

Mode of administration and other design considerations in health insurance estimation

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Overview of talk

- Background: ACS
- Research questions
- Literature
- Methods/Analytic considerations
- Results
 - Health insurance
 - Type
 - Number reported
- Discussion



Background - ACS

- Replaces decennial long form
- Response required under Title XIII
- Health insurance question introduced in 2008
- 4.5 million responses, 3.0 million available in Public Use Microdata Sample (PUMS)



Background - ACS

- Utilize multiple modes of data collection to “manage cost and quality” (Martin et al., 2007)
- Sequential:
Mail → CATI → CAPI
- Universal-Mode principles used to direct changes to the instrument and/or administration between modes
- “The meaning and intent of the question and response options must be consistent” (Dillman et al., 2009; Martin et al., 2007)



Background

- Forced choice format produced more reports and more accurate reports of coverage in ACS content test (Ericson & Nelson)
- Forced choice format shown to perform similarly in web and telephone surveys (Smyth et al., 2008).



15 Is this person **CURRENTLY** covered by any of the following types of health insurance or health coverage plans? Mark "Yes" or "No" for EACH type of coverage in items a – h.

	Yes	No
a. Insurance through a current or former employer or union (of this person or another family member)	<input type="checkbox"/>	<input type="checkbox"/>
b. Insurance purchased directly from an insurance company (by this person or another family member)	<input type="checkbox"/>	<input type="checkbox"/>
c. Medicare, for people 65 and older, or people with certain disabilities	<input type="checkbox"/>	<input type="checkbox"/>
d. Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability	<input type="checkbox"/>	<input type="checkbox"/>
e. TRICARE or other military health care	<input type="checkbox"/>	<input type="checkbox"/>
f. VA (including those who have ever used or enrolled for VA health care)	<input type="checkbox"/>	<input type="checkbox"/>
g. Indian Health Service	<input type="checkbox"/>	<input type="checkbox"/>
h. Any other type of health insurance or health coverage plan – <i>Specify</i> ↘	<input type="checkbox"/>	<input type="checkbox"/>

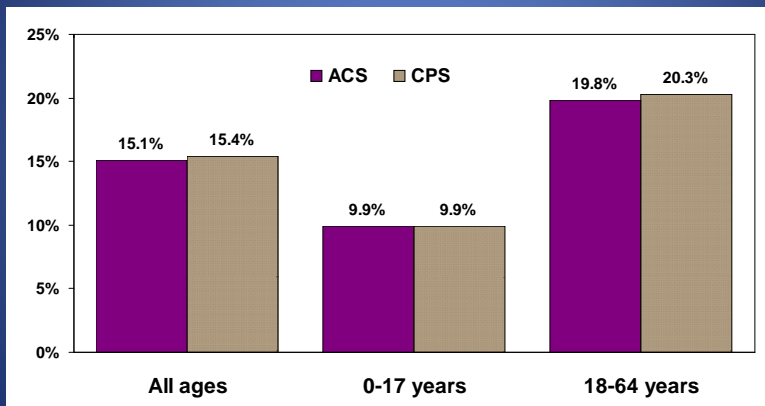
Design considerations

	ACS		CPS	
Mode	Mail/CATI/CAPI		CATI/CAPI	
Measure/ instrumentation	Point in time Force choice, single item No verification		All year Multiple questions Verification State fills	
Structure	Person loop		Household loop	



Background – ACS and CPS

ACS and CPS percent uninsured by age, United States

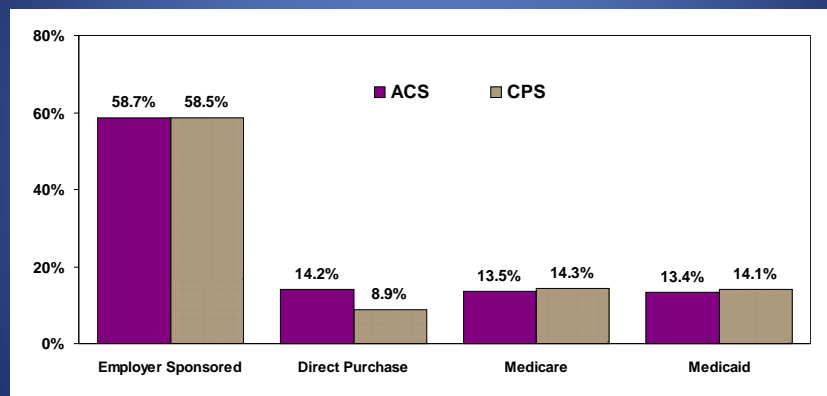


Source: SHADAC, using U.S. Census Bureau, Current Population Survey Annual and Social Economic Supplement, 2009; and 2008 American Community Survey.



Background – ACS and CPS

ACS and CPS coverage type, United States, all ages



Source: U.S. Census Bureau, Current Population Survey Annual and Social Economic Supplement, 2009; and 2008 American Community Survey.

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Research questions

- Does mode of ACS administration impact reports of health insurance coverage?
 - Selection into mode vs. mode effect
 - Type of coverage
 - Number reported



Literature

- Early responders more likely:
 - Older
 - Female
 - Higher SES

Hypothesis 1: Early responders (mail) more likely to have health insurance coverage.



Literature

- Simultaneous presentation of items in mail mode results in ability to keep track of responses and go back and forth between items (Schwarz et al., 1991).
- Data in self-administered surveys tend to be of higher quality with less acquiescence (de Leeuw 1992).

Hypothesis 2: Mail responders less likely to errantly report multiple types of health insurance coverage.

Hypothesis 3: Mail responders more likely to accurately report health insurance coverage type.



Literature

- Interview surveys more likely to produce “acceptable” answers with more social desirability bias (Schwarz et al. 1991; de Leeuw 1992; Dillman et al. 1996; Dillman et al. 2009).

Hypothesis 4: Mail respondents less likely to report public coverage



Hypotheses

- 1: Early responders (mail) more likely to have health insurance coverage.*
- 2: Mail responders less likely to errantly report multiple types of health insurance coverage.*
- 3: Mail responders more likely to accurately report health insurance coverage type.*
- 4: Mail respondents less likely to report public coverage*



Testable Hypotheses

1: *Early responders (mail) more likely to report health insurance coverage.*

Controlling for demographic differences:

2: *Mail responders less likely to report multiple types of health insurance coverage.*

3: *Mail respondents less likely to report public coverage*



Analytic considerations

- Exclude Group Quarters
- Reported rates of coverage
 - unweighted data
 - undo edits
 - 2007 mail sample
- Limitations: PUMS data
 - CATI and CAPI are pooled
 - Do not have fully unedited data
 - 2007 assumption
 - Do not have reported person order



Results

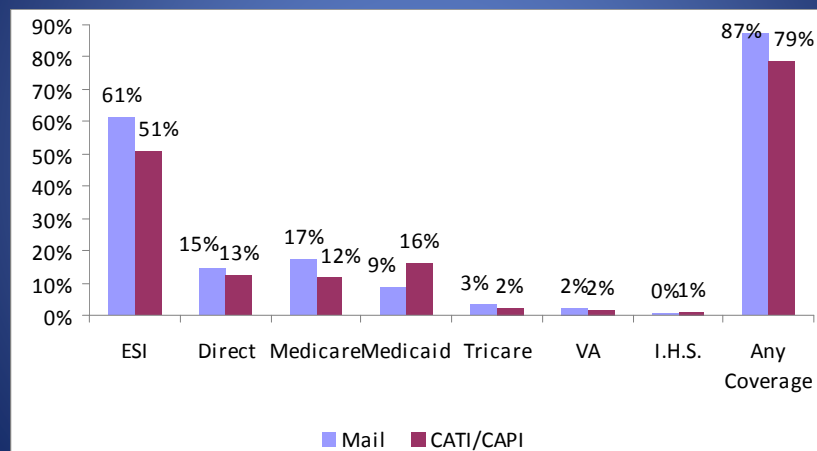
Mail respondents are more likely:

- Older (> 45 years)
- Female
- Higher income (>300% FPL)
- US Citizen
- White or Asian
- Higher education attainment (Some college or more)
- Employed, in armed forces, or not in labor force
- Reference person or spouse of reference person

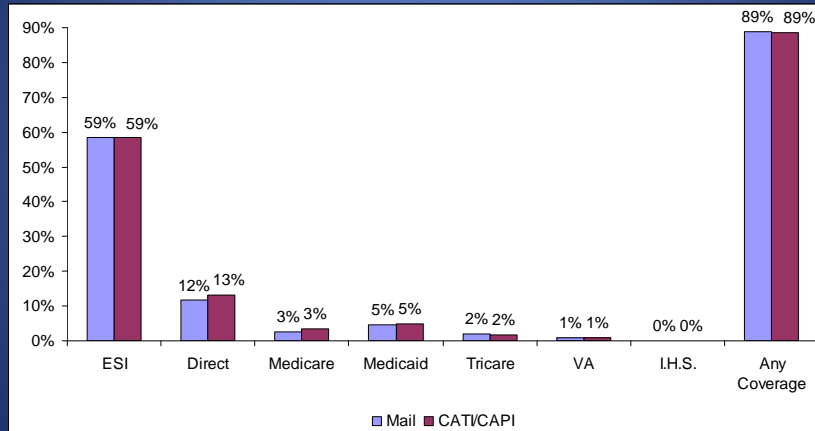


Results

ACS, health insurance coverage by mode, 2008



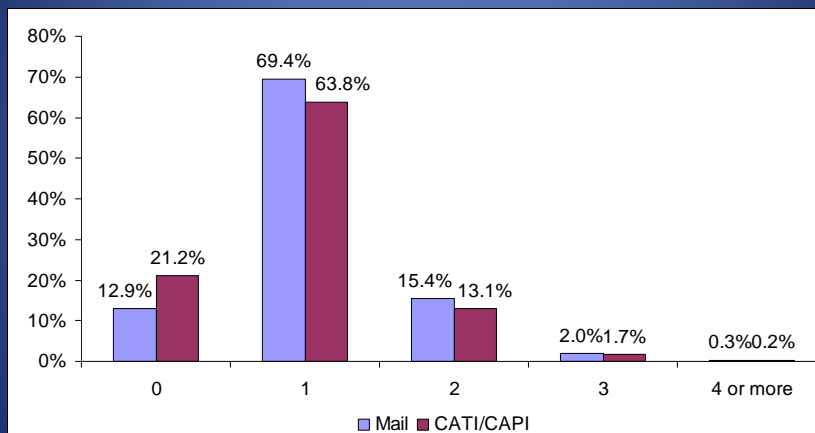
Adjusted insurance*



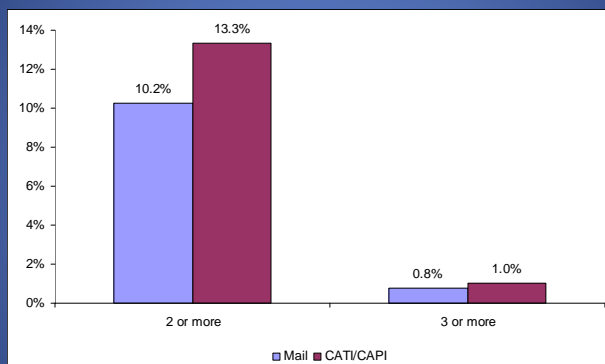
* Logistic regression adjusting for covariates presented in previous tables.



Reporting double coverage in ACS



Adjusted double coverage*



* Logistic regression adjusting for covariates presented in previous tables.



Discussion

- Earlier responders are more likely to have health insurance coverage – largely driven by covariates
 - More selection into mode than mode effect
- Mail respondents no more or less likely to report public coverage
 - No evidence of social desirability bias
- Mail respondents less likely to report multiple types of coverage
 - Evidence of less acquiescence and better ability to keep track of responses?



Conclusion

- Evidence of success in unified mode design
- Future work needed:
 - Full ACS file
 - True response patterns (unedited data)
 - Differences between CATI and CAPI
 - Randomized design
 - Impact of other design features



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