



## A Test of Web/PAPI Protocols and Incentives for the Residential Energy Consumption Survey

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## The Residential Energy Consumption Survey (RECS)

- A periodic survey of households that collects
  - energy characteristics
  - energy usage patterns
  - household demographics.
- Conducted by EIA since 1978
  - last fielded in 2009
- Traditionally collected via CAPI
- Current research focuses on the feasibility and quality implications of moving RECS to mail with web push

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## National Pilot Study Goals

Evaluate/compare data quality and cost metrics for:

- Four data collection protocols

Protocol	Response Options Offered		
	1 <sup>st</sup> Request	2 <sup>nd</sup> Request	3 <sup>rd</sup> Request
CAWI only	Web	Web	Web
CAWI/PAPI	Web	Web or PAPI	Web or PAPI
Choice	Web or PAPI	Web or PAPI	Web or PAPI
Choice+	Web* or PAPI	Web* or PAPI	Web* or PAPI

\*incentivized (additional \$10 promised)

- Two promised incentive offers (\$10 and \$20)
- Extended nonresponse followup (xNRFU) using an abbreviated (2 page) PAPI questionnaire

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## Experimental Design ( $n = 9650$ )

Protocols	Incentives (\$5 unconditional)	
	+\$10 promised	+\$20 promised
CAWI only	1207	1206
CAWI/PAPI	1206	1206
Choice	1207	1206
Choice+ (+\$10 for web)	1206	1206

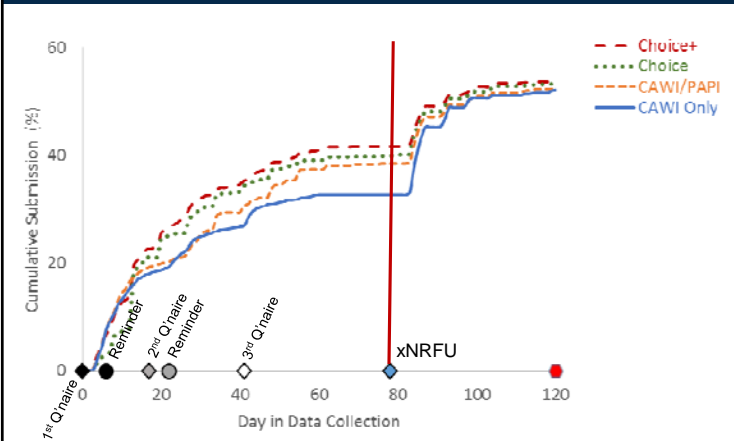
xNRFU (PAPI only)	<i>n</i>
xNRFU+ ( \$10 promised)	1,415
xNRFU	1,520

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# Results

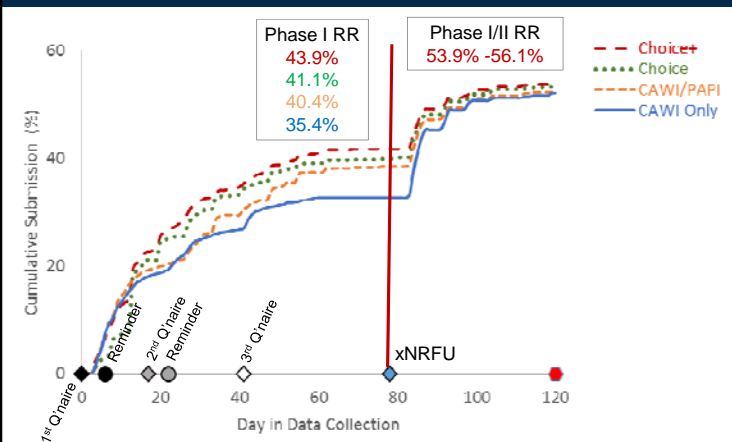
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## Submission rates by mode protocol



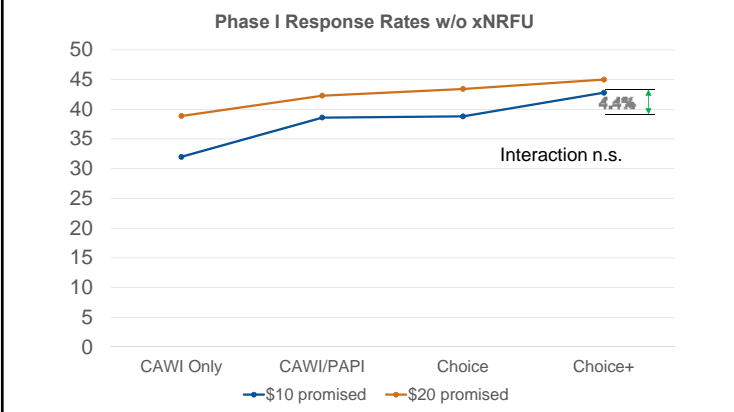
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## Submission rates by mode protocol



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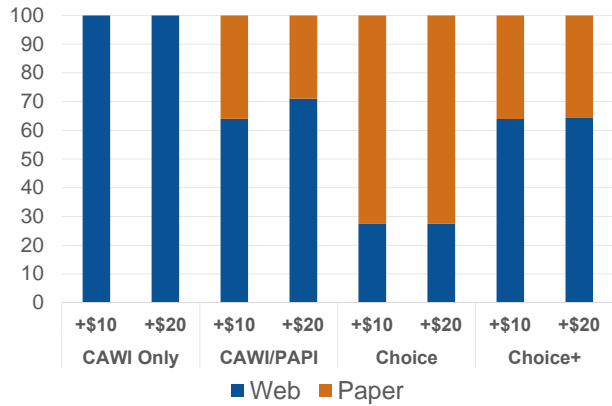
## \$20 Promised Incentive Uniformly Increased RRs across Protocols



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Choice respondents favored PAPI.  
The effect was reversed for Choice+

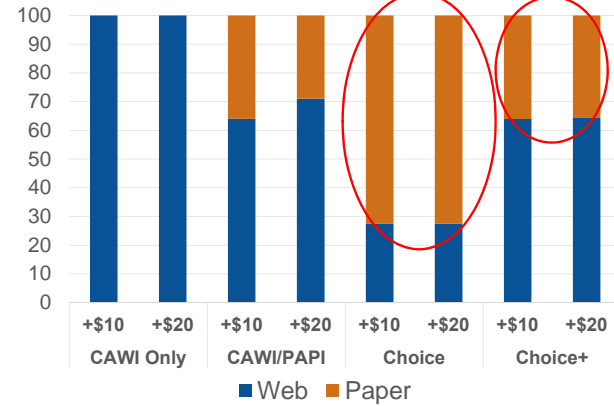
Mode of Response by Protocol and Incentive



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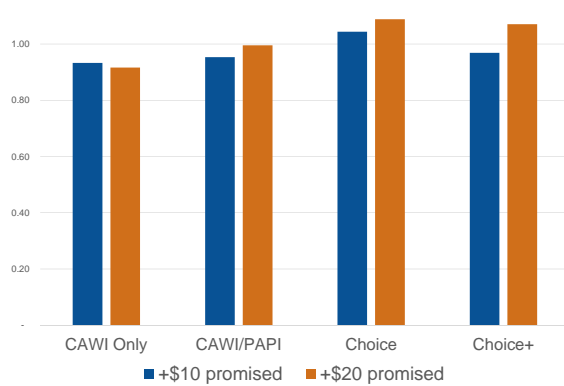
Mode of Response by Protocol and Incentive



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Cost of Choice+ is comparable to CAWI/PAPI

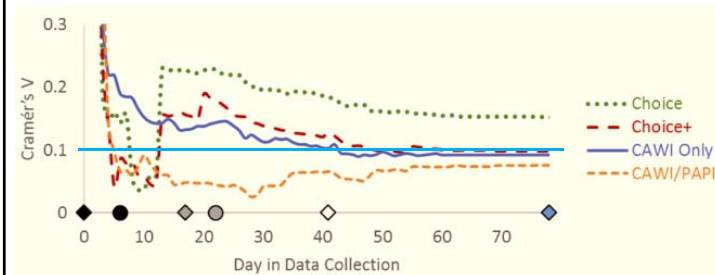
Relative Cost per Completed Interview  
(1.00 = average)



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Representativity (Phase I) in 'good' to 'very good' range based on comparisons to ACS benchmarks.

Eg. Age representativity using Cramér's V



NOTE:  $V \leq 0.1$  is very good representativity.

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## Key Take-aways

- **Choice+ protocol delivered**
  - The highest response rate
  - Double the web submissions over *Choice* (comparable to *CAWI/PAPI*)
  - Costs that were comparable to *CAWI/PAPI*
  - Very good representativity relative to ACS bench marks
- **A promised incentive of \$20 vs. \$10**
  - Boosted response rates about 4.4 percentage points
  - Was most effective for *CAWI Only* (>6 percentage points increase)
- **Extended NRFU using abbreviated questionnaires**
  - Boosted overall response rates by about 15 percentage points
  - Additional promised incentive of \$10 increased overall RR by 3 points
  - Effect on nonresponse bias mitigation still being evaluated
- **Based on these findings, EIA implemented Choice+ for part of the 2015 RECS**

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