



**What is Adaptive (or Responsive) Design in  
Practice?  
Approaches, Experiences, and Perspectives  
FedCASIC Workshop 2014  
Plenary Panel**

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# Overview

- Elements of HSLS:09 Design
- HSLS:09 Study Background, Data Collection Approach, Design Model
- Measuring Success
- Requirements for Implementation
- Results
- Organizational Commitment

## Elements of HSLS:09 Design

- Goals and considerations:
  - reduce potential nonresponse bias
  - achieve sufficient yield overall and for important analytic subgroups
  - restrict use of incentives
- Longitudinal study with rich frame, prior-round information

## HSLs:09 Study Background

- High School Longitudinal Study of 2009 (HSLs:09) conducted for the National Center for Education Statistics
- 2013 Update: June to December 2013
- Transition from high school to work, postsecondary education, etc.
- Multi-modal
- Design built upon experience from field test and other NCEs studies

## HSLs:09 Data Collection Approach

- Two types of cases: “ever dropouts” and all others
- Full range of interventions for ever dropouts throughout data collection
- Special interventions for other cases selected using design model at start of certain phases in data collection

## HSLs:09 Data Collection Phases

1. 3-week self-administered web period
2. 5-week outbound computer-assisted telephone interviewing added to self-administration
3. \$5 prepay for targeted cases (1<sup>st</sup> calculation)
4. \$15 offer for targeted cases (2<sup>nd</sup> calculation)
5. \$25 offer for targeted cases (3<sup>rd</sup> calculation)
6. Expand targeted cases for \$5 prepay and/or \$25 offer (using 3<sup>rd</sup> calculation)
7. Abbreviated survey for all remaining cases (last 3 weeks)

## HSLs:09 Design Model

- Target cases under-represented among participants whose responses likely to differ from those who already responded
- Select cases with highest predicted likelihood to contribute to nonresponse bias if not interviewed – taking as many as could be afforded at each phase
- Re-estimate model before phases 3, 4, 5; used phase 5 calculations for phase 6 additional cases

## HSLs:09 Design Model Variables

- Roughly 3 dozen substantive variables (but not paradata) used in model, such as:
  - algebra 1 timing/grade;
  - math assessment performance;
  - school characteristics;
  - demographics;
  - highest education expectations;
  - enrollment status;
  - activities related to preparation for college and career



## Measuring Success: Multiple Objectives Differences in Survey Implementation

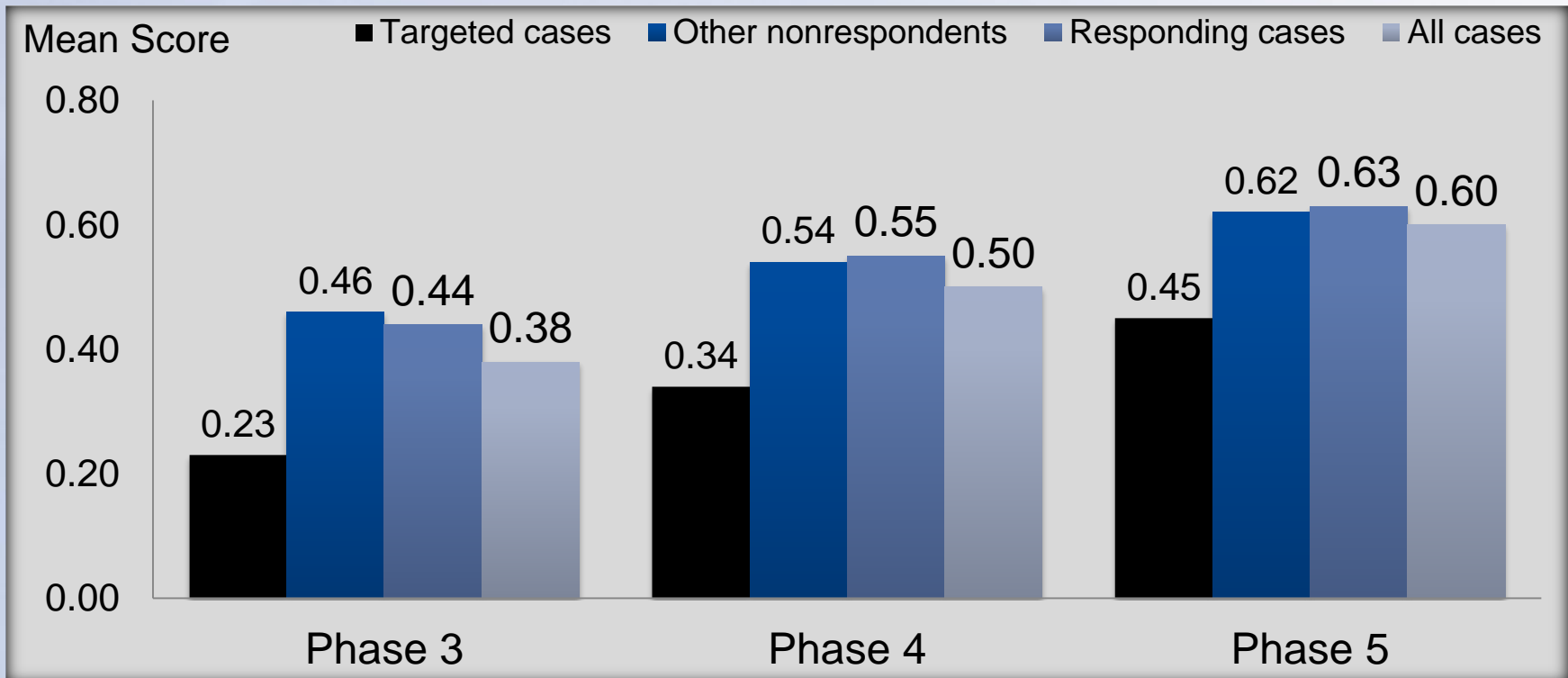
- Representativeness of responding sample
- Cost containment and adherence to schedule:
  - Limiting interventions to subset of cases
  - Phased approach to ensure cost-effective, timely data collection
- Reduction of potential nonresponse bias in survey estimates
- Overall response rate and yield continue to be important, but are not the sole/primary goal
  - Targets for subgroups of analytic importance

## Requirements for Implementation

- Understanding of survey objectives and analytic needs
- Personnel well versed in statistics and survey methodology
- Data collection monitoring tools
- Infrastructure, systems to analyze results and implement planned interventions during data collection

## HSL:09 Results: Mean likelihood score

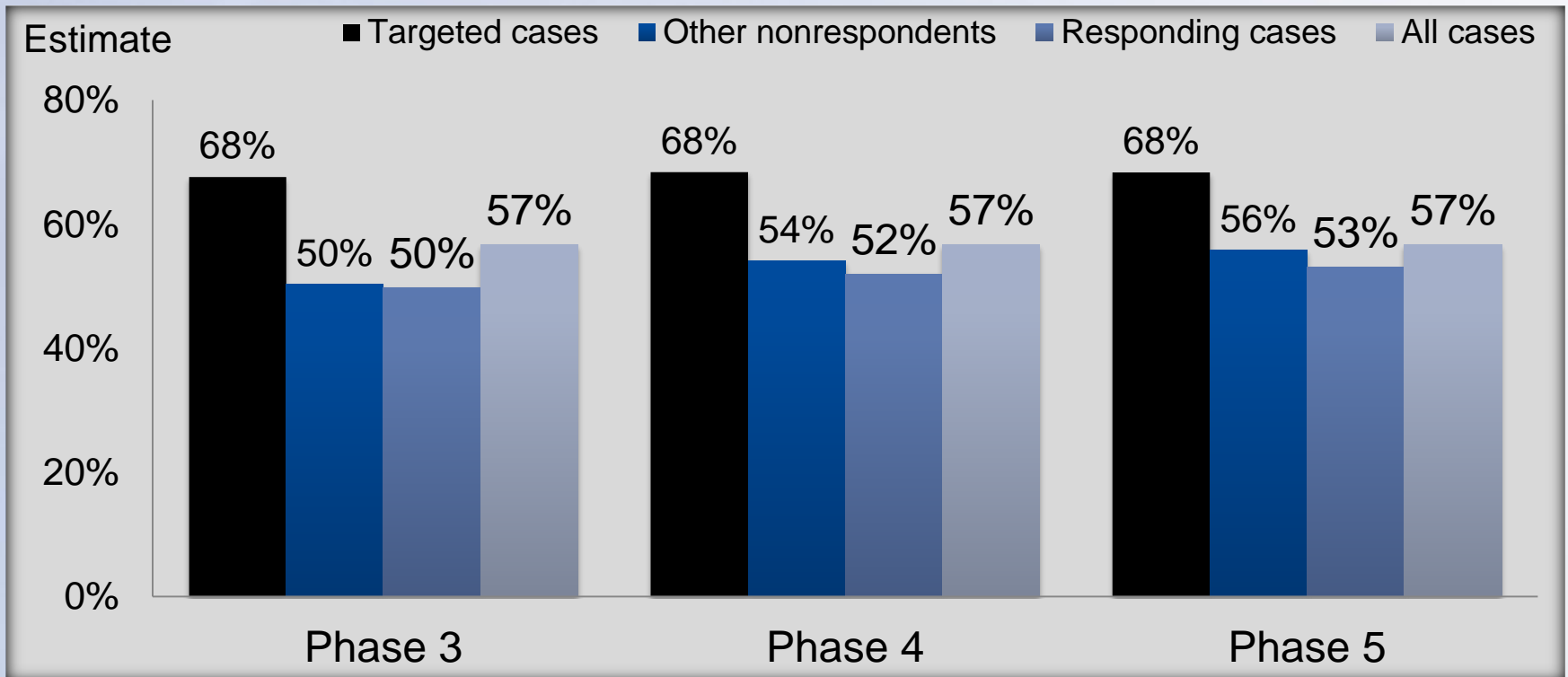
- Model variables differentiate cases effectively for special interventions; respondents nearing mean score for all cases



## HSL:09 Results: Model variables

### Percentage taking algebra 1 in 9<sup>th</sup> grade

- Percentage of respondents having taken algebra in 9<sup>th</sup> grade approaching percentage for all cases at each successive phase



## HSL:09 Results: Summary

- Model using substantive variables appears to identify targeted cases effectively
- Interventions may encourage response from cases that would otherwise not participate
- Interventions can be limited to those needing them

## Importance of Adaptive/Responsive Design at RTI

- Committed to adaptive and responsive design approaches
- Experience on a number of studies with diverse set of goals
- Implementing on new studies
- Testing/refining methods based on experience
- In-house training
- Actively seeking new projects for implementation

## More Information

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