

# 2013 Census Test Report

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# Outline

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Review of Study Objectives and Design  
Execution of Case Management Treatments  
Operational Takeaways  
Results  
Lessons from Test Experience

# Study Objectives

- An operational study of NRFU procedures
- Use administrative records to “enumerate” some housing units
- Try an adaptive design approach for cases not enumerated with records and compare with fixed approach
- Examine two telephone methods
- Reduced number of contact attempts from 2010
- Secondary objectives: Examine cost and data quality across treatments

# Sample

- Two matched sets of block groups in the Philadelphia area
- Block groups randomly assigned to adaptive or fixed case management approaches
- 2000 sample housing units selected from a universe of 2010 NRFU HHs within these block groups
- 1000 housing units for adaptive and 1000 for fixed case management treatments

# 2013 Census Test Design

|                                   | Adaptive Design  | Fixed  |
|-----------------------------------|--|--|
| ADRECs used for “enumeration”     | <p>N=528</p> <ul style="list-style-type: none"> <li>-Use administrative records to enumerate before field</li> <li>-CATI telephone</li> <li>-Max in-person Contacts 3</li> <li>-Model determines cases worked</li> </ul> | <p>N=511</p> <ul style="list-style-type: none"> <li>-Use administrative records to enumerate before field</li> <li>-Decentralized telephone</li> <li>-Max in-person Contacts 3</li> <li>-FRs determine cases worked</li> </ul> |
| ADRECs not used for “enumeration” | <p>N=528</p> <ul style="list-style-type: none"> <li>-Use administrative records to inform business rules</li> <li>-CATI telephone</li> <li>-1 or 3 contacts</li> <li>-Model determines cases worked</li> </ul>           | <p>N=510</p> <ul style="list-style-type: none"> <li>-No use of administrative records</li> <li>-Decentralized telephone</li> <li>-Max in-person Contacts 3</li> <li>-FRs determine cases worked</li> </ul>                     |

# Operational Questions

- Can we determine vacant/demolished housing units and enumerate occupied sample units using administrative records?
- Alternatively, can we use records to determine the number of contacts for occupied sample units?
- Can we use response propensity models to score open cases?
- Can our systems use model outcomes to dynamically prioritize cases and communicate priorities to interviewers?
- Can we develop training and supervisory procedures that induce interviewers to adhere to study protocols?
- Can we link telephone numbers to sample lines?
- Can we use centralized and dispersed phone calls to enumerate sample units?
- How well can we enumerate households using these techniques with a reduced number of contact attempts?

# Administrative Records

## Operational Lessons

- Successfully used records and USPS information to remove cases from the workload
- Successfully used records to designate cases for one or three contacts
- Record information on occupancy shows strong relationship to interview data
- Pursuing further research on how best to identify vacant and occupied households with records
- Pursuing further investigation on how best to use USPS information

# Adaptive Design

## Operational Lessons

- Response propensity models, using 2010 data and Contact History Information can score open cases daily.
- Systems can then dynamically assign cases based on propensity scores.
- Issues identified during the Test:
  - Response propensity models need further scrutiny and testing to ensure effectiveness
  - Geographic location of cases needs to be integrated into prioritized case assignments
  - More research on models and rules for handling vacant households and “deletes” is needed
  - More research on models and rules for obtaining proxy responses is needed
  - More research on daily case assignments for enumerators is needed

# CAPI Field Performance

## Operational Lessons

- Interviewers generally were trained to follow novel procedures
- Daily transmission to transfer completed cases and obtain new workload was largely achieved
- Routine completion of contact history information was largely achieved
- Handling cases on the last contact was more problematic – “personal visit/proxy” rule
- Supervision must focus on interviewers following case procedures
- Incentivize interviewers to adhere to procedures
- Experienced Census interviewers pose challenges

# CATI Process

## Operational Lessons

- Appended up to 3 landline and cell numbers from seven commercial sources to sample units
- “Cleaned” landline numbers
- Matched at least 1 number to 70% of sample units
- CATI (Tucson) employed for up to two weeks for adaptive design panels

# Results:

## Use of CATI to Enumerate Households

- Completed 27 interviews from 609 cases
- Issues for further scrutiny:
  - Quality of phone numbers
  - CATI field period and calling protocol
  - Handling multiple numbers per sample unit

# Results:

## Use of CAPI to Enumerate Households

| Treatment                                | # Total Cases | # Cases with AdRec Info | # Cases Removed Before Data Collection | # Cases Stopped During Data Collection | # Stopped Cases with AdRec Information | # Stopped Cases with No Data (via CATI, CAPI, or AdRec) |
|--|---------------|-------------------------|--|--|--|---|
| Fixed-Records Used to Reduce Workload    | 511           | 200                     | 200                                    | 58                                     | N/A                                    | 58  |
| Fixed                                    | 510           | 181                     | N/A                                    | 122                                    | 42                                     | 80  |
| Adaptive-Records used to Reduce Workload | 528           | 208                     | 208                                    | 54                                     | N/A                                    | 54  |
| Adaptive                                 | 528           | 223                     | N/A                                    | 111                                    | 58                                     | 53  |
| <b>Total</b>                             | <b>2077</b>   | <b>812</b>              | <b>408</b>                             | <b>345</b>                             | <b>100</b>                             | <b>245</b>  |

# A Closer Look at Cases with No Data

| UAA Reason Code              | # Stopped Cases with No Data |
|------------------------------|------------------------------|
| No UAA                       | 234                          |
| Attempted, not known         | 3                            |
| Not deliverable as addressed | 3                            |
| Vacant                       | 5                            |
| <b>Total</b>                 | <b>245</b>                   |

| Contact History Indicators                   | # Stopped Cases with No Data |
|--|------------------------------|
| Only noncontacts with sample unit member     | 168                          |
| At least one contact with sample unit member | 77                           |
| Refusal 1 or more times                      | 71                           |
| Language barrier/Other                       | 6                            |
| <b>Total</b>                                 | <b>245</b>                   |

- Mail information (UAA) suggests 11 of the cases may be vacant
- Contact History data: interviewers made contact with 77 cases, of which 71 were refusals

# Results:

## Productivity Using Adreacs to Reduce Workload

- Enumerators were approximately 20% less efficient when workload was reduced with records
- Cases remaining after workload is reduced are more difficult
- But interviewers spent approximately 22% fewer hours
- Overall enumerator cost is reduced

# Results:

## Productivity Using Adaptive Case Management

- Interviewers were 22% more efficient in the adaptive design treatments
- This pattern holds whether workload was reduced with records or not
- Interviewers in the adaptive groups averaged approximately four more contacts per interviewer/day

# Results:

## Productivity Using CATI before CAPI

- CA implementation before CAPI leads to 12-14% decrease in productivity
- Combines CATI and CAPI hours
- Productivity =  
(CATI hours+CAPI hours/Number of cases

# Lessons from 2013 Test

- The test provided useful information on operation of new methods in difficult field conditions
- Suggests that some new methods are feasible and have promise
- Identified issues that need to be addressed to make methods more effective
- Provides a foundation for subsequent Census tests