



Using the Census Planning Database to Tailor a National Mixed-Mode Survey

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Joe Murphy, Joe McMichael, Paul Biemer, Darryl Creel

Challenges in Mixed-Mode Administration

- Can be difficult to plan in advance for the most effective strategy for
 - Maximizing response rate
 - Minimizing cost
 - Achieving good sample representativeness
- Cross sectional samples lack information on prior response behavior
- Frames rarely include rich data to tailor features like incentives, modes

Census Low Response Score (LRS)

- Shows what block groups were more (low LRS) & less (high LRS) likely to return 2010 Census by mail
- Will it translate to other surveys and modes?
- Example application: Residential Energy Consumption Survey (RECS)
 - Conducted by U.S. Energy Information Administration
 - Collects energy characteristics & usage patterns, household demographics
 - Traditionally collected via CAPI but half of cases in 2015 completed by web & paper
 - Pilot studies focused on the feasibility and quality implications of moving RECS to mail with web push

RECS samples examined

RECS Sample	Description	N	Incentives	Response Rate (RR3)
National Pilot* (Choice+ protocol) low incentive	Contact by mail and invitation to respond by web or paper	1,206	\$5 pre, \$10 promised (+\$10 bonus for web response)	42.8%
National Pilot (Choice+ protocol) high incentive	""	1,206	\$5 pre, \$20 promised (+\$10 bonus for web response)	45.0%
2015 Main Study Choice+ sample	""	6,056	\$5 pre, \$10 promised (+\$10 bonus for web response)	40.4%
2015 Main Study Field sample**	Contact by field interviewers who administered computer assisted personal interview (CAPI)	6,522	\$10 promised	35.9%

* Choice+ was the most effective of 4 tested protocols. National Pilot total sample = 9,650

** Most nonrespondents pursued via Choice+ protocol after field period; final Main Study RR = 51.2%

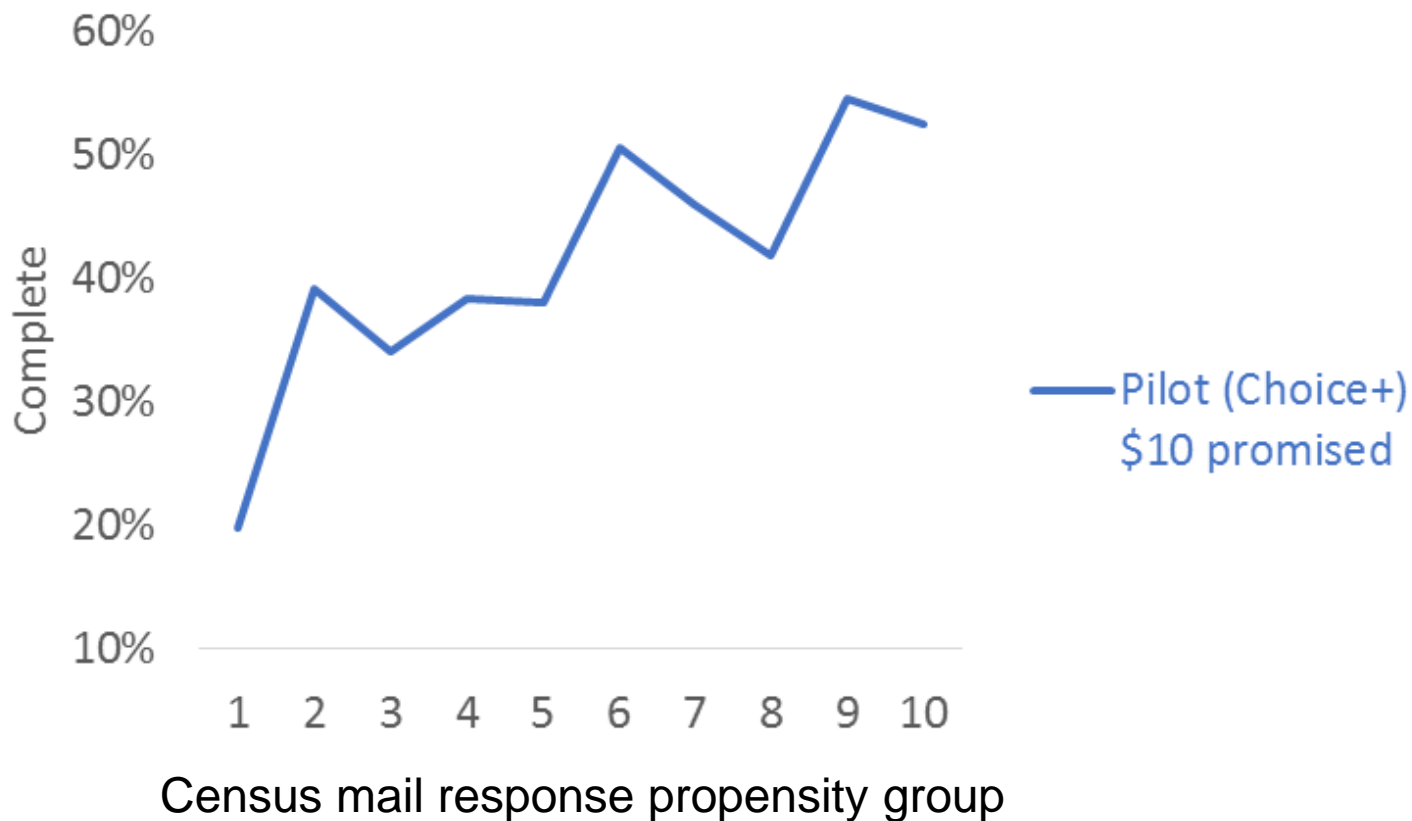
Methods

- Computed propensity groups based on ranges of LRS
- Geocoded RECS cases to block groups

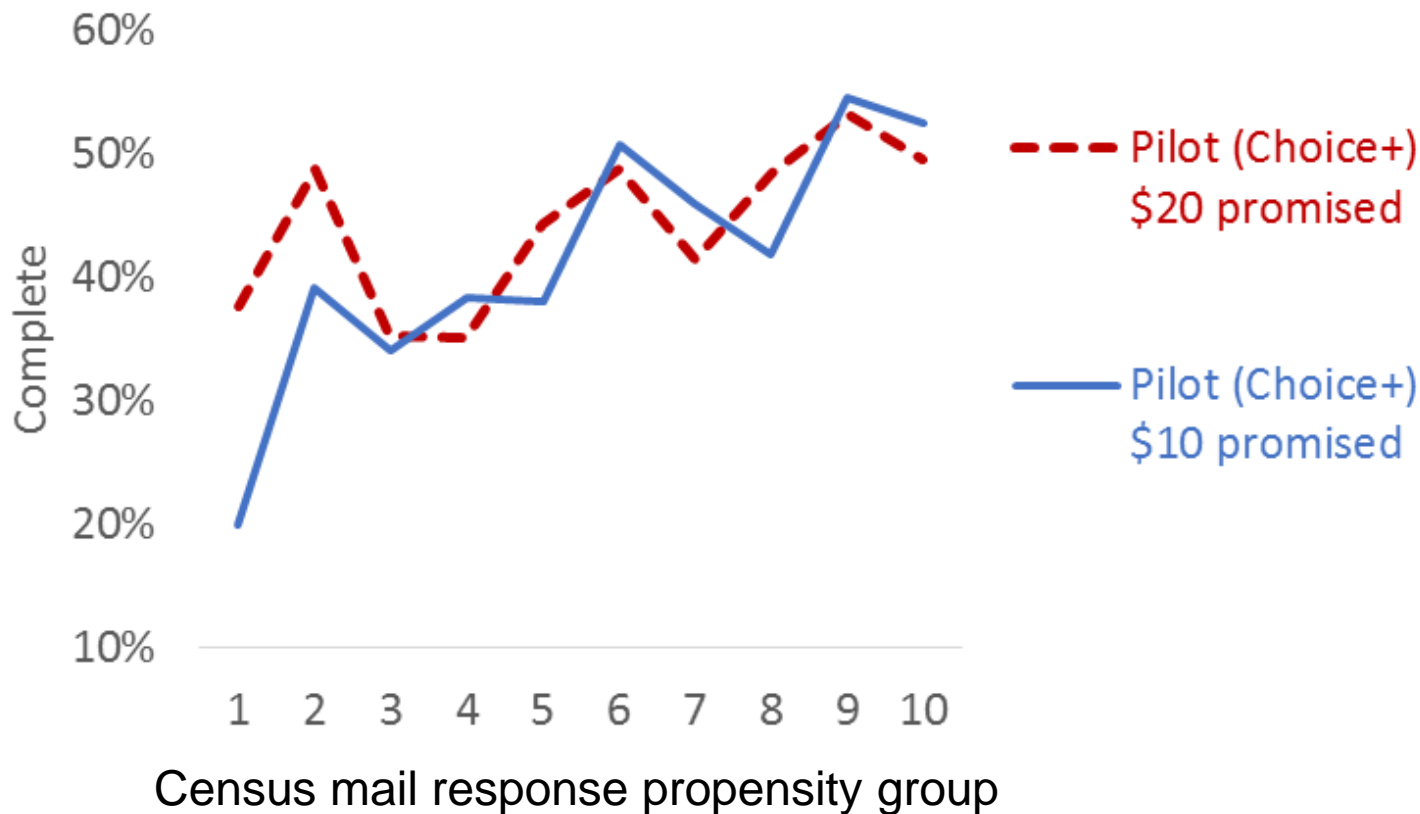
Propensity Group	1	2	3	4	5	6	7	8	9	10
Census LRS	29+	27-29	25-27	23-25	21-23	19-21	17-19	15-17	13-15	0-13
RECS cases	12%	7%	8%	10%	12%	15%	13%	14%	11%	8%

- Calculated RECS completion rates by LRS group
- Compared completions rates by LRS group and RECS protocol
- Simulated the response rate and cost gains under hybrid method scenarios based on LRS

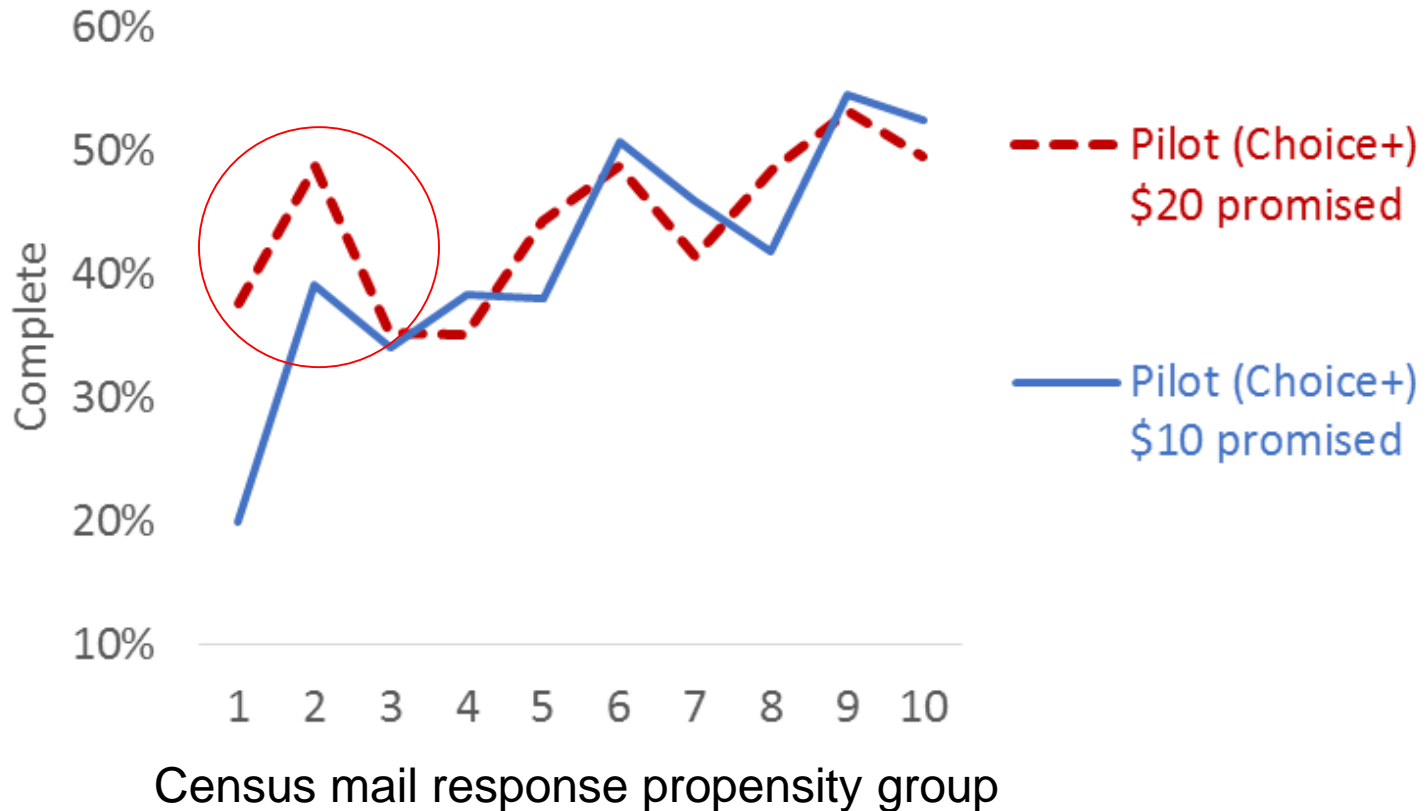
Pilot response (\$10 promised treatment) positively correlated with Census mail response propensity group



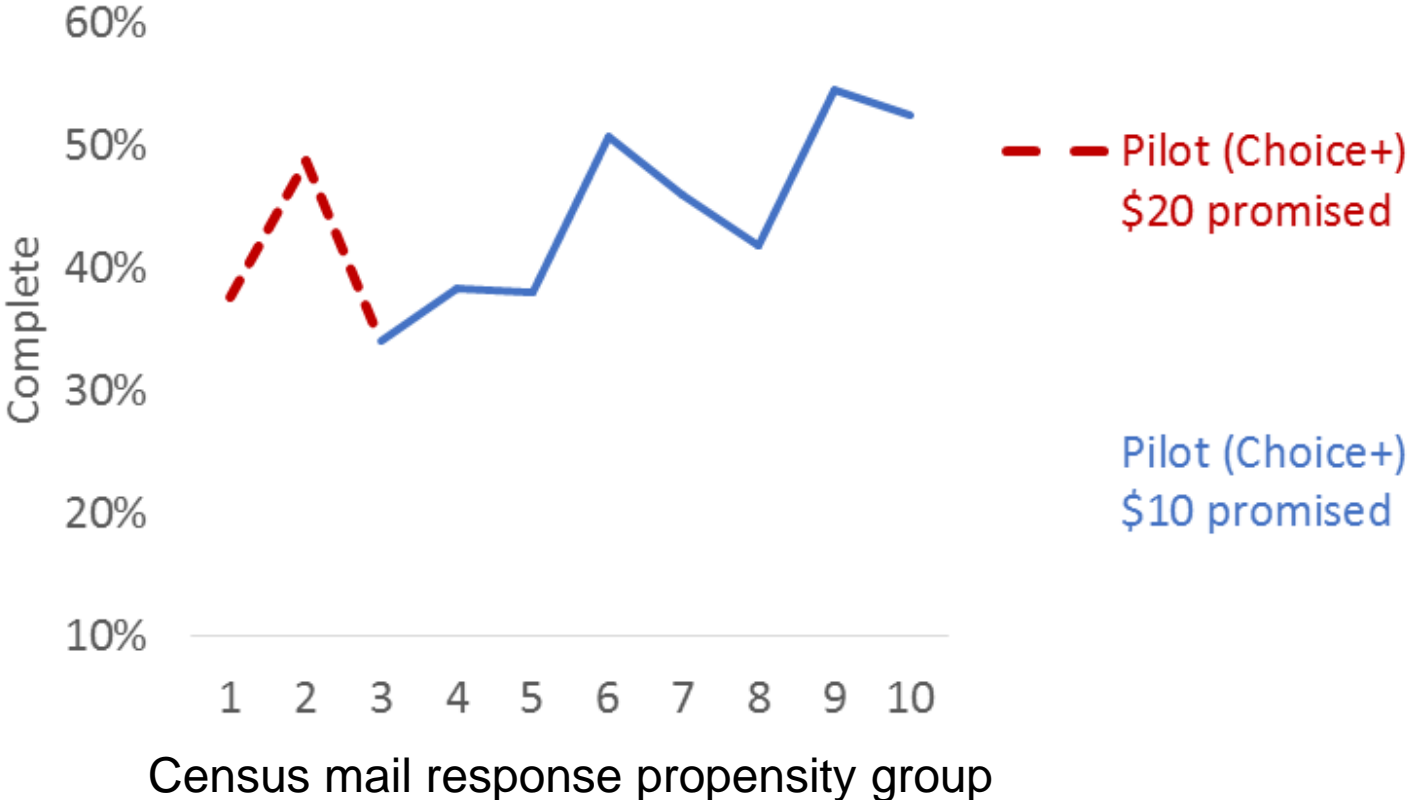
\$20 treatment more effective, but only at lowest levels of Census mail response propensity



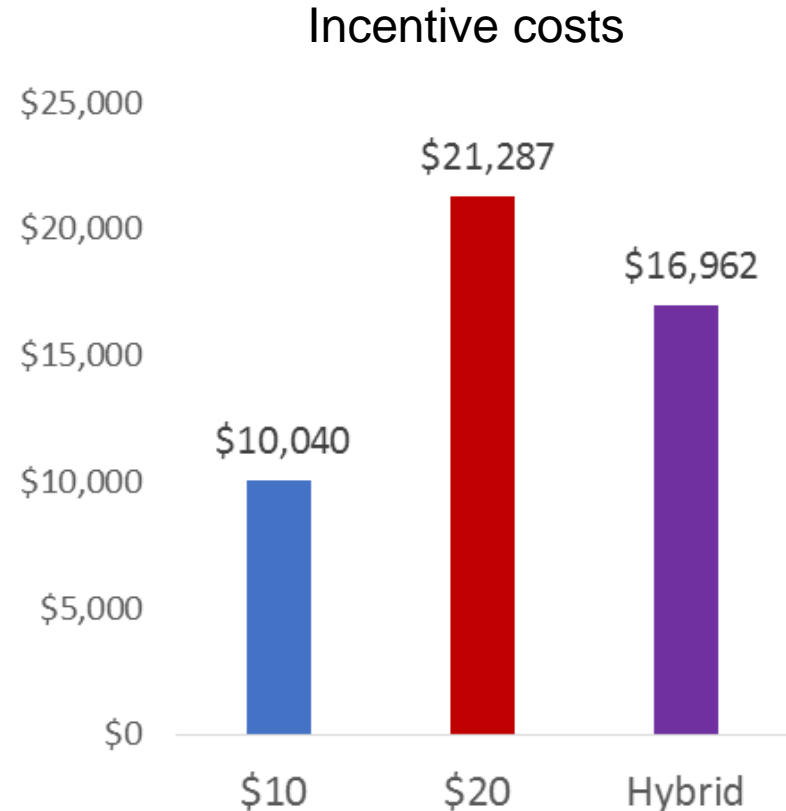
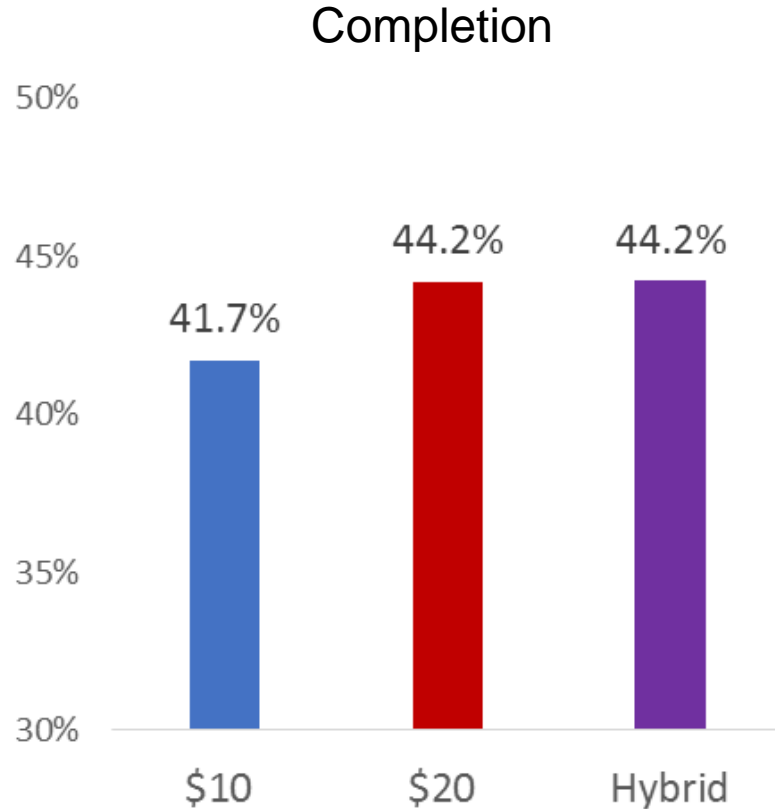
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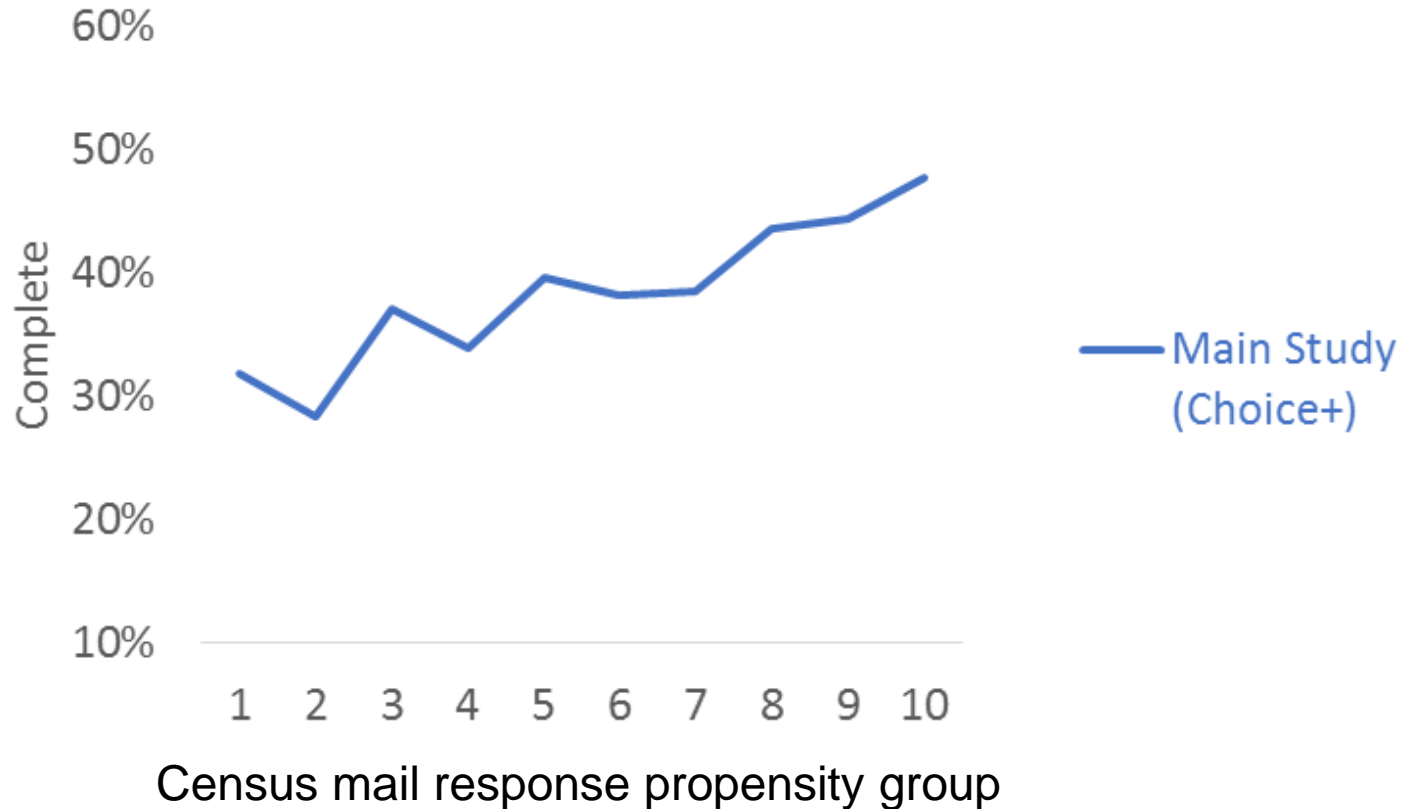
A hybrid approach would boost response rates at the lowest propensity levels



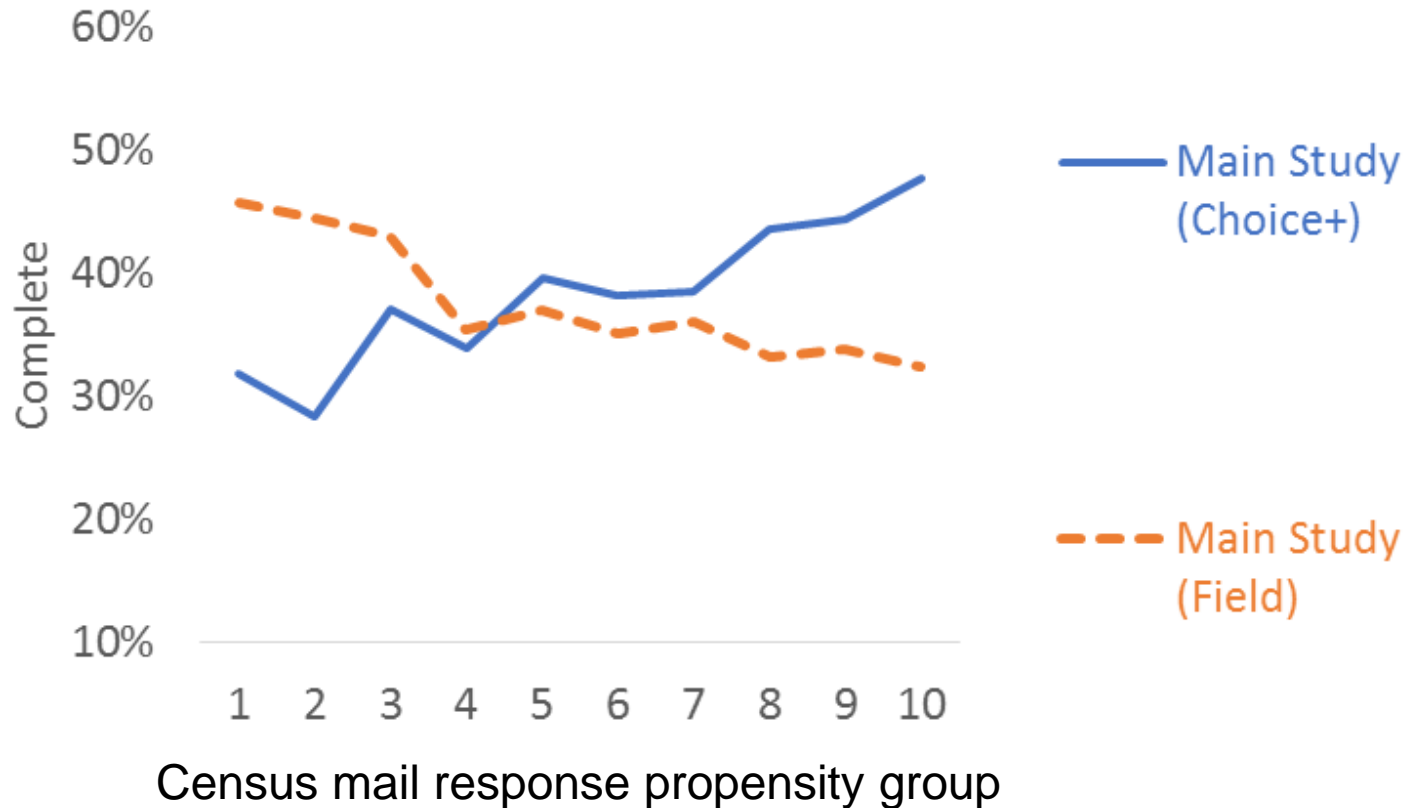
Hybrid would achieve same completion rate for lower total cost of incentives



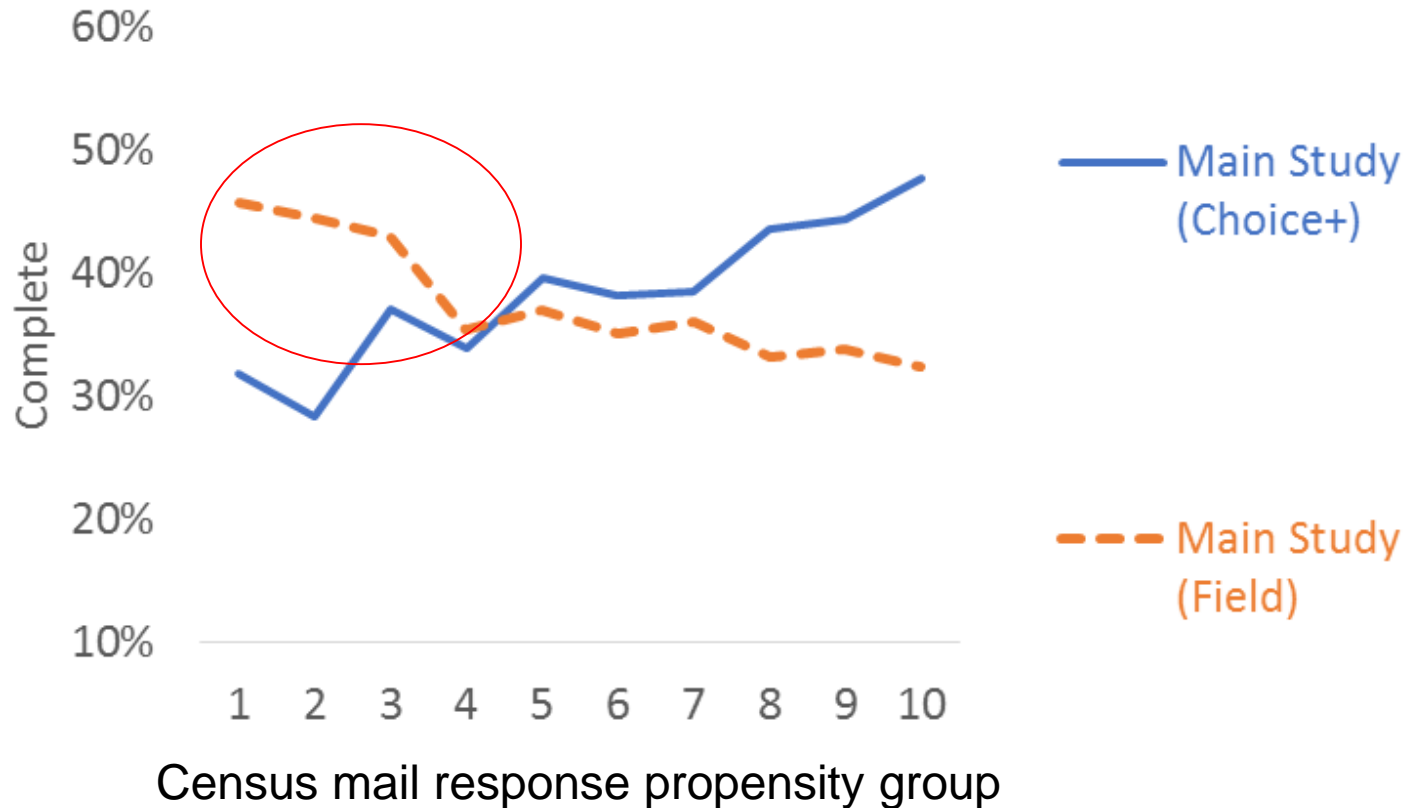
RECS main study Choice+ sample (\$10 promised) shows similar pattern to Pilot



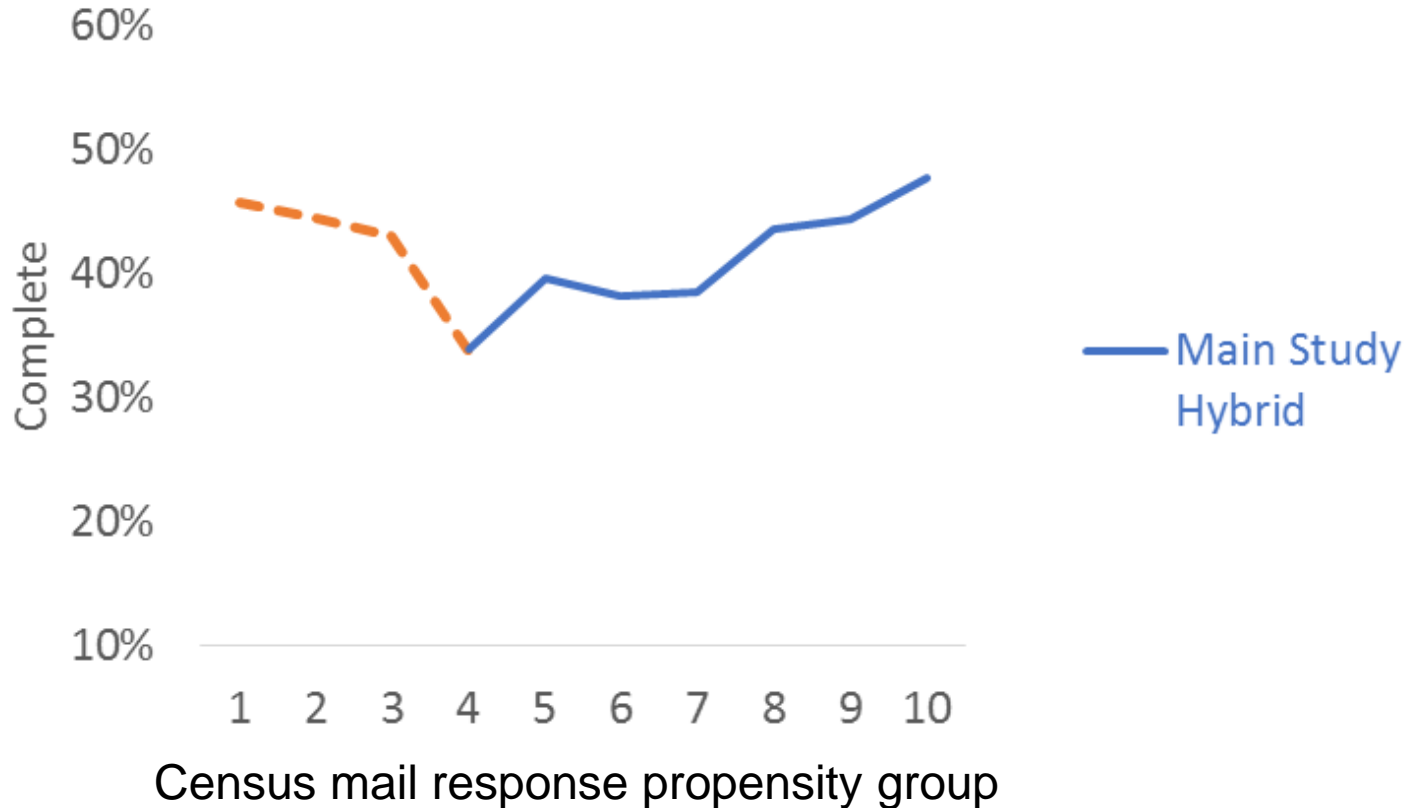
Main study also included a field sample showing an opposite propensity pattern



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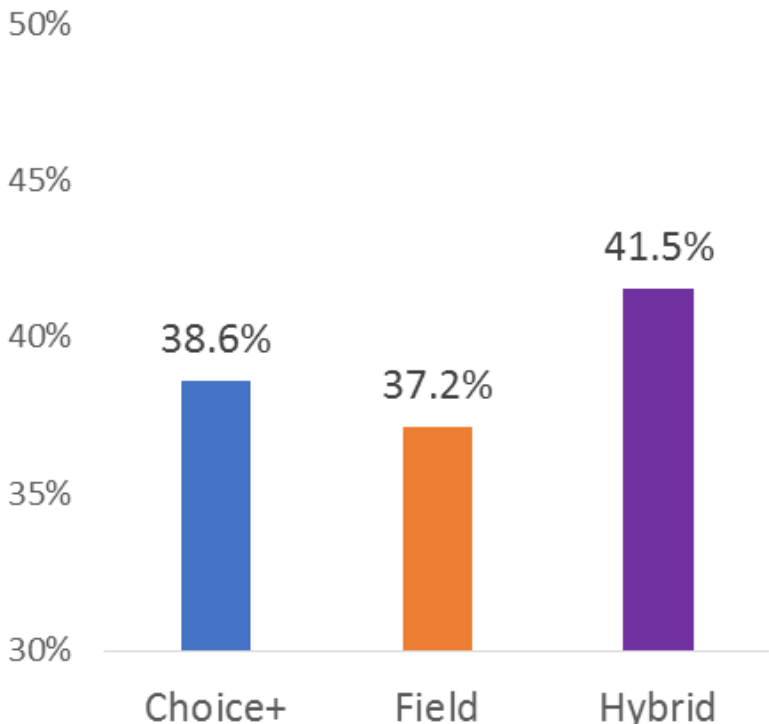


What if we targeted the field effort to those areas with the lowest propensity for mail response?

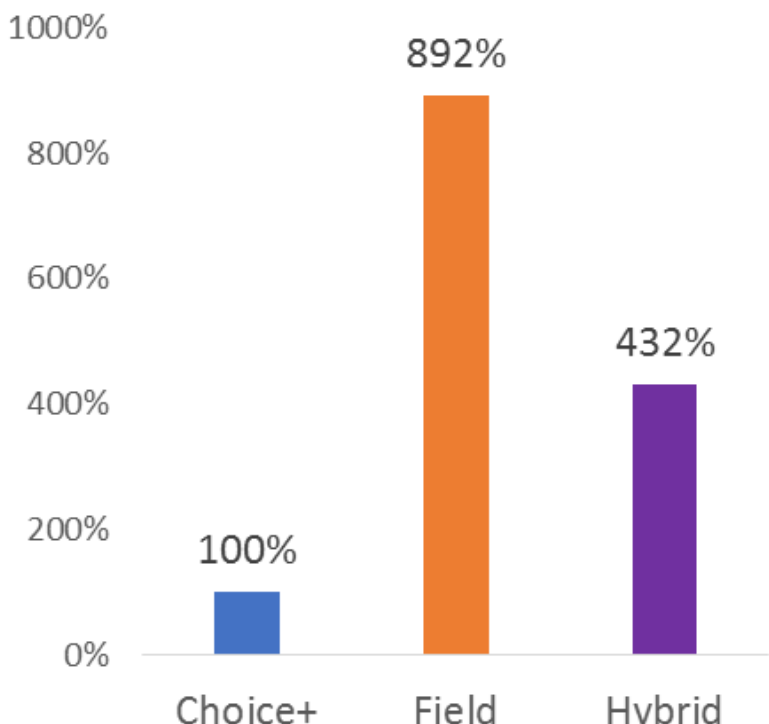


Hybrid would achieve higher response, much lower cost than field only (but much more cost than Choice+ only)

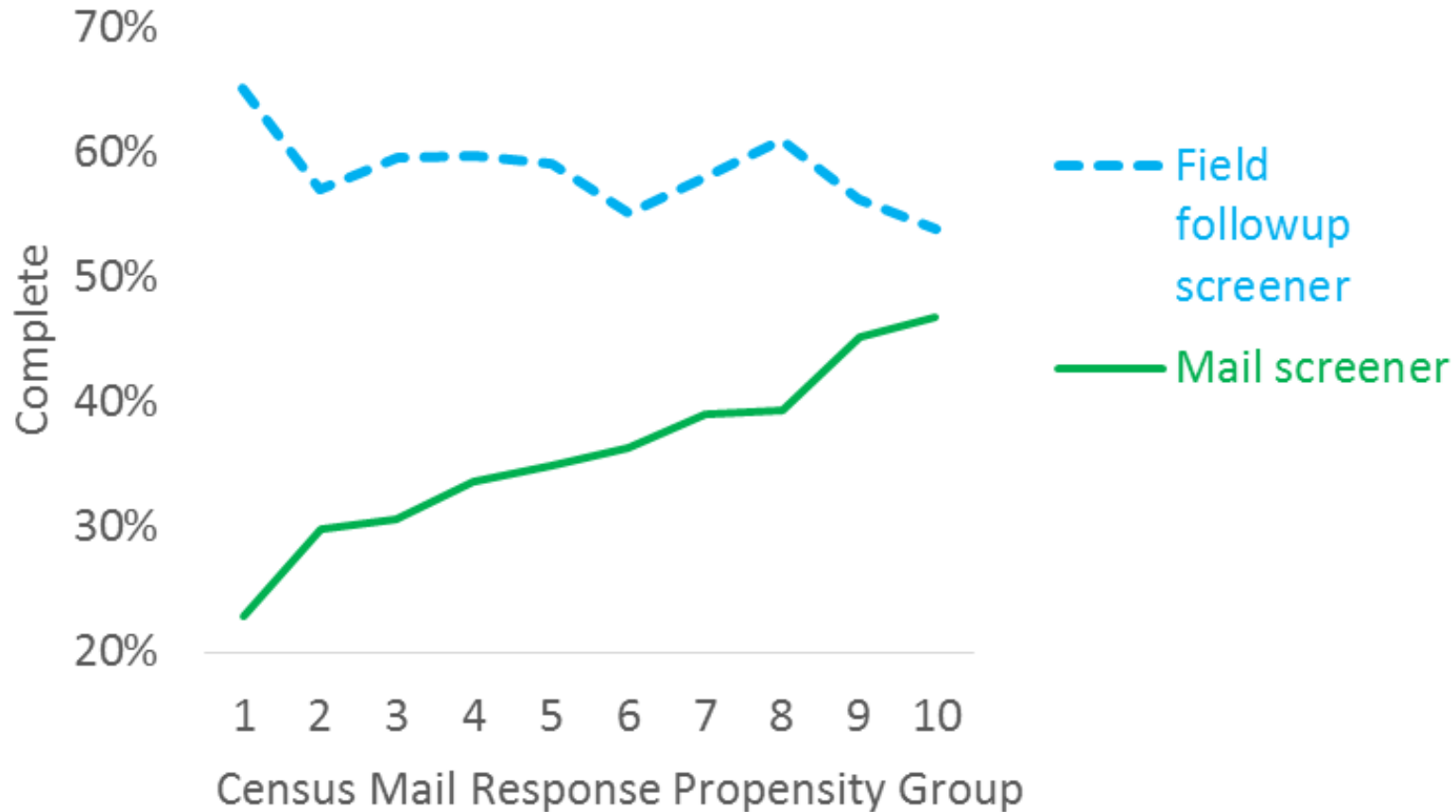
Completion



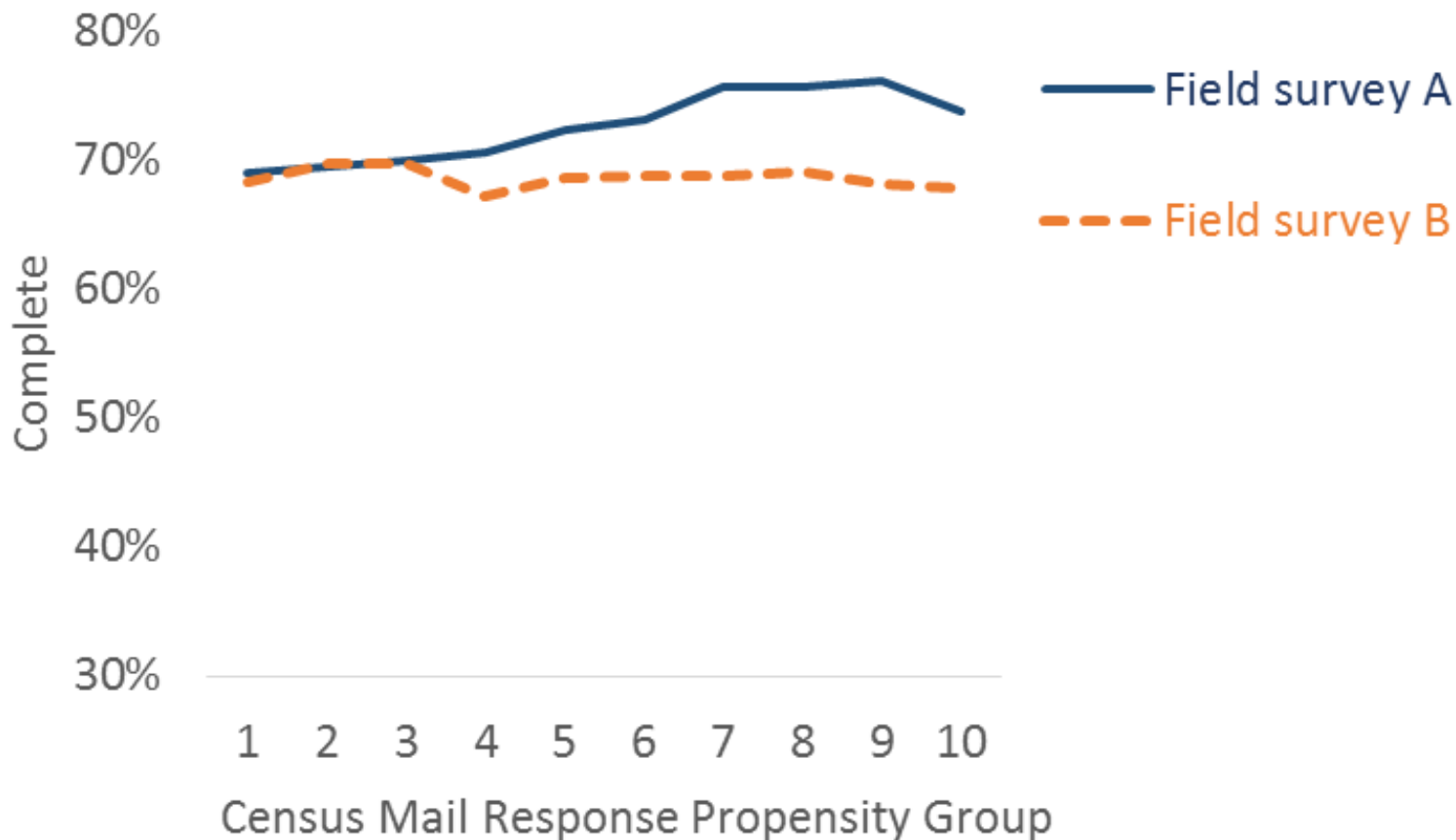
Costs relative to Choice+



Does the RECS field pattern hold for other field studies? 1 example:



Does the RECS field pattern hold for other field studies? 2 more:

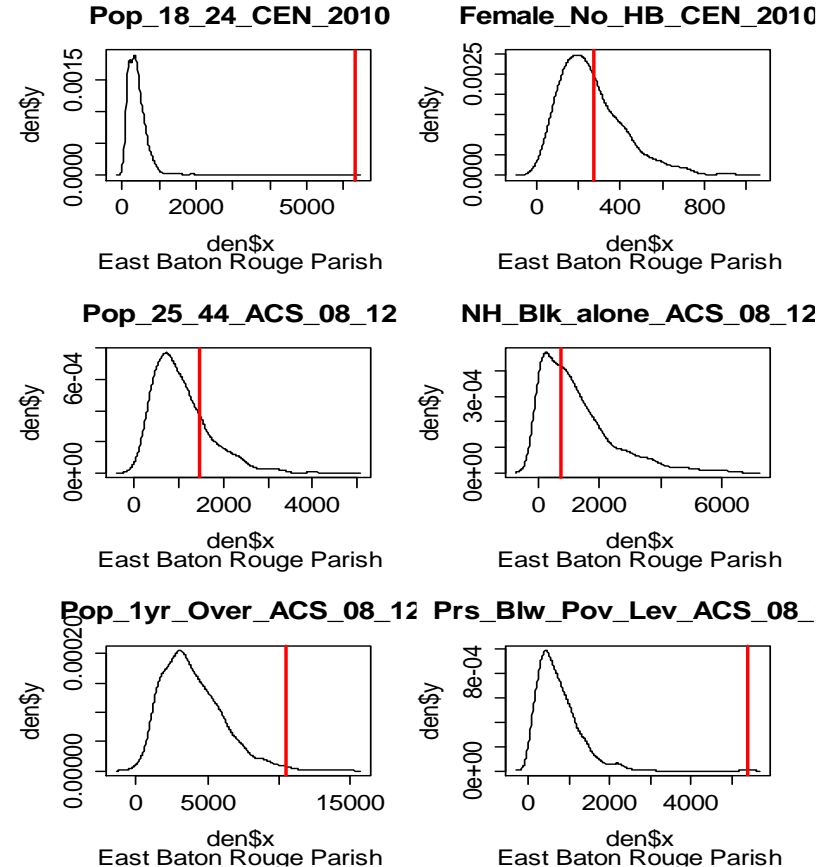


Conclusions

- Census low response score can be useful in tailoring a target survey approach
- Use propensity to target incentives or modes
- Can result in higher response rates and lower costs
- Web/paper vs. field correlation with Census propensity in RECS in opposite direction, potentially valuable information to have up front
- Unclear whether results are generalizable at this point

Future research

- Deeper dive into Census Planning Database variables, focusing on important variables related to LRS
- Combination with frame indicators of response propensity
- Consideration of mode effects and benefits of field over web/paper
- Develop an address-level low response score? (see McMichael in this session)



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More Information

Joe Murphy

jmurphy@rti.org

@joejohnmurphy