



# Screening for Specific Population Groups in Mail Surveys

Douglas Williams, Jill M. Montaquila,  
J. Michael Brick, Mary C. Hagedorn

Presented at the 65<sup>th</sup> Annual AAPOR Conference  
Chicago, Illinois

The views presented in this paper are those of the authors and do not represent the official views of the United States Department of Education.

## Screening for Specific Population Groups

- In cross-sectional surveys generally conducted through RDD
  - Inexpensive method of screening large number of households
  - May need to sample from within households
  - Attractiveness of completing the topical survey during the screening contact

- Problems with RDD screening approaches
  - Declining response rates: (Steeh et al. 2001; Curtin, Presser and Singer 2005; Battaglia et al. 2008)
  - Declining coverage rates for landline RDD
    - January-June 2009: 22.7% of households were cell-only, and another 1.9% were phoneless (Blumberg and Luke 2009)
    - Exclusion of about 20% of landline telephone households (Fahimi, Kulp, and Brick, *POQ* 2009)

- Using mail as an alternative: single-phase
  - Use Address Based Sample – increasing population coverage relative to landline RDD (Fahimi; *Presented at 2010 FedCASIC workshop*)
  - Much of the questionnaire is irrelevant to most sampled addresses
  - Uncontrolled sampling

### Two-phase Mail Approach

- Mail screener to all households
- Use returned screeners to determine eligibility and perform sampling
- Mail topical survey only to sampled persons (in eligible households)
- Nonresponse bias is a concern
  - Education/Income biases with mail mode
  - Potential for differential response between target and non-target population

### The National Household Education Surveys Program

- Sponsored by the National Center for Education Statistics
- Targets households with children
- Surveys roughly every 2 years 1991-2007
- All surveys through 2007: RDD/CATI
- Declining response rates
  - Screener response: Low 80's in early years – 53% in 2007
  - Topical rates: 90% in early years – 75% in 2007
- 2009 Pilot Study of address-based sample

# Overview of Design

- NHES targets households with children
- Key elements of screener experiment – screener versions tested
  - Screen-out: 1 page 11x17; only asked about children
  - Core: 4 pages 8½x11; asked about children and 9 household questions
  - Engaging: 6 pages 8½x11; same as core with additional 16 questions on education

- Purpose of screener versions
  - Does a child-focused survey request (screen-out) result in different response propensities for households with children?
  - Does increasing content of the survey (engaging) to engage the respondent result in different response propensities for all households?
  - Does screener version result in different response propensities to the topical survey?
  - Does screener version affect the composition of respondents?



- Key elements of screener experiment
  - Two-phase data collection
    - Screener
    - Topical survey (personalized)
  - Test in a national sample (n = 10,200)
  - Mail contacts based on general procedures outlined by Dillman et al. (2009)

# Key Findings

- Response rates: National Sample

National sample rates	Screenout	Core	Engaging
Overall Screener response rate	63.6%*	58.3%	60.1%

\* Significantly different from core and engaging versions  $p < 0.05$

## Key Findings (Cont.)

- Response rates: National Sample

National sample rates	Screenout	Core	Engaging
Overall Screener response rate	63.6%*	58.3%	60.1%
Initial Mailing only	28.3%*	23.2%	23.2%
1 <sup>st</sup> follow-up mailing	25.8%	23.6%	23.6%
2 <sup>nd</sup> follow-up mailing (FedEx)	31.8%	29.4%	32.5%

\* Significantly different from core and engaging versions  $p < 0.05$

## Key Findings (Cont.)

- Proportion of households identified with eligible children: National Sample
  - Estimates from ACS suggest this should be ~35%

National sample rates	Screenout	Core	Engaging
Overall Proportion w/children	30.6	31.5	32.7

## Key Findings (Cont.)

- Proportion of households identified with eligible children: National Sample

National sample rates	Screenout	Core	Engaging
Overall Proportion w/children	30.6	31.5	32.7
Initial Mailing only	25.8	26.2	31.4
1 <sup>st</sup> follow-up mailing	33.1*	34.8*	31.2
2 <sup>nd</sup> follow-up mailing (FedEx)	37.0*	35.2*	35.6

\*significantly different from initial mailing of same version  $p < 0.05$

## Key Findings (Cont.)

- Response rates: Targeted Sample (n = 800) of households identified by sample vendor to included children.

Targeted sample rates	Screenout	Core	Engaging
Overall Screener response rate	80.7%*	70.3%	71.9%

\* Significantly different from core version  $p < 0.05$

## Key Findings (Cont.)

- Proportion of households identified with eligible children: Targeted Sample

Targeted sample rates	Screenout	Core	Engaging
Overall Proportion w/children	80.7%	83.5%	82.5%

## Key Findings (Cont.)

- Response to topical survey (2<sup>nd</sup> phase response)

National sample	Screenout	Core	Engaging
Topical Response	73.1	74.8	76.3

Targeted sample	Screenout	Core	Engaging
Topical Response	86.4	85.2	85.3



## Key Findings (Cont.)

- Sensitive Questions – Phone number & Child's First Name

National sample	Screenout	Core	Engaging
Percent providing phone number	N/A	69.9*	56.7

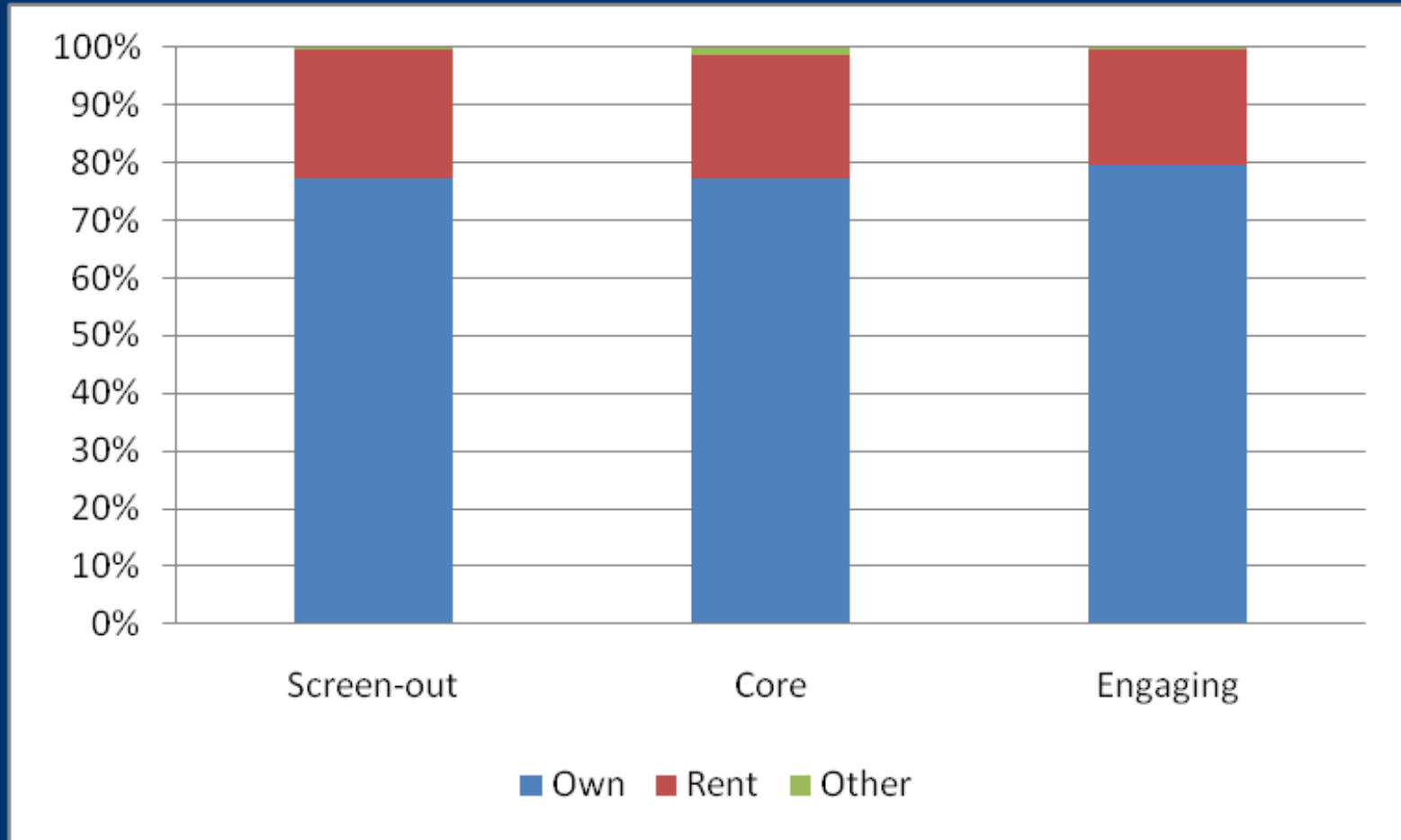
\* Significantly different from engaging version  $p < 0.05$

National sample	Screenout	Core	Engaging
First Name	77.5*	75.1*	61.5
Initials/Nickname	20.4	20.7	30.8
No Name	2.1	4.2	7.7

\* Screen-out and core significantly different from engaging version  $p < 0.05$

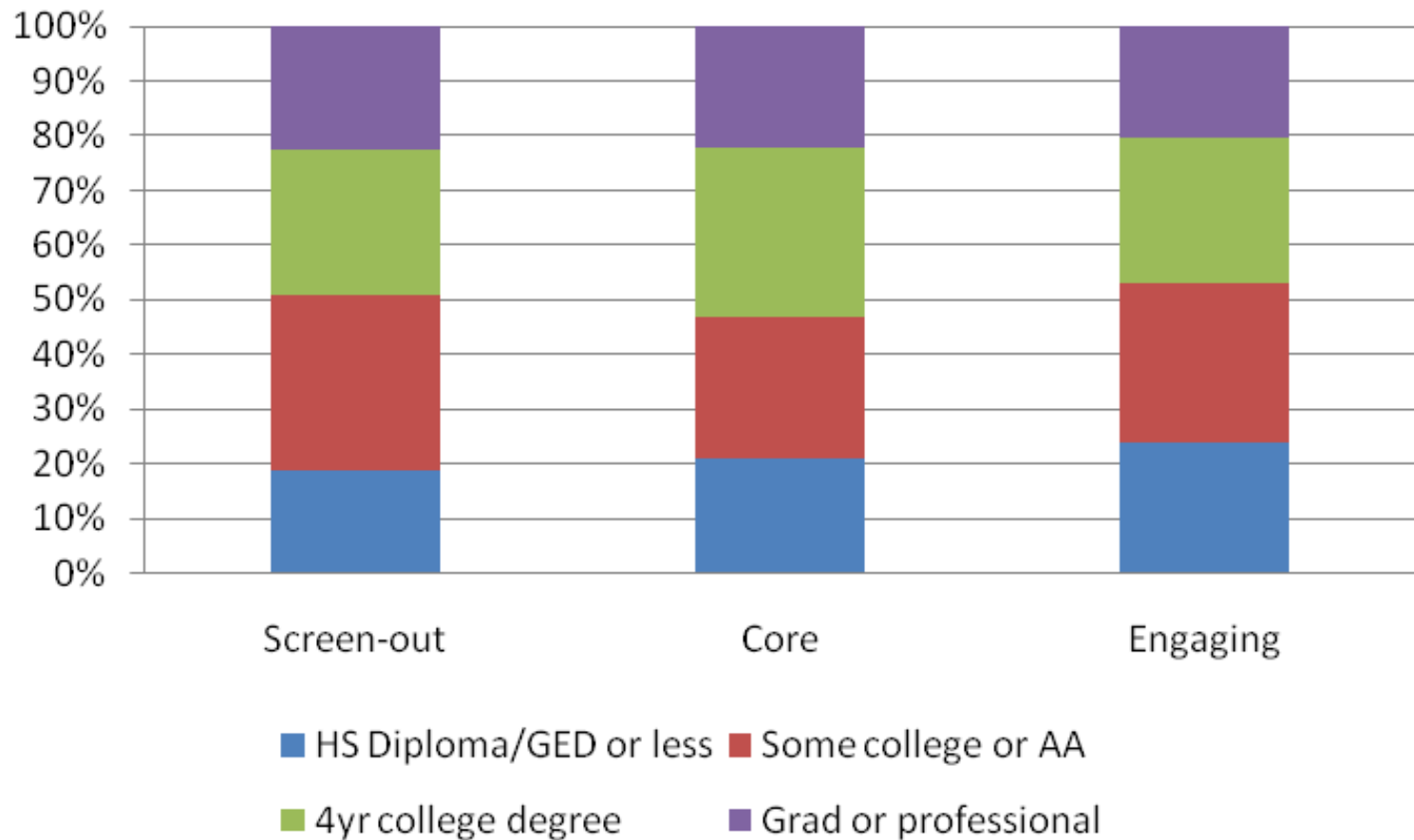
# Key Findings Topical Respondents

- Homeownership



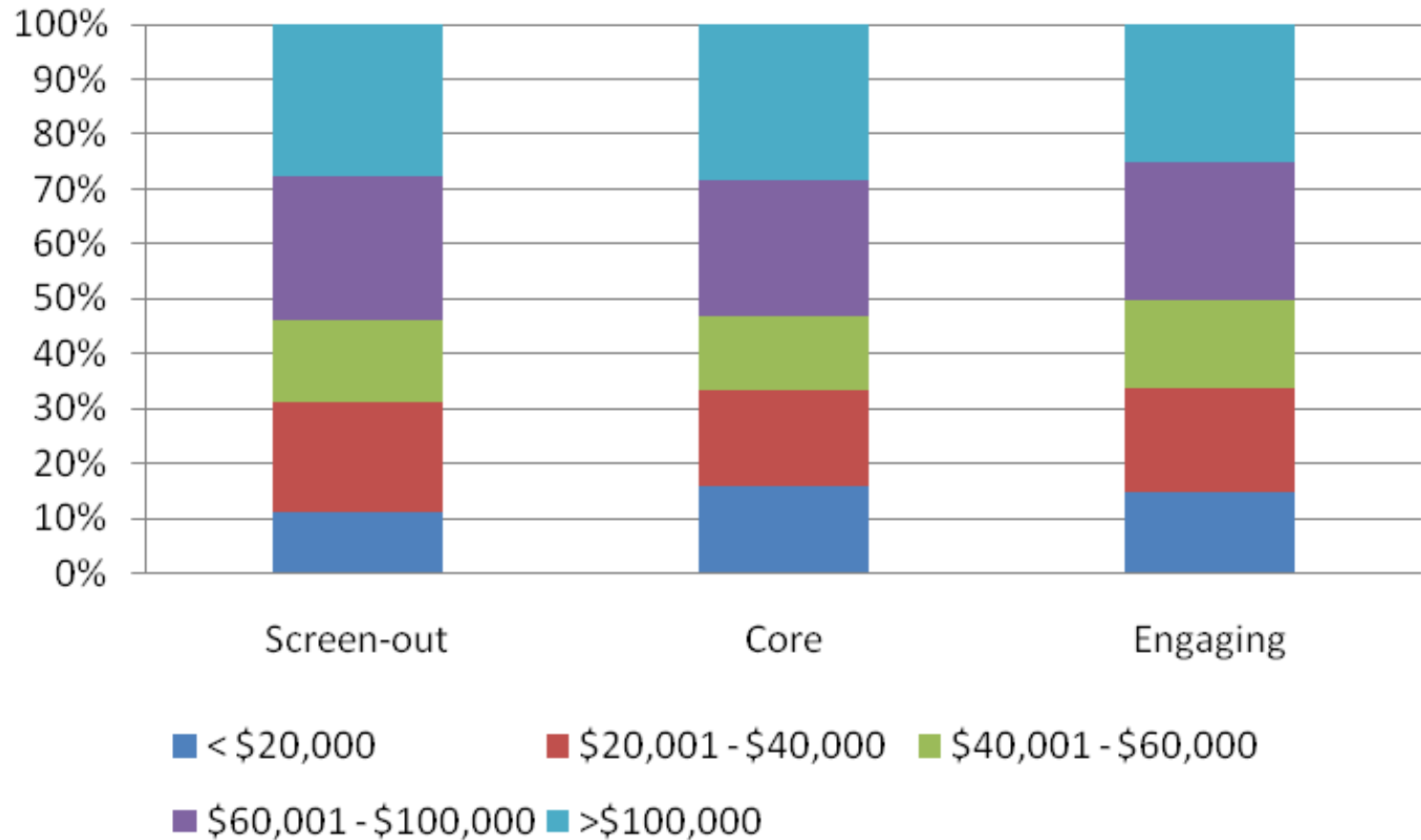
# Key Findings Topical Respondents (Cont.)

- Education



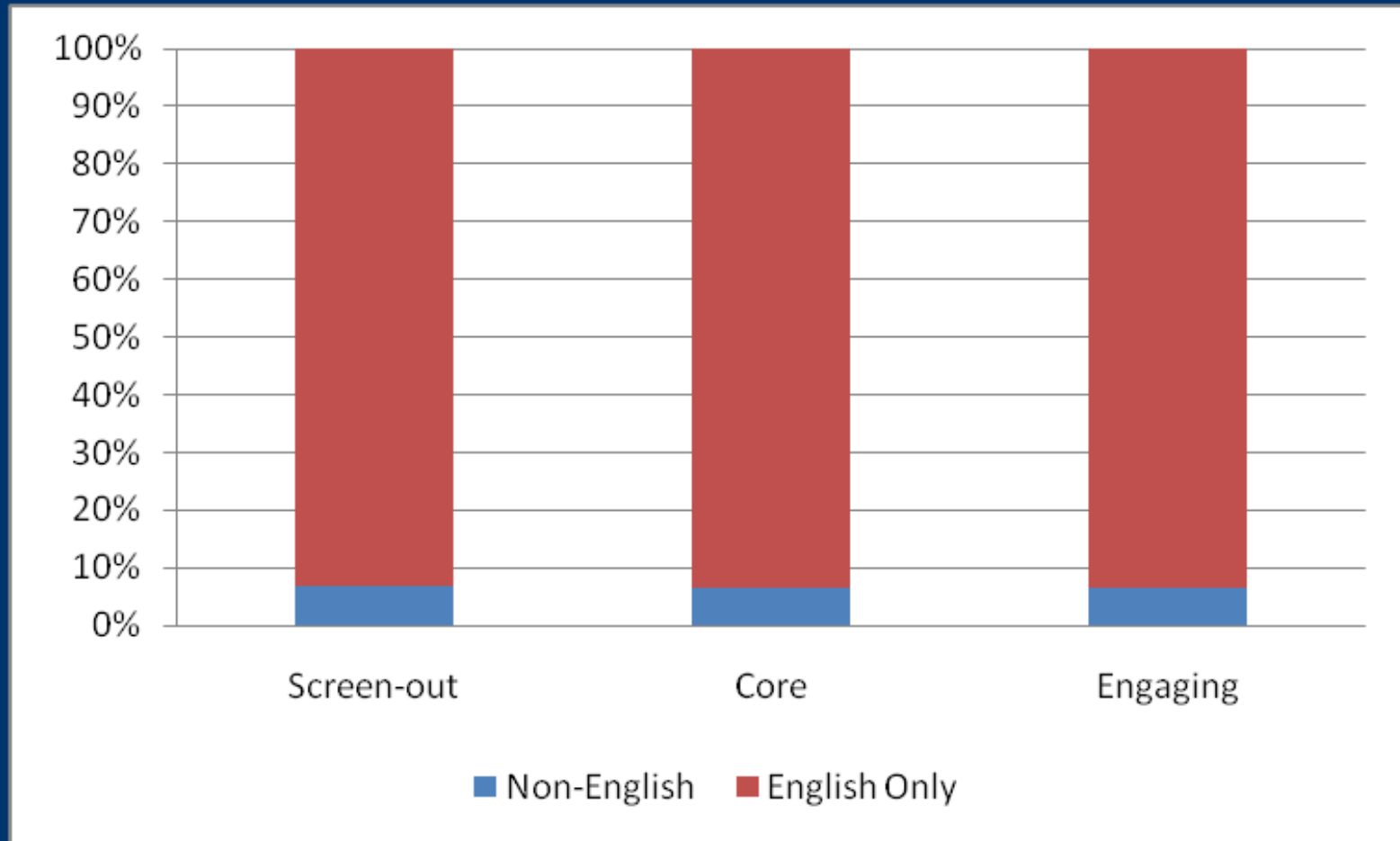
# Key Findings Topical Respondents (Cont.)

- Income



## Key Findings Topical Respondents (Cont.)

- Presence of non-English Speaking household members



# Summary

- Overall, screening for households with children by mail in a two-phase approach was successful
- Pilot was too small to detect some potential differences
- 2011 larger methodological Field Test
  - Screenout & Engaging version
  - Test request for child's name vs. no name

## Contact Information

Douglas Williams

1600 Research Blvd., RE 457

Rockville, MD 20850

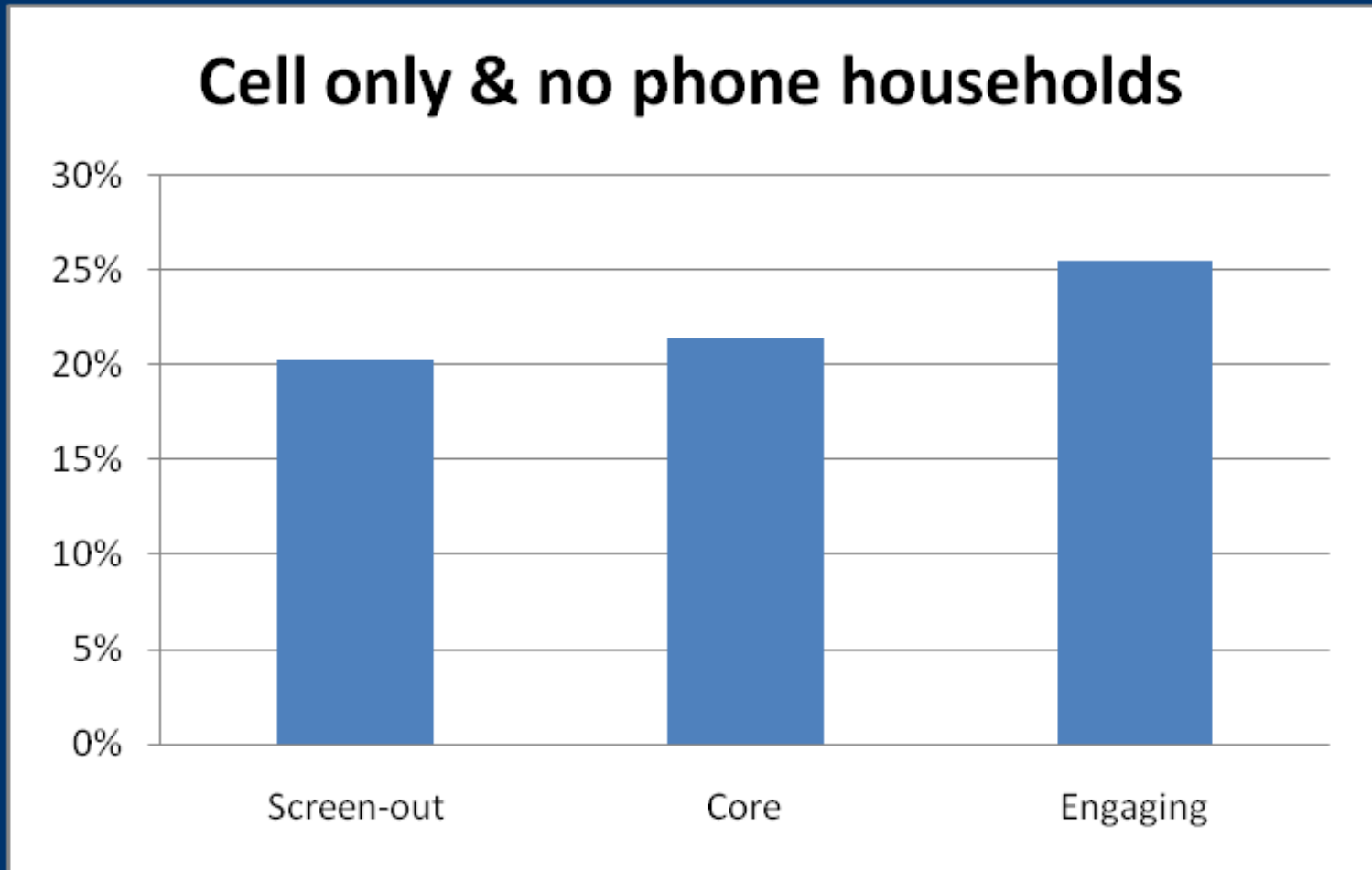
[douglaswilliams@westat.com](mailto:douglaswilliams@westat.com)





## Key Findings Topical Respondents (Cont.)

- Cell only and no-phone households



# Key Findings

- Pilot study response compared to NHES:2007
  - Screener response rate: 59% vs. 53% in NHES:2007
  - Topical response rate: 74% vs. 75% in NHES:2007
  - Process worked, people gave information on their children