

2014 Site Test: Nonresponse Followup Operations

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September 24, 2013
Program Management Review
US Census Bureau

Outline

- Background
- Research and Testing Phase Activities Related to Nonresponse Followup
- Testing Nonresponse Followup (NRFU) Operations in 2014
- What We Intend to Learn and Next Steps

Background

Cost and Quality Goal for the 2020 Census

To conduct the 2020 Census at the same cost per housing unit as the 2010 Census (adjusted for inflation) while continuing our commitment to quality.



Background

Costs of the 2010 Census and NRFU

- The 2010 Census cost nearly \$10.2 billion
- Approximately \$1.7 billion was spent on Nonresponse Followup operations
 - About 50 million housing units were worked in NRFU, of which 40 percent were either vacant or deletes
 - The 2010 Census allowed up to six contact attempts, with 41 percent of housing units requiring only one visit and 82 percent of housing units requiring no more than three visits

Background

Strategies to Meet Cost and Quality Goals

Reduce Costs by Minimizing Field Presence

- Reduce Fieldwork Associated with Enumeration, specifically nonresponse follow-up (i.e., reduce workload)
- Reduce personal contacts from the level in the 2010 Census (i.e., increase productivity)

Research and Testing Phase Activities Related to NRFU

Nonresponse Followup Goal

To determine a high-quality and less-costly method for enumerating the non-responding population in the 2020 Census using a combination of administrative records and (fewer) personal contacts.

Research and Testing Phase Activities Related to NRFU

Key Research Questions

- How can we best use Administrative Records to replace NRFU contacts?
- How many interview/contact attempts can be reduced?
- What happens to accuracy under different scenarios of reduced NRFU visits and Administrative Records usage?
- Are fixed contact strategies more cost effective than adaptive contact strategies?
- Can imputation methods be used to account for unresolved data due to fewer contacts during NRFU?
- How much does curtailing NRFU contacts reduce cost?

Research and Testing Phase Activities Related to NRFU

Efforts to address cost drivers: Reduction of NRFU workload

October 2012 to present:

- Focus on use of administrative records to remove cases (occupied and unoccupied)
- Modeling/simulations using 2010 Census data
- Evaluation of quality of results compared with 2010 Census data—extension of work conducted in the 2010 Census Match Study

Research and Testing Phase Activities Related to NRFU

Effort to address cost drivers: Increase in enumerator productivity for NRFU

2013 Census Test (October 17):

- Test of adaptive design features
- Focus on making fewer overall contacts
- Focus on making fewer in-person contacts (e.g., use of telephone)
- Tailoring efforts to individual housing units
- Operational test of response propensity models

Research and Testing Phase Activities Related to NRFU

Effort to address cost drivers: Increase in enumerator productivity for NRFU

2010 Census NRFU Contacts Experiment:

- Test of fewer in-person contacts
- Assessment of completion rates and resulting data quality associated with fewer contacts

Testing NRFU Operations in 2014

Testing Objective

Integrate efforts to decrease NRFU workload and increase productivity:

- Adaptive Design (2013 Census Test)
- Reduced contacts (2010 NRFU Contact Experiment)
- Use of administrative records for enumeration of non-respondents (2010 Census Match Study and Administrative Records Modeling efforts)

Testing NRFU Operations in 2014

Test Treatments

- Control
 - Approximates 2010 Census approach
- Reduced contacts
 - Fewer number of contacts (in person and by telephone)
- Adaptive design
 - Tailoring of interviewing strategy to each housing unit

Testing NRFU Operations in 2014

Administrative Records Usage

- No usage
- Used to determine contact strategy (adaptive design)
- Used to enumerate unoccupied housing units only
- Used to enumerate both occupied and unoccupied housing units (to a pre-specified level)

Testing NRFU Operations in 2014

Sample Blocks Selection

- Randomly assign treatments to sample block groups
- Demographic and socioeconomic characteristics
 - Age, race, Hispanic origin, language spoken
- Housing characteristics
 - Tenure, multi-units, group quarters
- Strata aligned with those identified by the Office of Survey Analytics
 - Higher self-response strata (Montgomery County)
 - Lower self-response strata (District of Columbia)

Testing NRFU Operations in 2014

NRFU Panels

- Seven panels that combine contact treatments (fixed and adaptive) with use of administrative records to enumerate non-responding housing units
- Comparisons will focus on cost differences to complete interviews, quality of responses, and productivity

Testing NRFU Operations in 2014

NRFU Panel 1

Control

- Similar to approach for 2010 Census
- Fixed contact strategy for all housing units
- No use of administrative records to enumerate cases

Testing NRFU Operations in 2014

NRFU Panel 2

Reduced Contacts

- Three contacts (fixed approach for all housing units)
- No use of administrative records to enumerate cases

Testing NRFU Operations in 2014

NRFU Panel 3

Reduced Contacts with Administrative Records Usage
(unoccupied housing units only)

- Use administrative records before any in-person contacts
- Enumerate cases (i.e., remove workload) for vacant housing units for which we have administrative records
- Remaining NRFU workload will receive three contacts (fixed approach for all remaining housing units)

Testing NRFU Operations in 2014

NRFU Panel 4

Reduced Contacts with Administrative Records Usage
(occupied and unoccupied housing units)

- Use administrative records before any in-person contacts
- Enumerate cases (i.e., remove workload) for vacant and occupied housing units for which we have administrative records
- Remaining NRFU workload will receive three contacts (fixed approach for all remaining housing units)

Testing NRFU Operations in 2014

NRFU Panel 5

Adaptive Design

- Variable number of contacts
 - Initial response propensity scores will be developed for all housing units based on various factors, including the number and age of residents
 - Response propensity scores will be updated based on information collected throughout test, including number and types of contact attempts made
- Use of administrative records to determine contact strategy but no use of administrative records to enumerate cases

Testing NRFU Operations in 2014

NRFU Panel 6

Adaptive Design with Administrative Records Usage (unoccupied housing units only)

- Use administrative records before any in-person contacts
- Enumerate cases (i.e., remove workload) for vacant housing units for which we have administrative records
- Variable number of contacts
 - Initial response propensity scores will be developed for all housing units based on various factors, including the number and age of residents
 - Response propensity scores will be updated based on information collected throughout test, including number and types of contact attempts made

Testing NRFU Operations in 2014

NRFU Panel 7

Adaptive Design with Administrative Records Usage (occupied and unoccupied housing units)

- Use administrative records before any in-person contacts
- Enumerate cases (i.e., remove workload) for vacant and occupied housing units for which we have administrative records
- Variable number of contacts
 - Initial response propensity scores will be developed for all housing units based on various factors, including the number and age of residents
 - Response propensity scores will be updated based on information collected throughout test, including number and types of contact attempts made

Testing NRFU Operations in 2014

Primary Comparisons

- Within treatment changes to workload, productivity and costs
 - Reduced Contacts: (Panel 2 vs. Panel 3 vs. Panel 4)
 - Adaptive Design: (Panel 5 vs. Panel 6 vs. Panel 7)
- No removal of NRFU workload with administrative records
 - Control (Panel 1) vs. Reduced Contacts (Panel 2) vs. Adaptive Design (Panel 5)
- Reduction of workload using administrative records for unoccupied housing units only
 - Reduced Contacts (Panel 3) vs. Adaptive Design (Panel 6)
- Reduction of workload using administrative records for occupied and unoccupied housing units
 - Reduced Contacts (Panel 4) vs. Adaptive Design (Panel 7)

Testing NRFU Operations in 2014

Evaluation Criteria

- Completion rates
- Production rates
- Cost
- Proxy Rates
- Imputation Rates

Testing NRFU Operations in 2014

Timeline for Test

- Census day for 2014 Test
 - May 27, 2014
- Timing of NRFU operations
 - Start date: July 3, 2014
 - End date: August 18, 2014
- Evaluation of Results
 - Preliminary results by December 2014
 - Final report by March 2015

What We Intend to Learn and Next Steps

- Estimation of cost savings under various treatments
- Recalibration of treatments for 2015 tests
- Sharing of results with stakeholders
- Cost/benefit analysis to assist with Census Design decision in September 2015

Questions and Contact Information

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