

2020 Census Program Management Review

2014 Census Test

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Outline

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2. Schedule Key Activities
3. Successes and Lessons Learned
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5. Close out Activities
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Scope of 2014 Census Test

➤ High-Level Test Objectives:

- Test contact alternatives for both the self response and the nonresponse followup enumeration to determine the most efficient and cost effective way to get data from non-responding households.
- Test the use of Administrative Records to determine the quality of the records in conjunction with actual field enumeration while using predetermined contact strategies.
- Test the enumeration instrument prototype in the field to determine its impact on completing field enumeration and for use in the field and to determine what are the application and operational issues that need to be addressed in future testing.
- Test adaptive design approaches to set priority for cases, to either use telephone or personal visits in specified order, and to train enumerators.
- Use time and motion studies to determine enumerator challenges in using the enumeration device and to recommend changes to training.
- The 2014 Census Test will give us an opportunity to learn timing on how people come to the internet so that we can optimize systems and procedures for the future.

Schedule Key Activities

➤ All key activities were deployed on schedule.

Activity	Start Date	Finish Date
Finalize Field Test Site Selection	--	09/13/13A
Open LCO	04/17/14 A	06/03/14 A
Conduct Pre-Registration Post Card Invitation	06/05/14 A	--
Conduct Contact 1: <ul style="list-style-type: none"> – Mail Letter and Instructions – Mail Post Card and Instructions – Send Email and Instructions 	06/23/14 A	--
Census Day	07/01/14 A	--
Conduct contact 2: Send Post Card Reminder of Email Reminder	07/01/14 A	--
Conduct Contact 3: Send Post Card Reminder	07/08/14 A	--
Conduct Contact 4: Mail Questionnaire to Nonresponders	07/16/14 A	--
Cut for Nonresponse Followup	07/21/14 A	--
Conduct Contact 5: Automated Voice Invitation Reminder	07/21/14 A	--
Conduct Enumerator Training	08/11/14 A	08/15/14 A
Conduct Nonreponse Followup	08/14/14 A	09/22/14 A

Successes and Lessons Learned

➤ Self Response

- **Overall Success**

- High self response rate
 - Internet push → post card reminder → post card reminder → mail questionnaire contact strategy appears to be optimal thus far
 - Non-ID interface has functioned well and no issues with workload
 - Both email and text provider solutions were successfully deployed

- **Lessons Learned**

- Email as an initial invitation and reminder contact strategy is not an effective replacement for mail pieces
- Short time frame between mailing limits our ability to exclude households who have already responded from subsequent reminders
- Volume of calls and peak call hours to the Telephone Questionnaire Assistance was much higher than projected

Successes and Lessons Learned – *con't*

➤ Nonresponse Followup

- Overall Success

- For the enumeration, we successfully implemented an in house build of an enumeration device, the Census Operations Mobile Platform for Adaptive Services and Solutions (COMPASS).
- There were no production issues related to integration between NRFU systems. We attribute this success to the two integrated systems tests and two integrated user acceptance tests.
- The Local Census Office was successfully established and implemented the distribution and management of enumeration devices efficiently.
- Housing units that could be enumerated with Administrative Records were successfully removed from NRFU workload at the appropriate times.
- Late self responses were successfully removed from the NRFU workload on a daily basis.

Successes and Lessons Learned – *con't*

➤ **Nonresponse Followup** - *continued*

- **Lessons Learned**

- We were unable to recruit sufficient numbers of qualified applicants from within the test site/LCO boundary. Field Division expanded the hiring area for the test to include all of D.C., all of Montgomery County and Prince Georges County, which provided ample candidates.
- Procedures to enumerate gated communities and secured access buildings could be further refined and enhanced.
- Need to strengthen training and procedures on contact strategies, including timing of when an enumerator should look to collect information from a proxy.
- Need to better understand what information is flowing from various systems into the Unified Tracking System to ensure that cost and progress reporting is accurate.

Successes and Lessons Learned – *con't*

➤ Systems Readiness

- Overall Success

- The development of the functional diagram for systems and associated architecture artifacts (work flows) aided system providers in identifying the inputs and outputs to systems and the development of the Interface Security Agreement and Control Documents.
- The Software Development Life Cycle phase gate reviews, functional diagrams and team meetings with system developers provided improved communications and collaborations and successful deployment of the systems for the 2014 Census Test.

- Lessons Learned

- The 2015 Census Test and subsequent tests will use the Enterprise Software Development Life Cycle process and continue to build on the 2014 Census Test systems readiness. This will help to ensure that systems readiness is in place so that systems are ready for production.

Successes and Lessons Learned – *con't*

➤ Operational Readiness

- Overall Success

- The Operational Readiness team was successful in coordinating readiness across the enterprise for the areas that participated in the development and execution of the systems, processes and equipment necessary to conduct the 2014 Census Test.
- All Key Activities were deployed on schedule.
- The 2014 Census Test Team identified and managed risk.
 - One example is the pre-testing of the Onboarding Process for temporary field staff. Requiring field staff to create and remember several different passwords to be used on the device was seen as a potential risk. To mitigate this risk, the password process was tested during the Onboarding Test. It was learned during the test that the password process was cumbersome. As a result, steps were taken to reduce the password burden without compromising security.

Successes and Lessons Learned – *con't*

➤ **Operational Readiness - *continued***

- **Overall Success - *continued***

- Identified and managed risk - *continued*

- Another example is initially the Research and Testing Operational Control System (RTOCS) office training was limited to written job aids and would not include face-to-face training. The risk identified that if office staff did not have a clear understanding of the RTOCS functionality it would result in poor management and assignment of work. To mitigate the risk, face-to-face training was conducted to ensure office staff had a clear understanding of the RTOCS functionality.

- **Lessons Learned**

- The 2015 Census Test and subsequent tests will continue to build on the 2014 Census Test operational readiness discipline.

Successes and Lessons Learned – *con't*

➤ Improved Communications

- Cross directorate collaboration and integration was successful.
- The IT Directorate and 2014 Census Test Stakeholders worked closely to coordinate and communicate risks and issues.
- The Language Program was not part of the initial test plan. Our Local Partners recommended we incorporate some languages. This was a late scope change, but we provided Fact Sheets in 5 languages (Spanish, French, Vietnamese, Amharic, Chinese, Korean).

Bring Your Own Device (BYOD)

- BYOD test was conducted Monday, September 29, 2014.
- 15 employees from a pool of trained field staff (enumerators, crew leaders, crew leader assistants, field operation supervisors) who participated in the 2014 Census Test.
- Staff read a BYOD Acceptable Use Policy and were provided with instructions to install COMPASS, AnyConnect, MaaS 360 applications and conduct 5 test cases.
- Sensitive data were not collected and all testing was performed at Census Headquarters.
- A focus group recorded the employees perceptions of the BYOD Acceptable Use Policy, the clarity of instructions on provisioning their own devices, and their over all perceptions of BYOD.

Closeout Activities

➤ Local Census Office (LCO)

- Disposition of non-IT and IT equipment
- Shipment of unused materials to NPC
- Shipment of laptops and iPhone to HQs
- Final walkthrough with GSA to close the LCO

➤ National Processing Center

- Disposition of materials and questionnaires

➤ Systems

- Delivery of final outputs and making test data available to the Research and Testing Team to complete their research

➤ Risk Register

- Review any remaining risk and close them out

➤ Schedule

- Review the schedule and closeout after all activities are completed

2014 Census Test Early Self Response Results

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Self Response Objectives

Optimizing Self Response

➤ Pre-registration (“Notify Me”)

- Postcard solicitation
- Respondents select their preferred mode for future invitations and reminders – email or text message

➤ Non-ID internet response

- No User ID provided in mail materials
- Test ability to process and match respondent-provided address information (not real-time)

➤ Email invitation

- Test use of email as initial invitation to respond
- Evaluate use of pre-notice (letter and automated voice) to introduce and legitimize email contacts

➤ Mail internet invitation

- “Internet Push” strategy: letter → postcard → postcard → questionnaire
- Test use of email and automated voice reminders

Early Self Response Results

Contact Strategy Panels

	Pre-Notice	Contact 1	Contact 2	Contact 3 *	Contact 4 *	Contact 5 *
Internet Push (Control)		Letter	Postcard	Postcard	Mail questionnaire	
Notify Me	Postcard	Email/text	Email/text	Email/text	Mail questionnaire	
Non-ID Internet Push		Letter (No ID)	Postcard (No ID)	Postcard (No ID)	Mail questionnaire	
Cold Contact Email		Email	Email	Postcard	Mail questionnaire	
Email Invite w/ Letter Prenotice	Letter	Email	Email	Postcard	Mail questionnaire	
Email Invite w/ AVI Prenotice	AVI	Email	Email	Postcard	Mail questionnaire	
Internet Push w/ Email Reminder		Letter	Email	Postcard	Mail questionnaire	
Internet Push w/ AVI as 3 rd Reminder		Letter	Postcard	Postcard	Mail questionnaire	AVI

* Targeted only to nonrespondents

AVI = Automated Voice Invitation

Note: households in Notify Me panel that did not sign-up for email/text received Internet Push materials by mail.

Early Self Response Results

Notify Me

- About 3 percent participation
 - Majority selected email as their preferred contact mode
 - 93.4 percent of Notify Me participants ultimately responded

- System functionality worked well

Early Self Response Results

Notify Me (cont.)

- Significantly lower internet and total response rate for Notify Me panel overall compared to Internet Push
- Could Notify Me postcard (“sign up to be notified”) be discouraging response in later mailings?

	Internet	TQA	Mail	Total
Internet Push (Control)	45.3% (0.50)	6.4% (0.25)	8.0% (0.28)	59.7% (0.50)
Notify Me	43.2% (0.50)	5.7% (0.24)	9.2% (0.29)	58.1% (0.50)

Early Self Response Results

Non-ID Internet Push

- Significantly lower internet and total response rate compared to Internet Push with an ID
- If a non-ID response is not matched and geocoded then it is considered a nonresponse

	Internet	TQA	Mail	Total
Internet Push (Control)	45.3% (0.50)	6.4% (0.25)	8.0% (0.28)	59.7% (0.50)
Non-ID Internet Push	40.2% (0.49)	6.6% (0.25)	10.6% (0.31)	57.4% (0.50)

Early Self Response Results

Email Invite panels

- Significantly lower response rates (internet, TQA, and total) from email invite panels compared to Internet Push
- Challenges with the quality of email addresses (many bouncebacks, unknown number were actually opened)

	Internet	TQA	Mail	Total
Internet Push (Control)	49.4% (0.64)	5.9% (0.30)	8.4% (0.36)	63.7% (0.62)
Cold Contact Email	27.6% (0.49)	2.8% (0.18)	20.7% (0.44)	51.1% (0.54)
Email Invite w/ Letter Prenotice	30.3% (0.50)	2.8% (0.18)	20.0% (0.44)	53.1% (0.54)
Email Invite w/ AVI Prenotice	27.3% (0.46)	2.5% (0.16)	20.6% (0.42)	50.4% (0.52)

*only includes housing units with a landline phone and an email

Early Self Response Results

Email Reminder

- Significantly lower internet and total response rate for email reminder compared to postcard reminder

	Internet	TQA	Mail	Total
Internet Push (Control)	49.1% (0.62)	5.7% (0.29)	8.3% (0.34)	63.0% (0.60)
Internet Push w/ Email Reminder	43.6% (0.51)	5.2% (0.23)	10.9% (0.32)	59.8% (0.50)

*only includes housing units with an email

Early Self Response Results

Automated Voice Invitation (AVI) panels

- No impact on response from AVI prenotice for email

	Internet	TQA	Mail	Total
Cold Contact Email	27.6% (0.49)	2.8% (0.18)	20.7% (0.44)	51.1% (0.54)
Email Invite w/ AVI Prenotice	27.3% (0.46)	2.5% (0.16)	20.6% (0.42)	50.4% (0.52)

*only includes housing units with a landline phone and an email

- No impact on response from AVI reminder

	Internet	TQA	Mail	Total
Internet Push (Control)	47.3% (0.56)	7.1% (0.29)	8.4% (0.31)	62.8% (0.54)
Internet Push w/ AVI as 3 rd Reminder	46.0% (0.50)	7.3% (0.26)	9.2% (0.29)	62.5% (0.48)

*only includes units with a landline phone

Early Self Response Results

Conclusions

➤ Notify Me

- Low participation; need to test again in presence of promotion and advertising
- Additional burden may depress response
- System functionality worked well

➤ Non-ID Internet Response

- Lower response than when an ID is provided
- Likely due to match/geocoding rates below 100%

Early Self Response Results

Conclusions (cont.)

➤ Email invitations and reminders

- Currently not an effective replacement for postal mail
- For future, consider supplementing (not replacing) paper reminders with email reminders

➤ Automated voice invitations (AVI)

- No impact on response as prenotice or as a reminder

➤ Mail internet push invitation

- For future, test tweaks to this as a baseline strategy

2014 Census Test Early Nonresponse Followup Results

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Self Response Results

Nonresponse Followup Areas

- “Internet Push” strategy:
letter → postcard → postcard → questionnaire
- More than 55 percent of all housing units responded online
- Nearly 67 percent response rate overall

Internet	TQA	Mail	Total
55.4%	4.5%	6.9%	66.8%

Nonresponse Followup (NRFU) Panels

- Control Panel
- Reduced Contact Strategy, no Administrative Records (AdRec) use
- Reduced Contact Strategy with AdRec
- Adaptive Design with AdRec

Control Panel

➤ **Similar approach to 2010 NRFU**

- First attempt must be a personal visit
- Up to 3 personal visits may be attempted
- Up to 3 telephone calls may be attempted
- Proxies allowed
- Enumerators determine the best approach to use to obtain a completed interview

➤ **There are two major differences from the 2010 Census**

- Enumerators used an automated instrument instead of paper questionnaire
- Enumerators were provided telephone numbers (if available from administrative records) for their cases

Reduced Contact Strategy, No AdRec

➤ 3 Contact Attempts (PV, T, PV/Proxy)

- First attempt was in person (PV)
- Next attempt was by telephone (T), if a number was available
- Last attempt was in person (PV/Proxy)
- If last attempt was not successful, up to 3 proxy attempts allowed
- Automated instrument removed the case from the workload, before the next day, after the PV/Proxy contact attempt was made
- Notice of Visit forms instruct Respondent to go online or call Telephone Questionnaire Assistance

Reduced Contact Strategy with AdRec

- **Unoccupied and Occupied Cases Identified using AdRec Removed Prior to NRFU**
- **3 Contact Attempts (PV, T, PV/Proxy)**
 - Same Reduced Contact Strategy as Panel 2
(3 visits: PV, T, PV/Proxy)

Adaptive Design with AdRec

- **Unoccupied Cases Identified using AR Removed Prior to NRFU**
- **First contact attempt by CATI via centralized call centers**
- **Priority Cases**
 - 7 high priority cases assigned per day to each enumerator
 - Priority based on either geography or relative importance

Adaptive Design with AdRec - continued

➤ Variable number of contacts

- **If AR available for an occupied unit**
 - 1 PV attempt, No Proxy allowed
 - Case removed from the workload after 1 attempt
- **If AR not available**
 - 1 PV/Proxy for 50% of block groups with highest 2010 return rates in each strata
 - 3 PV/Proxy for 50% of block groups with lowest 2010 return rates in each strata

Administrative Records Sources

- United States Postal Service Undeliverable-As-Addressed (June 23 to July 6)
- 2012 and 2013 CMS Medicare Database (August 2012 & 2013)
- TY 2013 Internal Revenue Service Individual Tax Returns (July 2014)
- Social Security Administration Numident File

Administrative Records

Determination of Occupancy Status

Occupancy Determination Based on IRS or Medicare	Total Administrative Records Persons	Applicable USPS UAA Reasons Assigned to Unit?	Final Administrative Record Outcome
Yes	6 or fewer	No	Occupied
No	n/a	Yes	Vacant
Yes	n/a	Yes	Could Not Determine
No	n/a	No	Could Not Determine

Applicable UAA reasons: Attempted-Not known, Deceased, In Dispute, Illegible, Refuse, Unclaimed, Unable to Forward or Vacant.

NRFU Preliminary Results:

NRFU Workload

- As of July 29th, 46,247 housing units had not responded to the 2014 Census Test and were eligible for NRFU

Panel	Mailout	NRFU Workload
Control	31,963	13,253
Reduced Contact Strategies, no AR	31,592	12,553
Reduced Contact Strategies, with AR	19,454	8,101
Adaptive Design, with AR	29,057	12,340

NRFU Preliminary Results: Administrative Records Removal

Panel	Vacant Cases Removed before Fieldwork	Occupied Cases Removed before Fieldwork	Total Cases Removed before Fieldwork
Reduced Contact Strategies, with AR	389	4,656	5,045
Adaptive Design, with AR	507	N/A	507

NRFU Preliminary Results: Late Returns

Panel	Returns Received after 7/29 but before 8/14	Returns Received on or after 8/14
Control	2,390	1,391
Reduced Contact Strategies, no AR	2,520	851
Reduced Contact Strategies, with AR	377	166
Adaptive Design, with AR	TBD	TBD

Cases removed from the workload due to AR were excluded

*Data presented as of 9/22

NRFU Preliminary Results: CATI (Adaptive Design, with AR panel only)

- 8,859 cases were eligible for CATI interviews
- CATI interviews were conducted for the first two weeks of NRFU (8/14 – 8/28)
- 462 were completed
- 6,171 cases were sent to CAPI for interviewing
- 2,226 cases did not require interviewing because a late return was received

*Data presented as of 9/22

NRFU Preliminary Results: CAPI

Panel	Completed Interviews			Removed due to AdRec after 1 st attempt (Occupied)	Stopped Interviewing at Maximum # of attempts
	Occupied	Vacant	Delete		
Control	4,743	1,272	403	n/a	1,562
Reduced Contact Strategies, no AR	4,063	1,171	316	n/a	3,148
Reduced Contact Strategies, with AR	850	388	74	n/a	1,044
Adaptive Design, with AR	2,156	580	228	3,513	1,408

*Data presented as of 9/22

NRFU Preliminary Results: Interviewer Compliance

- Most interviewers left a notice of visit as expected
- Proxy rules were generally followed
- Number of contact attempts
 - Adaptive Design panel – Majority of interviewers were compliant with procedures
 - Control and Reduced Contact Strategy panels - Roughly one-third of interviewers were compliant with procedures

*Data presented as of 9/18

NRFU Preliminary Results: COMPASS and Procedures

- In general, the COMPASS instrument worked well

- Vacant units
 - If a unit was suspected of being vacant, the instrument does not have a path to allow the interviewer to immediately find a proxy to confirm

- Gated communities and locked buildings
 - Interviewers were dispositioning cases, many were closed, before contact with the specific unit could be made

NRFU Preliminary Results: COMPASS and Procedures (cont.)

➤ Noninterviews

- Noninterview rates, especially for the Control Panel, were higher than expected
- Cases were being accepted as Noninterviews earlier than in the 2010 Census
- Evaluate and implement procedures and COMPASS changes to help reduce the noninterview rate

➤ Special situations to address in 2015

- Collect a household population count and unit status when a respondent is unwilling to do the interview or doesn't know the details
- Implement additional data edits

NRFU Preliminary Results: Adaptive Design

- The Adaptive Design panel for 2014 did not use information gathered during the field operation to determine when to stop contacting units.
- Research and test ways to use data collected during the field operations for determining when to stop contacting a unit.

Questions

➤ Send questions to the email address below:

census.2020.program.management.review@census.gov