



Kentucky Public Health
Prevent. Promote. Protect.

Use of Incentives to Increase Representation and Cost Effectiveness of African American Mothers in PRAMS

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Follow-up from responsive design experiment in 2017

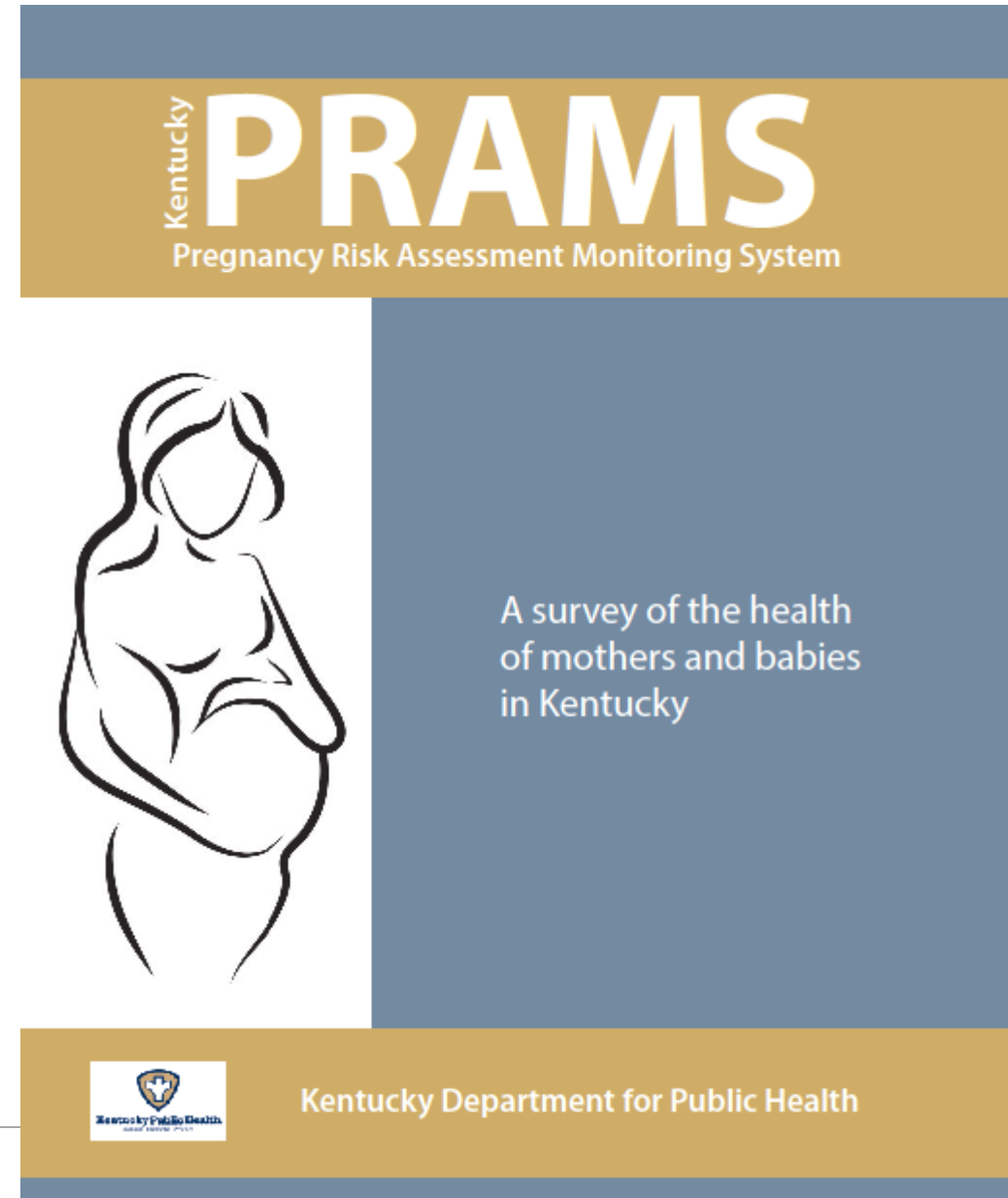
Does a larger incentive lead to

- Higher response rates
- Lower non-response bias
- Lower per survey costs



PRAMS Background

The Pregnancy Risk Assessment Monitoring System (PRAMS) collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. PRAMS surveillance currently covers about 83% of all U.S. births.



PRAMS Background

Goal of PRAMS to reduce infant morbidity and mortality and improve the health of mothers and infants

Topics addressed include prenatal care, obstetric history, maternal use of alcohol and cigarettes, physical abuse, contraception, economic status, maternal stress, and early infant development

Please check the box next to your answer or follow the directions included with the question. You may be asked to skip some questions that do not apply to you.

BEFORE PREGNANCY

The first questions are about *you*.

1. How tall are *you* without shoes?

Feet Inches
 OR Centimeters

2. Just before you got pregnant with your new baby, how much did you weigh?

Pounds OR Kilos

3. What is *your* date of birth?

/ /
 Month Day Year

The next questions are about the time ***before*** you got pregnant with your new baby.

4. During the 3 months before you got pregnant with your new baby, did you have any of the following health conditions? For each one, check **No if you did not have the condition or **Yes** if you did.**

| | No | Yes |
|--|--------------------------|--------------------------|
| a. Type 1 or Type 2 diabetes (not gestational diabetes or diabetes that starts during pregnancy) | <input type="checkbox"/> | <input type="checkbox"/> |
| b. High blood pressure or hypertension | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Depression | <input type="checkbox"/> | <input type="checkbox"/> |

5. During the *month* before you got pregnant with your new baby, how many times a week did you take a multivitamin, a prenatal vitamin, or a folic acid vitamin?

I didn't take a multivitamin, prenatal vitamin, or folic acid vitamin in the *month* before I got pregnant
 1 to 3 times a week
 4 to 6 times a week
 Every day of the week

6. In the 12 months before you got pregnant with your new baby, did you have any health care visits with a doctor, nurse, or other health care worker, including a dental or mental health worker?

No → Go to Page 2, Question 9
 Yes

7. What type of health care visit did you have in the 12 months before you got pregnant with your new baby?

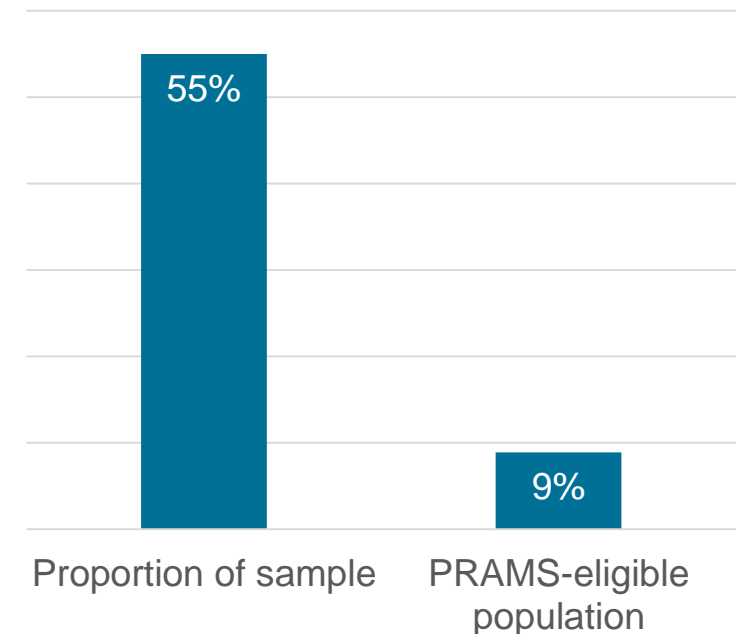
Check ALL that apply

Regular checkup at my family doctor's office
 Regular checkup at my OB/GYN's office
 Visit for an illness or chronic condition
 Visit for an injury
 Visit for family planning or birth control
 Visit for depression or anxiety
 Visit to have my teeth cleaned by a dentist or dental hygienist
 Other → Please tell us:

PRAMS Methodology in Kentucky

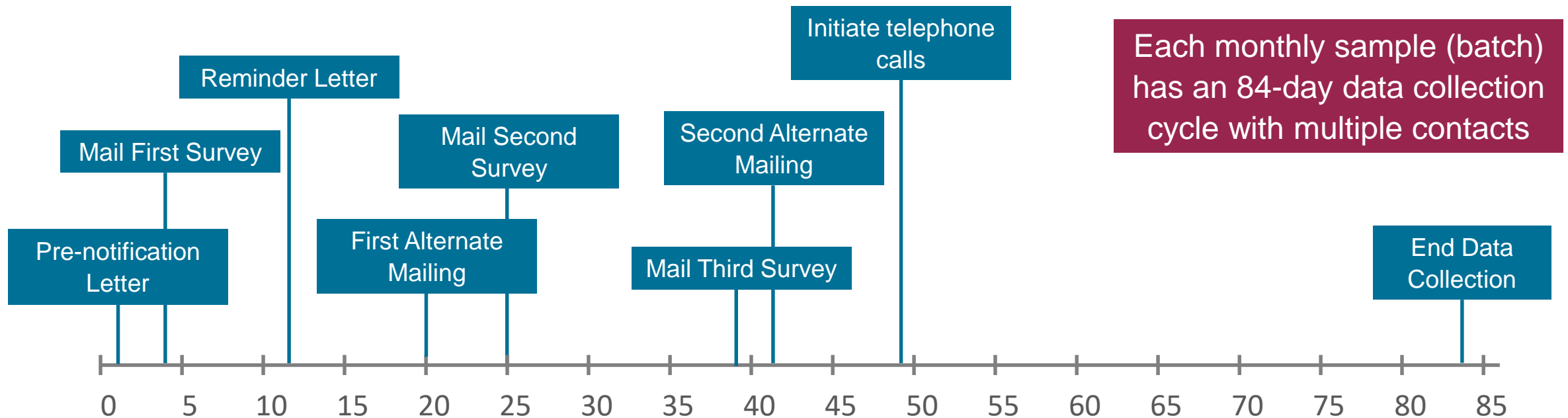
- PRAMS started in Kentucky in 2017
- Sample of 110 new mothers every month from a frame of eligible birth certificates in the state
 - Stratified by race (African American, White/Other)
 - Oversample of African American mothers

African American mother population and sample size



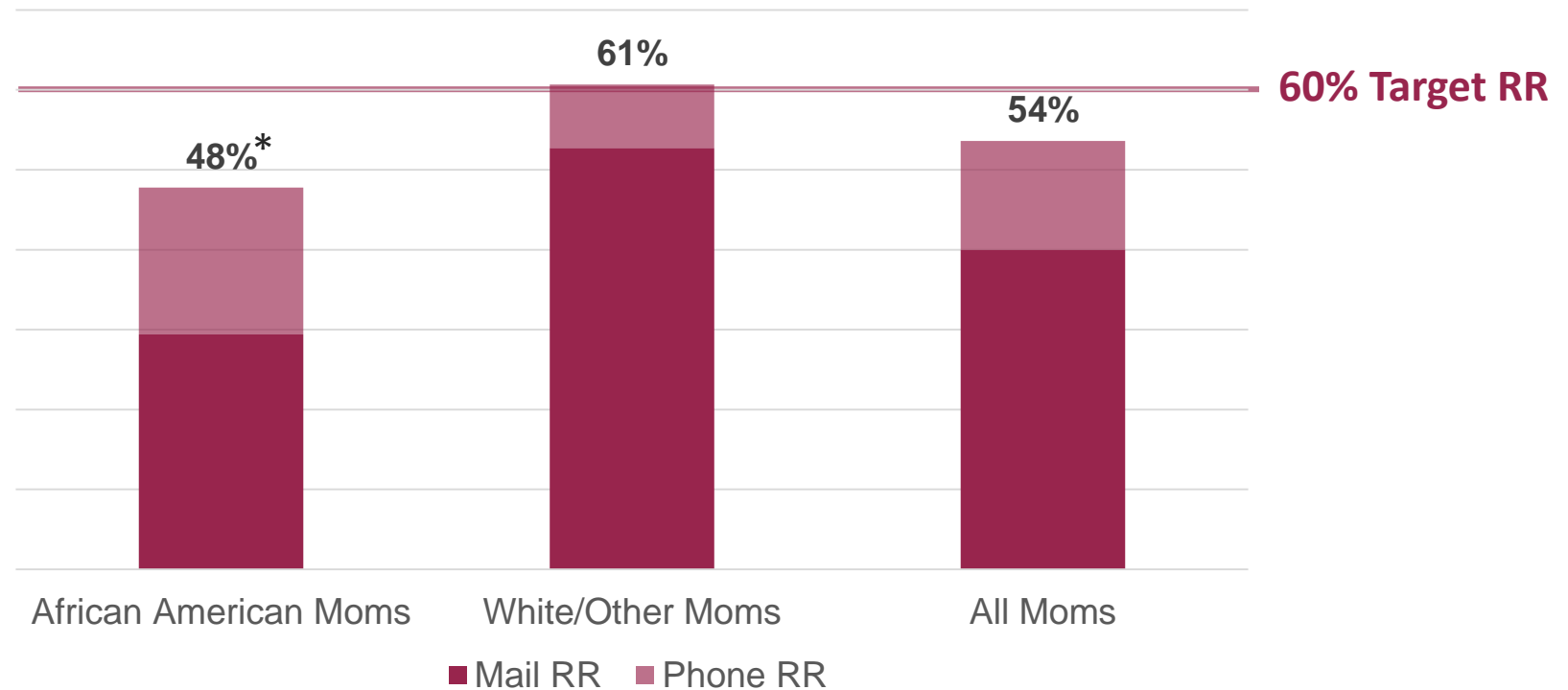
Kentucky PRAMS Data Collection Process

- Standardized data collection methodology
- Total Design Method - mailed questionnaire with multiple follow-up attempts, and a survey by telephone.



Initial Response Rates for Kentucky PRAMS

Response Rates by Race (2017)



** Significantly lower response rate than White/Other mothers at 95% confidence
Kentucky PRAMS, Kentucky Department for Public Health, Division of Maternal and Child Health*



PRAMS Experiment and Results



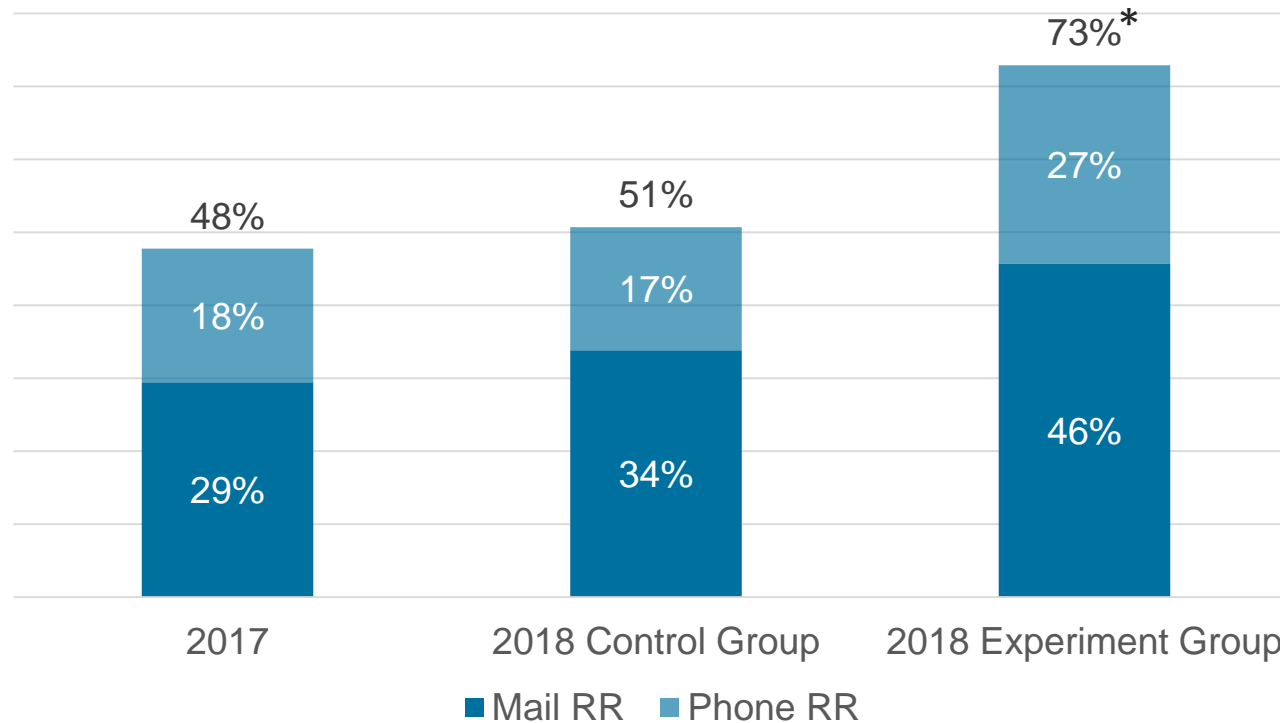
Experimental Design

- In 2018, conducted experiment to increase participation among African American mothers.
- Sample was randomly assigned to one of two groups.

| | Control Group | Experimental Group |
|------------------------|---------------|-------------------------------------|
| Upfront Incentive | \$5 cash | \$5 cash |
| Post Survey Incentive | \$10 cash | \$10 cash \$10 Walmart gift card |
| Sample Size (3 months) | 71 | 70 |

Overall Response Rates

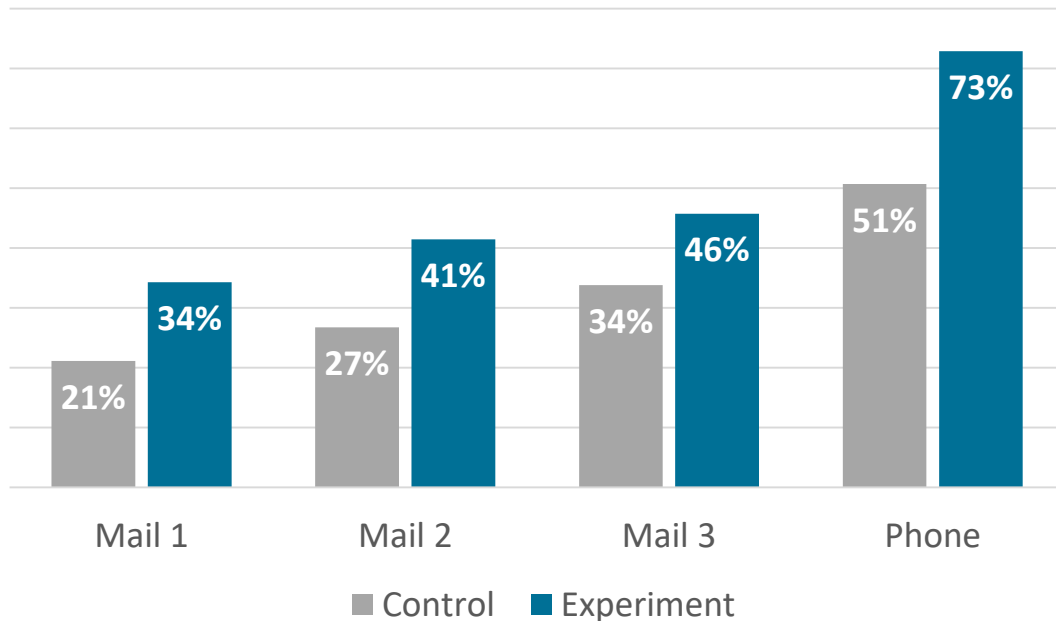
Kentucky PRAMS Response Rates among African American Mothers



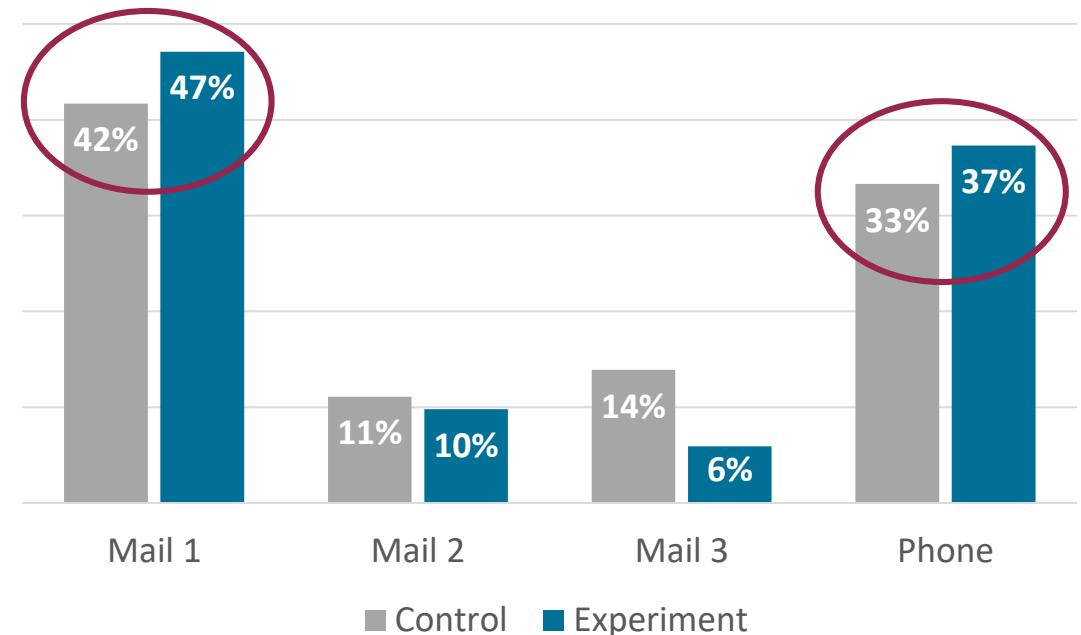
* Significantly higher response rate than control group at 95% confidence
Kentucky PRAMS (2018). Kentucky Department for Public Health, Division of Maternal and Child Health

Response by Survey Phase

Cumulative Response Rates by Survey Phase



Percentage of Response by Survey Phase



Kentucky PRAMS (2018). Kentucky Department for Public Health, Division of Maternal and Child Health

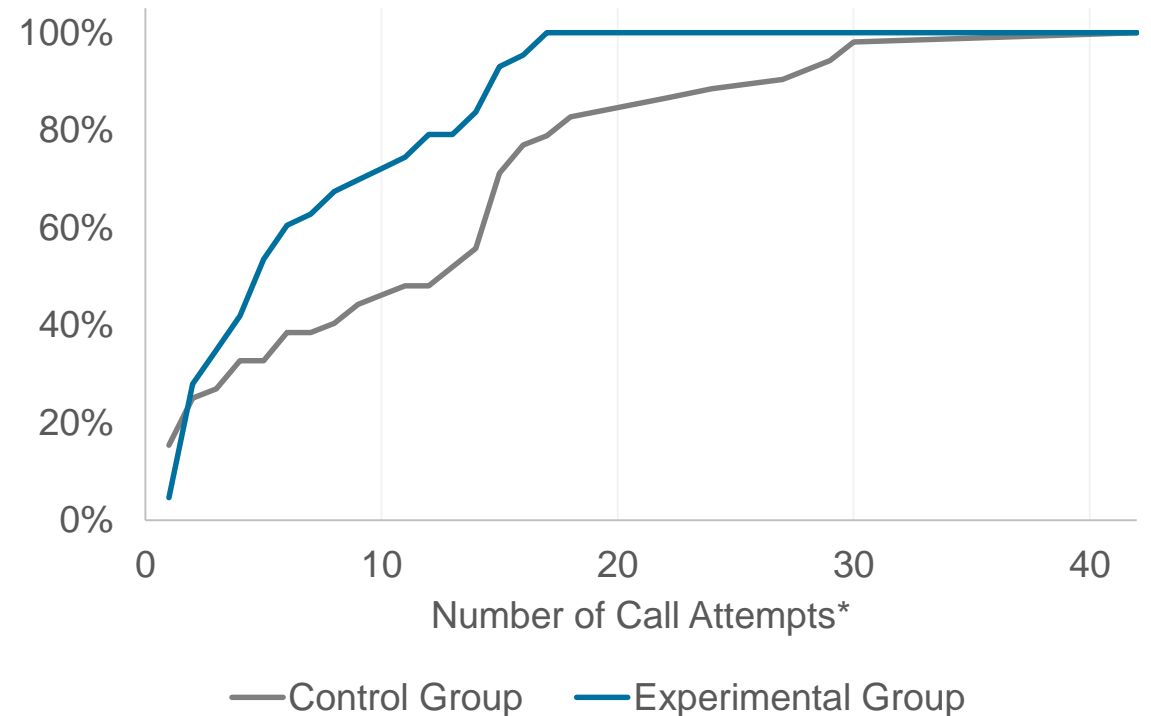
Phone Phase Resolution

Number of Call Attempts to Final Disposition

| | Control | Experiment |
|---------------------|-------------|------------|
| 1-5 | 33% (6) | 53% (13) |
| 6-10 | 13% | 19% |
| 11-15 | 25% | 21% |
| 16+ | 29% | 7% |
| Avg Attempts | 12.1 | 7.0 |

Kentucky PRAMS (2018). Kentucky Department for Public Health, Division of Maternal and Child Health

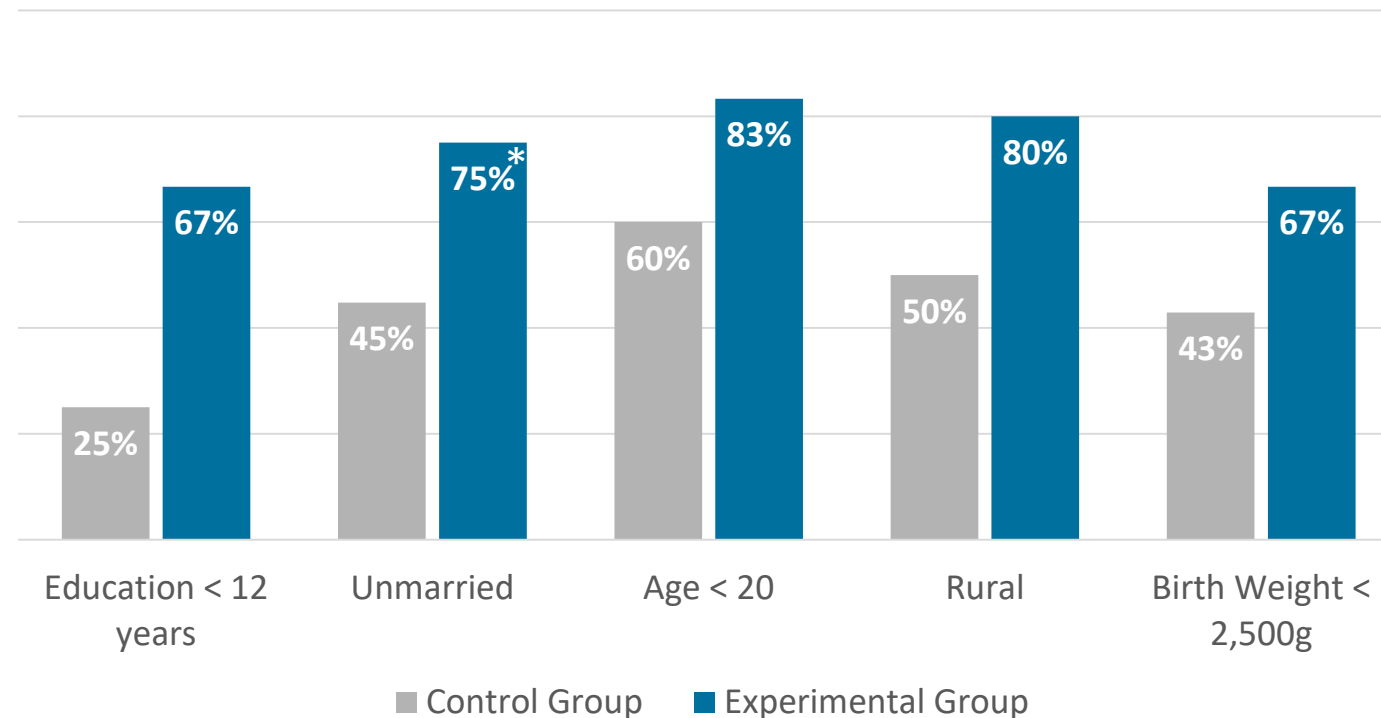
Cumulative Percentage of Call Attempts to Final Disposition



* Number of attempts combined across all telephone numbers available for a mother (up to 5 numbers, with a max attempts of 15 per phone number).

Response Rates by Key Group

Response Rates among African American Mothers by Key Demographics



* Significantly higher response rate than control group at 95% confidence
Kentucky PRAMS (2018). Kentucky Department for Public Health, Division of Maternal and Child Health

Survey Representativeness

Survey Participation (Unweighted) Compared to Population

| | 2017 | Control | Experiment | Population ¹ |
|-----------------------------|------|---------|------------|-------------------------|
| Maternal Education | | | | |
| < 12 years | 12%* | 6%* | 8%* | 17% |
| >= 12 years | 88% | 94% | 92% | 83% |
| Mom's Age | | | | |
| < 20 | 11% | 8% | 10% | 8% |
| 20-29 | 59% | 44% | 57% | 61% |
| >= 30 | 30% | 47% | 33% | 30% |
| Mom's Marital Status | | | | |
| Married | 25%* | 28% | 24% | 30% |
| Unmarried | 75% | 72% | 76% | 70% |
| Urban/Rural | | | | |
| Rural | 11% | 14% | 8% | 11% |
| Urban | 89% | 86% | 92% | 89% |
| Baby's Birth Weight | | | | |
| < 2,500g | 9%* | 8% | 12% | 13% |
| >= 2,500g | 91% | 92% | 88% | 87% |

¹ Source: CDC Wonder, 2017

* Significantly different from population at 95% confidence

Cost Analysis of Experiment

Comparison of Survey Costs by Experimental Group*

| | Control | Experiment |
|-----------------------|----------------|----------------|
| Mail expenses | \$474 | \$440 |
| Phone expenses | \$1,140 | \$827 |
| Incentives (Pre/Post) | \$715 | \$1,370 |
| Total Cost | \$2,330 | \$2,637 |
| | | |
| Number of Completes | 36 | 51 |
| Per Survey | \$65 | \$52 |

** Variable costs only, excludes professional time to setup and manage project
Kentucky PRAMS (2018). Kentucky Department for Public Health, Division of Maternal and Child Health*

Limitations

- Three-month experiment
 - Small sample sizes
- Given methodology and timing of PRAMS results unable to examine impact of incentive on data quality
 - Measured attitudes and behaviors
 - Other data quality measures



Summary



Conclusions

- Significant increase in response rates among African American mothers
- Did not result in more representative data compared to population
 - Not effective among all groups
- Experiment was more cost effective on a per survey basis
 - May help to resolve cases for high-effort data collection
- Additional incentive implemented studywide



Thank you!

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