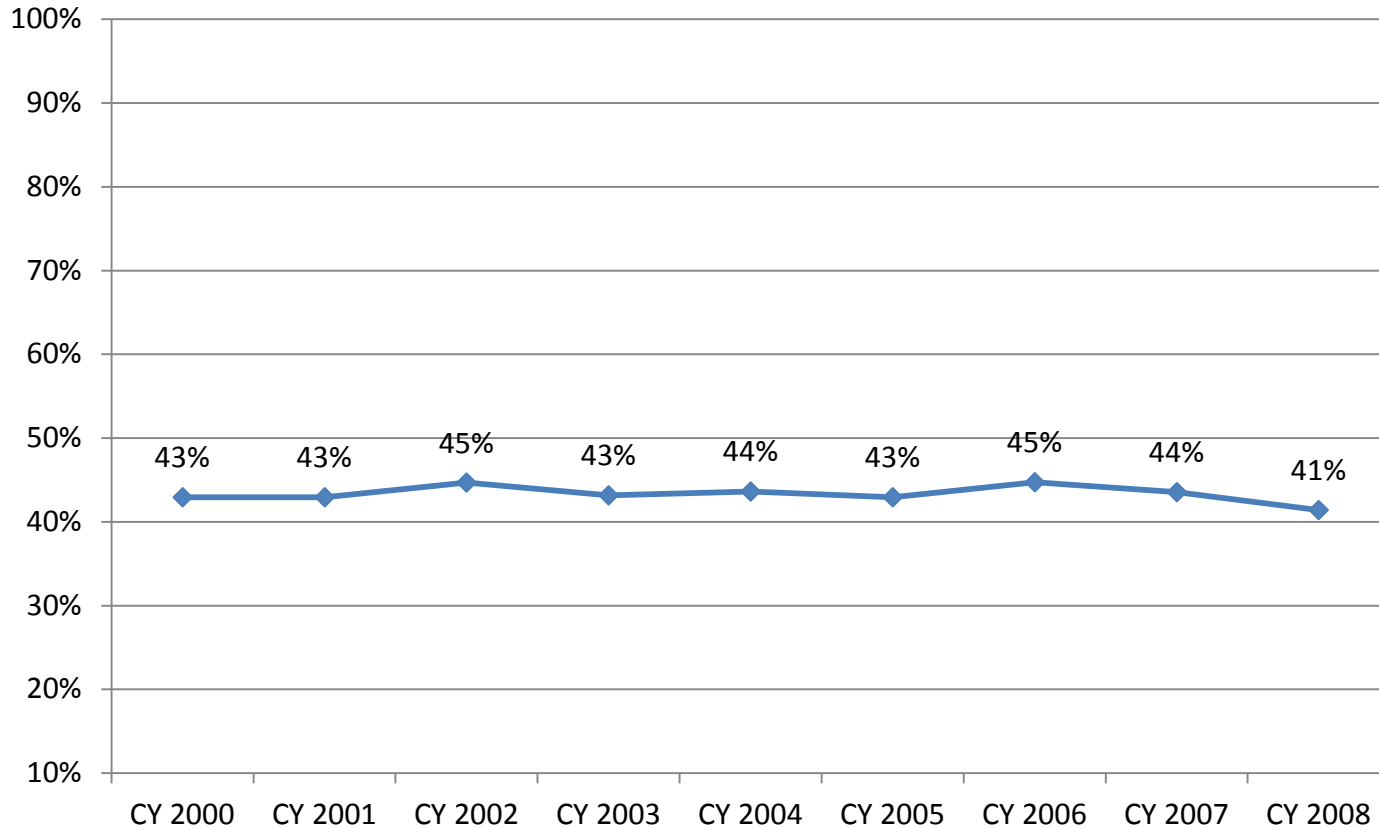
- Health insurance data collected by the Current Population Survey Annual Social and Economic Supplement (CPS ASEC) is used to estimate the number, percentage and characteristics of the uninsured population.
- CPS ASEC estimates of Medicaid enrollment are consistently lower than the enrollment rates reported in the Medicaid Statistical Information System (MSIS) database
- “Medicaid Undercount”

Medicaid Undercount in CPS ASEC, 2000-2008



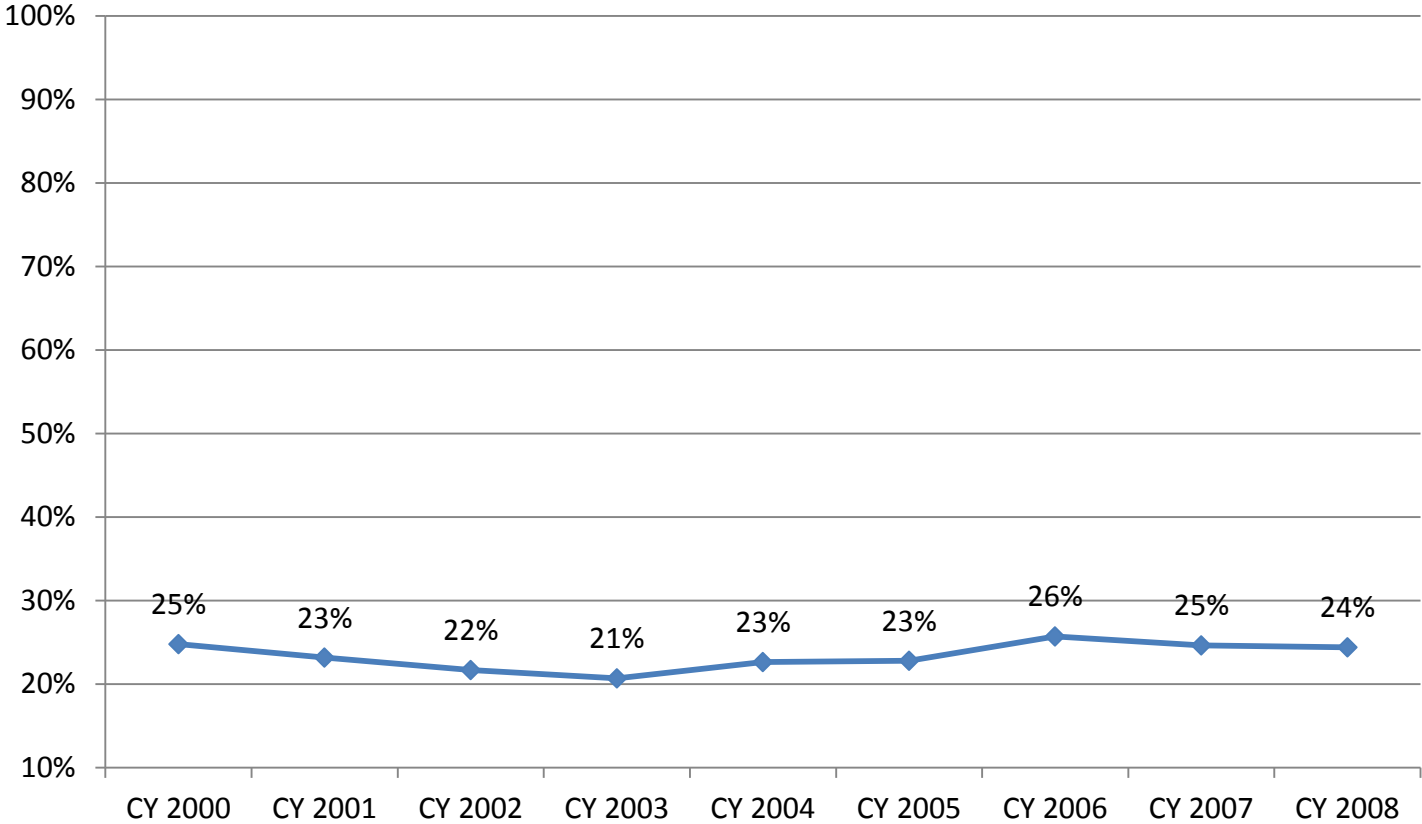
Sources: SNACC (2010) for years 2000-2005; authors' computations for years 2006-2008; CPS ASEC and MSIS.

Percentage Reporting False Negative Errors, CY 2000-2008



Sources: SNACC (2010) for years 2000-2005; authors' computations for years 2006-2008; CPS ASEC and MSIS.

Percentage Reporting False Positive Errors, CY 2000-2008



Sources: SNACC (2010) for years 2000-2005; authors' computations for years 2006-2008; CPS ASEC and MSIS.

Research on Survey Response Error for Medicaid Coverage

- Point in time versus recall conjecture
- Program name confusion, selective reporting
- Shared coverage

Research Questions

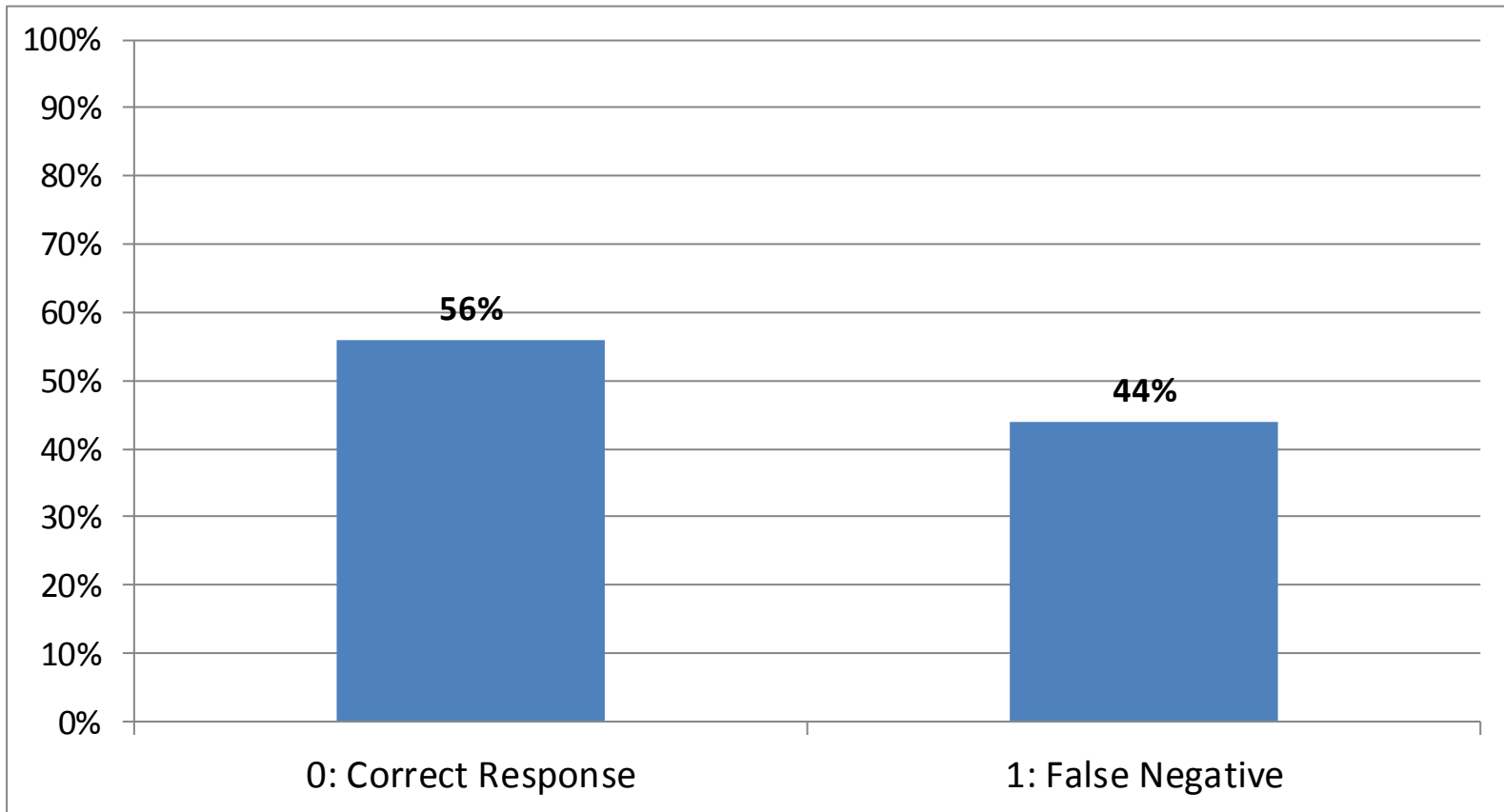
- What are the characteristics associated with response error for Medicaid coverage in the CPS ASEC?
 - Recall
 - Duration of enrollment
 - Point in time
 - Enrollment at time of survey
 - Program name and selective reporting
 - Enrollment in Medicare
 - Enrollment in other insurance programs
 - Shared coverage
 - Medicaid enrollment of others in household

Data and Methods

- CPS ASEC 2009
- MSIS 2008

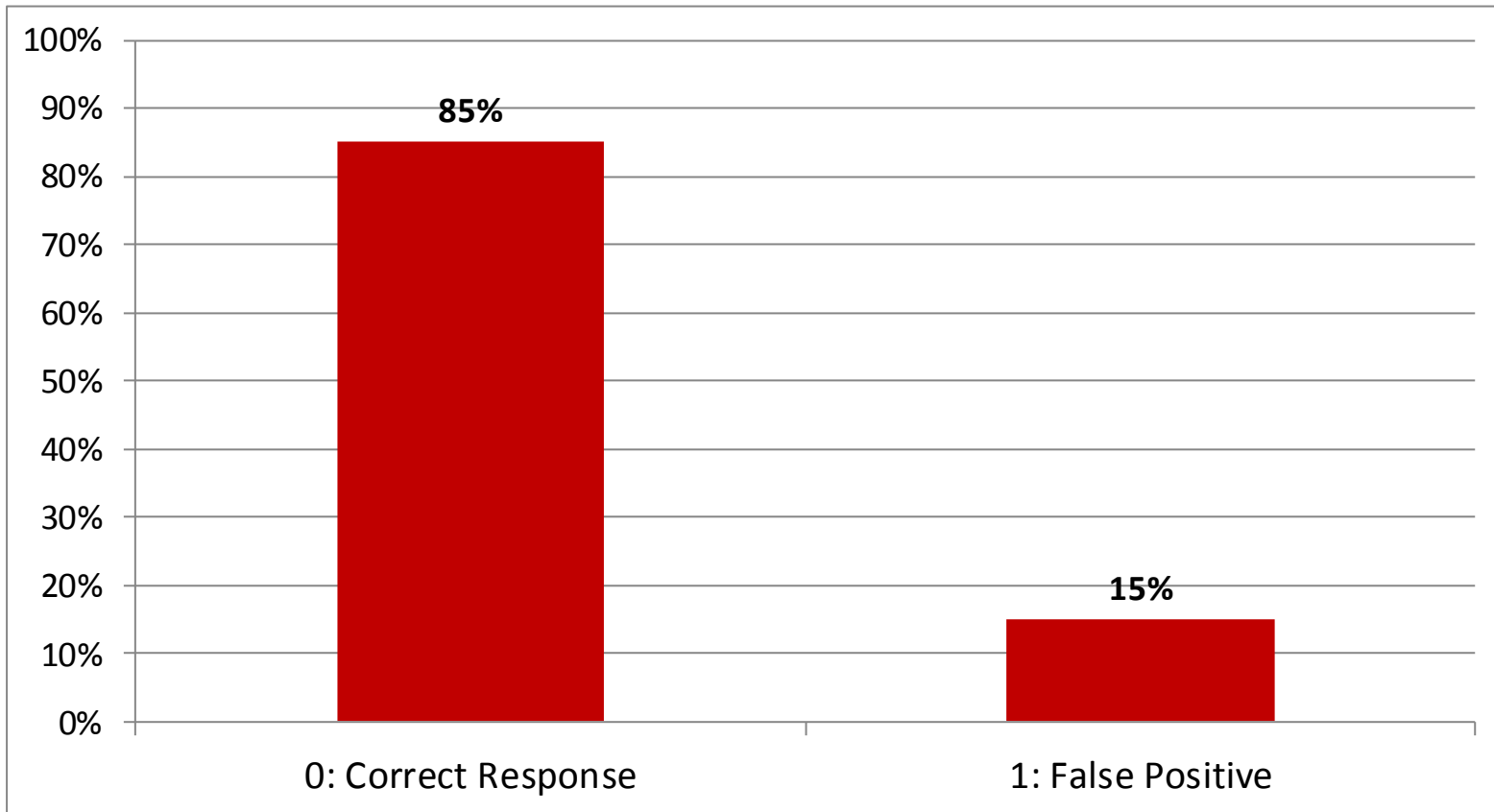
- Record Linkage - Unique identifiers called Protected Identification Keys (PIKs) were used to link persons in CPS ASEC and MSIS
- Unweighted Sample
 - False negative model: 10,277
 - False positive model: 7,617

Distribution of Dependent Variable, CPS-MSIS Linked Data, False Negative Model



Source: 2009 CPS ASEC and 2008 MSIS

Distribution of Dependent Variable, CPS-MSIS Linked Data, False Positive Model



Source: 2009 CPS ASEC and 2008 MSIS

Select Weighted Logistic Regression Results, Odds Ratios: Insurance Coverage

| | False Negative Model | False Positive Model |
|---|----------------------|----------------------|
| | Odds Ratio | Odds Ratio |
| <i>Insurance Coverage</i> | | |
| Number of days enrolled in Medicaid in 2008 (1-60 omitted) | | |
| 61-180 | 0.43*** | n/a |
| 181-364 | 0.27*** | n/a |
| All year | 0.17*** | n/a |
| Enrolled in Medicaid in survey year | 0.50*** | 1.07 |

False Negative Model Weighted n: 17,336,645

False Positive Model Weighted n: 12,513,628

***p<.001, **p<.01, *p<.05

Source: 2009 CPS ASEC: <http://www.census.gov/did/www/saipe/data/model/info/cpsasec.html>

2008 MSIS : <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Data-and-Systems/MSIS/Medicaid-Statistical-Information-System.html>

Select Weighted Logistic Regression Results, Odds Ratios: Insurance Coverage

| | False Negative Model | False Positive Model |
|--|----------------------|----------------------|
| | Odds Ratio | Odds Ratio |
| <i>Insurance Coverage</i> | | |
| Reported Medicare enrollment | 1.60*** | 0.48*** |
| Reported enrollment in another insurance program | 5.79*** | 1.35 |
| Shared Medicaid coverage | 0.93 | 0.35*** |

False Negative Model Weighted n: 17,336,645

False Positive Model Weighted n: 12,513,628

***p<.001, **p<.01, *p<.05

Source: 2009 CPS ASEC: <http://www.census.gov/did/www/saipe/data/model/info/cpsasec.html>

2008 MSIS : <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Data-and-Systems/MSIS/Medicaid-Statistical-Information-System.html>

Conclusions and Next Steps

- Point in time versus recall
 - Both relate to false negatives; point in time not tied to false positives
- Program name, selective reporting
 - Medicare enrollment and other insurance increase false negatives; Medicare enrollment reduces false positives
- Shared coverage
 - Reduces likelihood of false positive; no effect on false negatives
- Next steps
 - Who is reporting
 - Shared coverage
 - Compare false positives with those who correctly report not having Medicaid

Thank You!

james.noon@census.gov