

Overview of 2020 Census Operations: Census Questionnaire Assistance (CQA) and Coverage Improvement (CI)

Presentation to The National Academies of Sciences, Engineering, and Medicine:
Panel to Evaluate the Quality of the 2020 Census

September 29, 2021

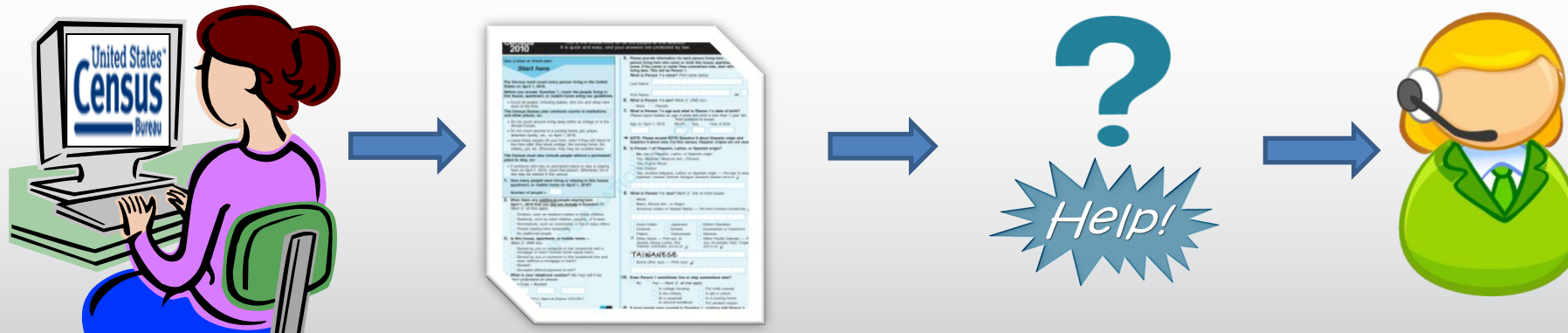
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Data presented were approved for dissemination by the Census Bureau Disclosure Review Board: CBDRB-FY21-ACSO003-B0036.
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Purpose

The Census Questionnaire Assistance (CQA) operation has two primary functions:

1. Provide questionnaire assistance for respondents by answering questions about specific items on the Census form or other frequently asked questions about the Census.
2. Provide an option for respondents to complete a Census interview over the telephone.



Changes from Previous Decennial Censuses

Questionnaire Assistance Support

During the 2010 Census, responses were collected primarily from paper questionnaires.

Telephone support centered around supporting the paper operation.



For the 2020 Census, the primary mode of response was the Internet. CQA was intended to meet the needs of respondents who did not have the Internet or computers in addition to the typical questions anticipated.

CQA Support of the 2020 Census

- Inbound
 - Toll-free telephone numbers for respondents to call for help completing the 2020 Census Questionnaire and for other general questions
 - Interactive Voice Response (IVR) with Frequently Asked Questions (FAQs) and other time-sensitive information to assist customers
 - Ability for callers to complete the 2020 Census Questionnaire over the telephone
- Outbound
 - Calls made by Customer Service Representatives (CSRs) to respondents for quality follow-up on previously submitted responses

CQA Quality Overview

- Each CSR was subject to quality monitoring during 2020 CQA operations
- Standard evaluations were conducted for each CSR on a weekly basis, using 2 quality scorecards:
 - Data Quality Audit: Did the CSR enter the correct data? Passing score was 100% accuracy.
 - Quality Audit Evaluation: Did the CSR provide acceptable customer service (e.g., grammar, appropriate language, FAQ usage, adherence to scripted text)?
- CSRs received weekly coaching based on results from call monitoring
- Supplemental evaluations were conducted as needed

Research Conducted for CQA

Call Workload Modeling

Analyzed call data to assist in forecasting workload for the 2020 Census from the following sources:

- 2010 Census
- American Community Survey
- 2014 Census Test
- 2015 Optimizing Self-Response Census Test

CQA Specific Testing

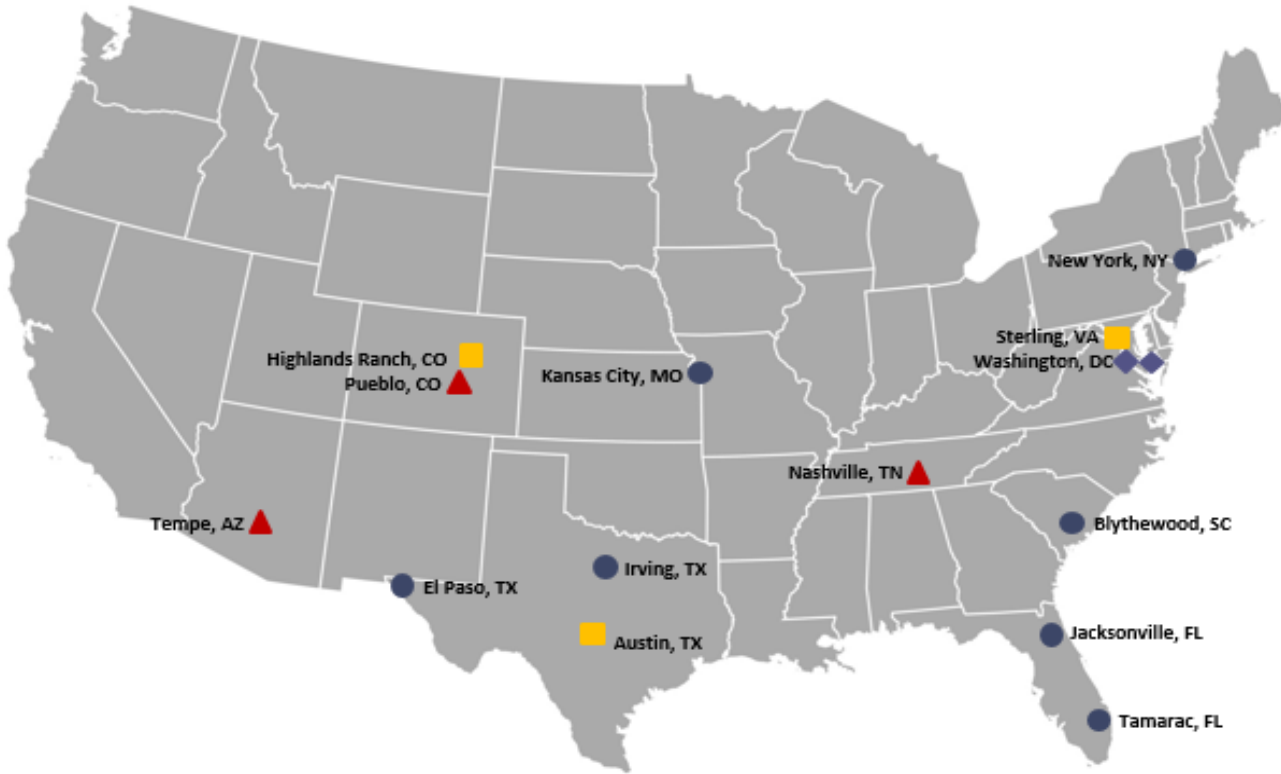
Determined the best strategy by leveraging information gathered from the following tests:

- 2017 Census Test
- 2018 End to End Census Test

CQA Contract

- The size of the CQA operation necessitated the use of contractors to augment the Census Bureau staff/resources to effectively and efficiently employ the solution.
- The Census Bureau used the Open Bid process to award the primary CQA contract in July 2016.
- The primary contractor (Maximus Federal) employed subcontractors to assist them in the work needed to fulfill their contractual obligations.

CQA Program Locations



Symbol	Facility
●	Contact Center site staffed by contractor
▲	Contact Center site staffed by small business partner
■	Network Operations Center
◆	Program Management Office and Operations Center

Scope of CQA for the 2020 Census

- Oversight of program and operations centers in Washington, DC and data centers in Texas, Colorado, and Virginia
- Oversight of Contact Centers throughout the U.S.
 - Staffing of contact centers
 - Training of contact center staff
- Multi-language phone assistance
- Assistance for individuals with special needs (visual or hearing impaired)
- Assistance for individuals in Puerto Rico

Inbound Language Support

- English
- Spanish
- Tagalog
- Arabic
- Haitian Creole
- Polish
- French
- Chinese (Mandarin & Cantonese)
- Korean
- Russian
- Vietnamese
- Japanese
- Portuguese

Service Level Requirements

To assist in measuring the success of the contractors and holding them accountable to the work Census contracted them to perform, we used the following Service Level and Quality Standards for the 2020 Census:

- CQA Service Levels

- Phone: 80% of all calls answered within 30 seconds (measured weekly).
- Quality Management: 97% data capture accuracy.
- Onboard Program: 100% Sensitive Information (Title 13) certification prior to the start of training for all contact center staff.
- Security: Necessary paperwork to pass the security engineering review and other tasks needed for the implementation of authorized IT systems will be produced 100% of the time.
- Security: Necessary paperwork to achieve Authority to Operate on CQA systems will be produced as scheduled 100% of the time.
- Security: Program and milestones will be completed as scheduled 97% of the time.

- CQA Availability

- Critical Systems (IVR and multi-channel contact handling systems) and Non-critical Systems (Workforce Management, Quality Systems, etc.) – 99.99% of the time scheduled to be available.

COVID Impacts on CQA

- 50 percent staffing at contact centers (social distancing)
- Contact centers closed occasionally due to positive cases
- Initiated a work from home model
- Extended operations from end of July to mid-October
- Workloads shifted due to later start of Nonresponse Followup (NRFU)
- Incorporated incentives to keep staff until the end of operations

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Preliminary Results (Inbound)

Inbound Call Volume

CQA received 13.5 million inbound calls

- 87.4 percent received on English language lines
- 10.4 percent on Spanish language lines
- 0.9 percent received on Non-English Non-Spanish (NENS) language lines

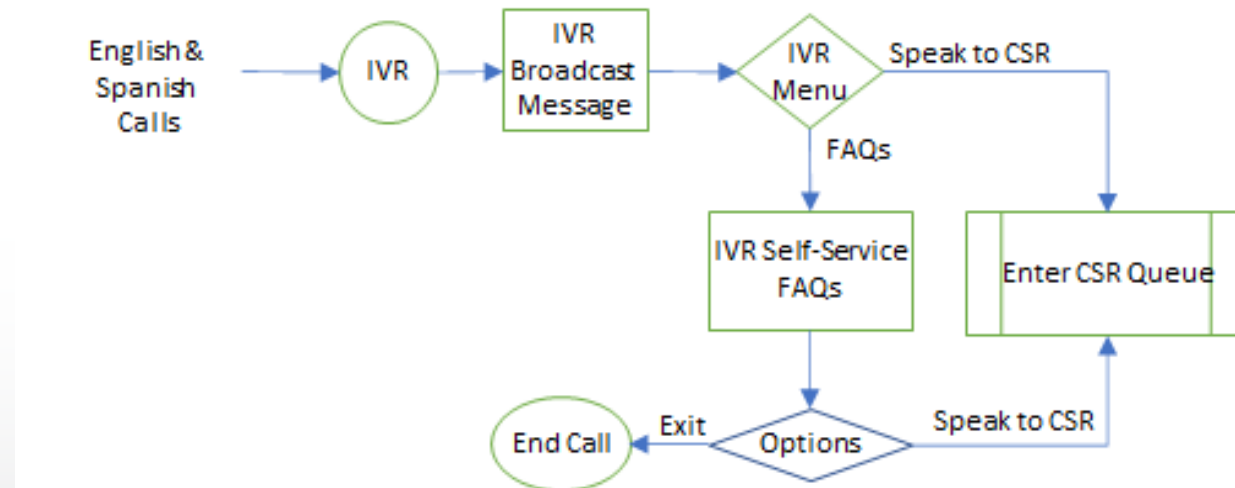
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IVR

61 percent of English & Spanish calls were handled within the IVR

- 12.9 million calls accessed the IVR
- 7.9 million calls handled in the IVR



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Inbound Calls Handled by CSRs

4.7 million calls handled by CSRs

- 87.5 percent on English language lines
- 8.6 percent on Spanish language lines
- 1.2 percent on NENS language lines

Average Handle Time was 09:24

- English – 08:54
- Spanish – 15:09
- NENS – Ranged from 11:51 (Japanese) to 16:17 (Tagalog)

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Inbound Call Dispositions

Inbound Call Dispositions

- 36.1% General Assistance
- 53.6% Enumerations

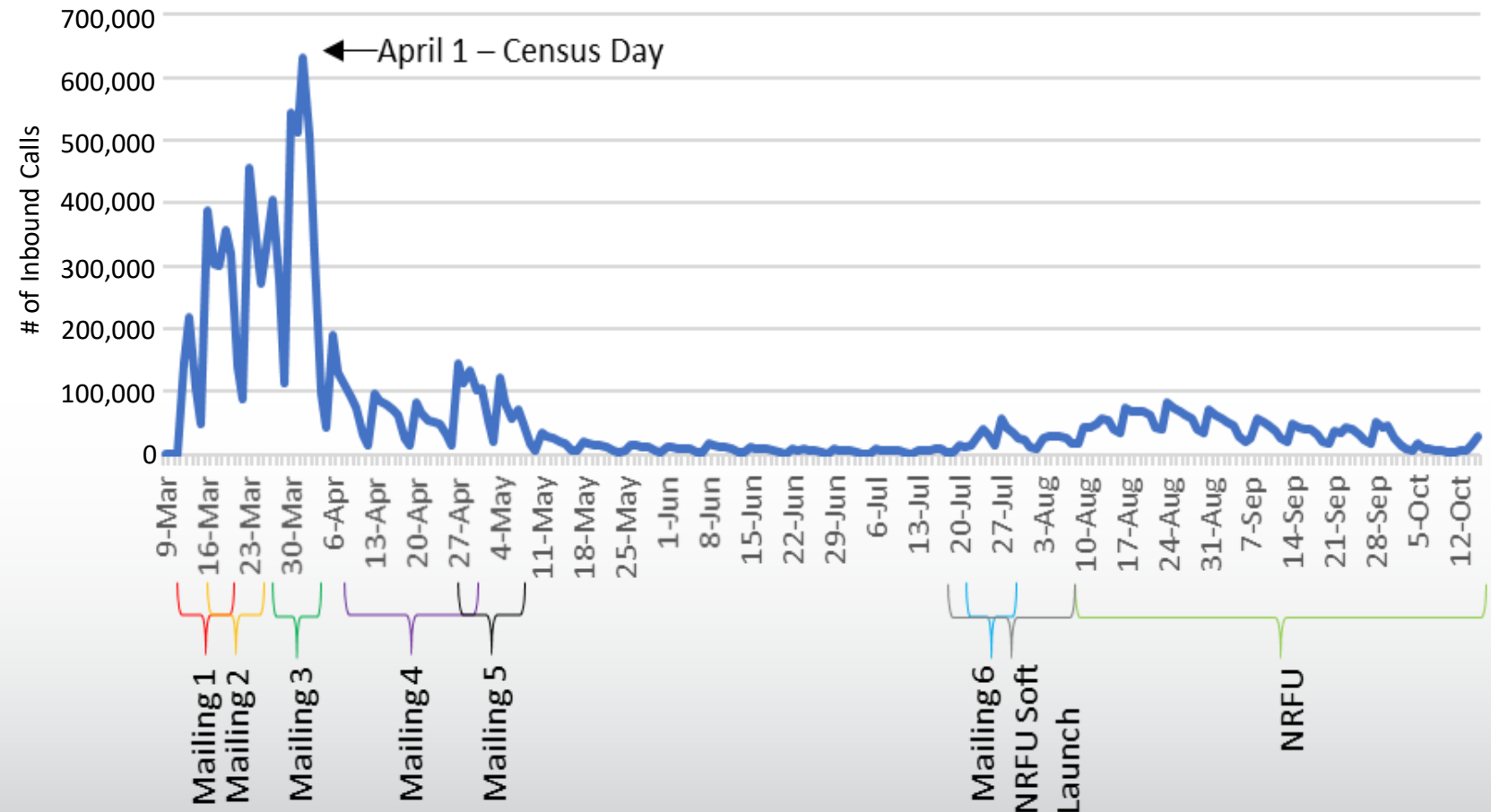
Average Handle Times by Disposition

- General Assistance – 04:32
- Enumeration – 13:43

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Inbound Call Patterns

- 53 percent of calls received in the first four weeks of operations
 - March 9 – April 4
- 23 percent of calls received during NRFU period
 - ~July 18 – October 15
- 74 percent of calls received during in-home mailing dates and NRFU
 - March 12 – May 9
 - July 22 – October 15



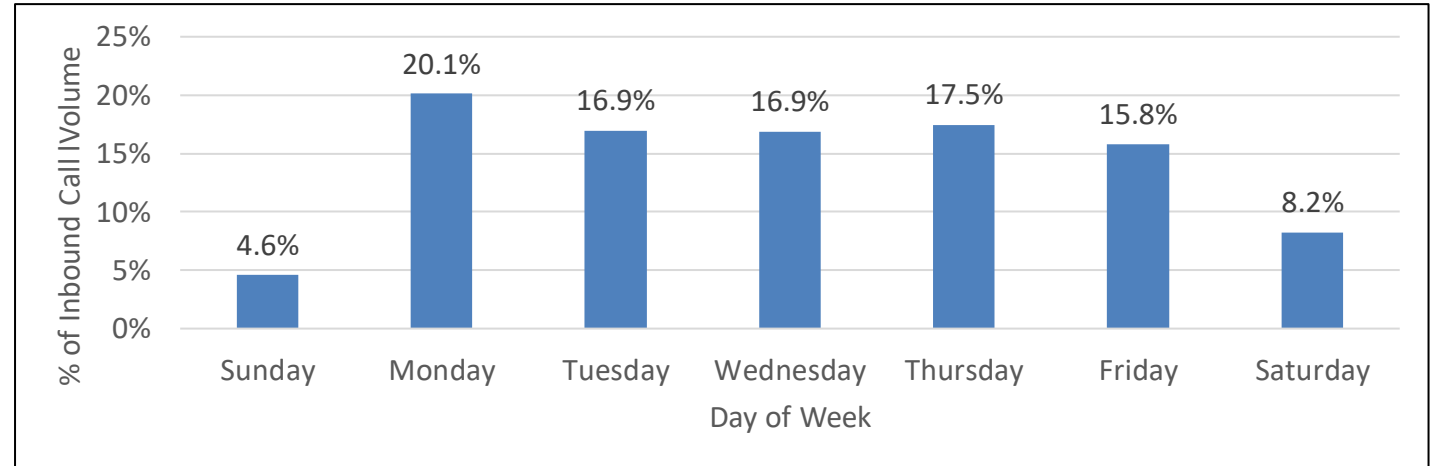
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Inbound Call Patterns

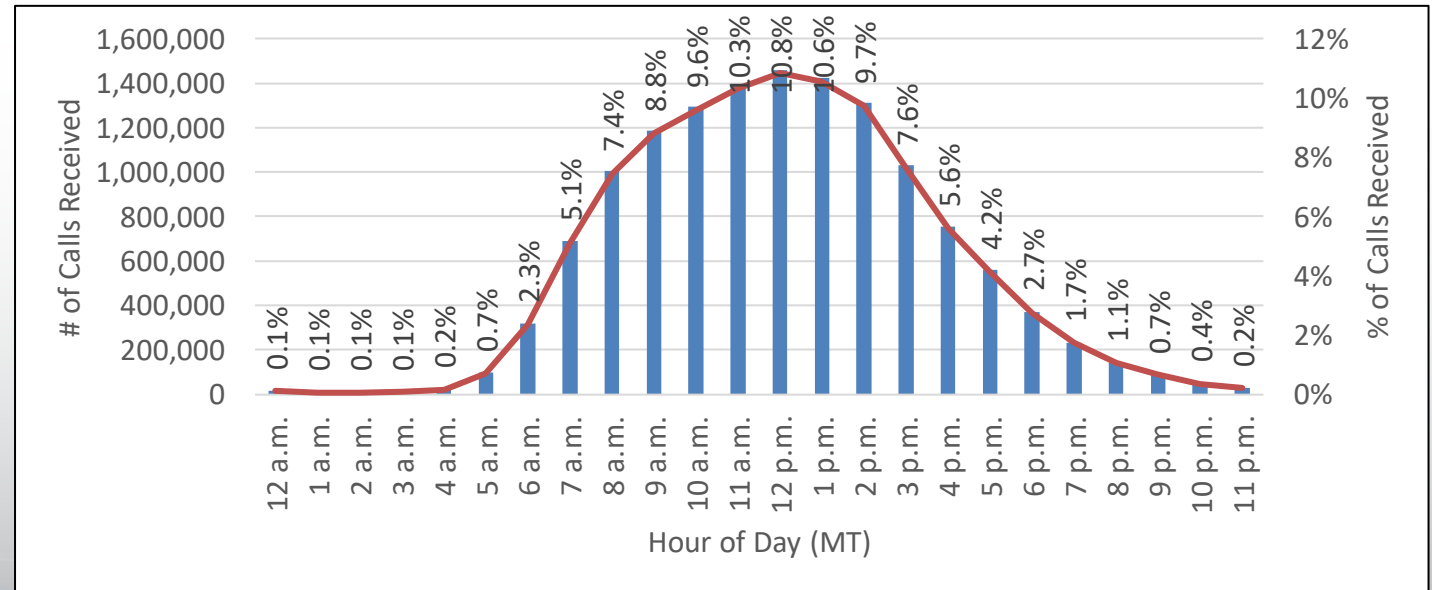
Day of Week

- 87 percent of calls received on weekdays and 13 percent on weekends
 - Monday – 20.1%, Sunday – 4.6%



Hour of Day

- Mid-day had highest call volume
 - 12 p.m. MT (2 p.m. ET) – 10.8%



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Inbound Call Patterns

Most Frequently Linked FAQs

Mailings 1, 2, 3 (March 12 – April 7)

- How to get paper questionnaires
- How to respond to the census
- How to respond for more than one home

Mailing 4 (April 8 – April 30)

- How to get paper questionnaires
- How to correct a mistake on completed questionnaire
- How to answer the race question

Mailing 5 (April 27 – July 21)

- How to get paper questionnaires
- Why they received a paper questionnaire when they've already responded
- Why they continued to receive mail

Mailing 6 and NRFU (~July 22 – October 15)

- Why they were being contacted when they had already responded
- Someone left a Notice of Visit at their door
- Respondent had moved or was moving and did not know how to respond
- Questionnaire Status

* FAQ links are dependent on CSR making the correct selection each time

2020 Lessons Learned

Lesson Learned	Context/Analysis
Provide Status of Response	Callers became frustrated when CSRs could not provide information on their response status. In some instances, this led to callers submitting information twice or being visited multiple times by a NRFU enumerator to collect data again.
Multiple Paper Mailings with Different IDs	CQA did not have a way to collect information to help resolve the issue of an address receiving multiple mail pieces with different IDs. During NRFU, households that responded for one address were visited by an enumerator for the other (very similar address). Some of these likely resulted in threat calls.
Threat Call Handling	CQA did not expect the high number of threat calls received, and training was insufficient leading to errors with call dispositions.

Takeaways for 2030

Soft Launches	Continue to use soft launches to test features and systems which allows to identify early operational issues and best practices
IT Security Planning	Ensure the security process is well understood early and incorporated in the contract Request for Proposal (RFP)
Threat Call Handling	Work with the Field Division and Legal to ensure clear understanding of roles, responsibilities, and desired outcomes
Physical Contact Centers	Employ a hybrid workforce comprised of work-at-home and office staff to reduce the need for as many physical contact centers

2020 Census Coverage Improvement

Goal of Coverage Improvement

- Resolve erroneous enumerations
 - People counted at the wrong place
 - People counted more than once
- Resolve omissions
 - People who were missed

2010 Census Coverage Followup

Conducted telephone interviews with census respondents in certain households to determine if the household roster on their census return should be updated.

- Probed to identify if people were missed or counted in error.
- Collected missing demographic data for all people in the household.

Coverage Research and Testing Throughout the Decade

- 2012 National Census Test
 - Test roster creation in automated Internet instrument.
- 2015 National Content Test Within-Household Coverage Research
 - Compare effects of criteria-based and question-based rostering approaches on coverage.
- 2016 Census Test Within-Household Coverage Research
 - Compare different versions of rostering and coverage questions in the Internet, Nonresponse Followup, and paper modes.
- 2018 End-to-End Census Test
 - Operational test of Coverage Improvement (CI) case selection, system and instrument integration, data collection, dialer and calling parameters.

Changes Between 2010 and 2020

- Automated data collection instruments added in 2020: Internet Self-Response (ISR), Nonresponse Followup (NRFU)
 - Collect data for all people in household
 - Automated consistency checks for respondents
 - Faster processing and access of census response data for CI review
- Delivery of CI workload to CQA changed from weekly to daily

2020 Coverage Improvement Telephone Operation

Computer-assisted, telephone interviews with responding Census households that had potential coverage issues

- Conducted by CQA
- Outbound calls
 - Automated dialer
 - Respondent-provided telephone numbers
- Respondent callbacks from respondents who received a voicemail message from CQA
- Operational Dates: April 22, 2020 – October 15, 2020

2020 Coverage Improvement Telephone Interview

- Update roster information.
 - Identify people to remove from the original roster who were not living or staying at the address on Census Day, April 1, 2020.
 - Identify people who were missing from the original roster but were living or staying at the address on Census Day, April 1, 2020.
- Collect address information for people who indicated that they usually live or stay somewhere else.
- Collect demographic information for people added to the roster during the CI interview.

2020 Coverage Improvement Case Identification

Review Census Housing Unit Responses: ISR, Paper, CQA, NRFU.

Coverage Issues:

- Count discrepancies – Number of names on roster differs from POPCOUNT.
 - Low Number of Names on Roster (LCD) – Ex. 2 names, but POPCOUNT = 5.
 - High Number of Names on Roster (HCD) – Ex. 6 names, but POPCOUNT = 4.
- Undercount (UC) question was answered affirmatively.
- Overcount (OC) – Someone usually lives elsewhere: college, military, nursing home, jail, seasonal home, with relatives, for a job, or other location.

2020 Census Questions

Undercount Question

2. Were there any additional people staying here on April 1, 2020 that you did not include in Question 1?

Mark ☒ all that apply.

- ☐ Children, related or unrelated, such as newborn babies, grandchildren, or foster children
- ☐ Relatives, such as adult children, cousins, or in-laws
- ☐ Nonrelatives, such as roommates or live-in babysitters
- ☐ People staying here temporarily
- ☐ No additional people

Overcount Question

2. Does this person usually live or stay somewhere else?

Mark ☒ all that apply.

- | | |
|---|---|
| <input type="checkbox"/> No | |
| <input type="checkbox"/> Yes, for college | <input type="checkbox"/> Yes, with a parent or other relative |
| <input type="checkbox"/> Yes, for a military assignment | <input type="checkbox"/> Yes, at a seasonal or second residence |
| <input type="checkbox"/> Yes, for a job or business | <input type="checkbox"/> Yes, in a jail or prison |
| <input type="checkbox"/> Yes, in a nursing home | <input type="checkbox"/> Yes, for another reason |

2020 Coverage Improvement Group Prioritization

Planned to Call
1-LCD (Paper, CQA, NRFU)
2-UC (Paper)
3-UC No Name (CQA, NRFU)
4-OC College **
5-OC Military **
6-OC Nursing Home **
7-OC Jail **
8-HCD (Paper)

On Hold
9-HCD Only (CQA, NRFU)
10-OC Job
11-OC Relatives
12-OC Seasonal
13-OC Other
14-OC Household-level Yes (ISR, CQA, NRFU)
15-ISR CD Check No Match
16-ISR CD Check Match
17-UC No Name (ISR)

LCD: Low Count discrepancy; HCD: High Count Discrepancy; OC: Overcount; UC: Undercount; ISR: Internet Self Response

**Same as the set of overcount cases that were sent to the Coverage Followup operation (CFU) in 2010. Overcount cases came from all modes.

2020 Coverage Improvement Telephone Followup Operational Plans

Initial Plan

- Call cases in Groups 1-8.
- Planned operation dates: April 2 – July 31, 2020.

Revised Plan Due to COVID Pandemic

- Only call Group 4 - Overcount College cases.
 - Higher than expected number of responses with someone who usually stays at college.
 - Reduced staffing at call centers, increased absenteeism, social distancing guidelines.
- Calling started April 22, 2020.

2020 Coverage Improvement Telephone Followup Operational Updates

- **June 11, 2020** - Started calling Groups 1-3 and 5-8.
- Calling was more productive and efficient than expected.
- Fewer CI cases available to call because of data collection delays due to COVID.
 - Data capture of paper Census responses was taking longer because of reduced staff.
 - NRFU responses were not expected until mid-August.
- CQA staffing level and efficiency allowed for an additional group of cases to be called while remaining cost-neutral.
- **June 19, 2020** – Started calling Group 10 - Overcount Job.
- **October 15, 2020** – CI calling ended.

2020 Coverage Improvement Workload Distribution and Completed CI Interviews in Each Coverage Issue Group

Coverage Issue Group	Percent of Cases in Calling Workload*	Percent of Group with a Completed CI Interview
1-LCD (Paper, CQA, NRFU)	8.9	34.1
2-UC (Paper)	17.4	42.8
3-UC No Name (CQA, NRFU)	0.1	61.5
4-OC College	45.9	46.5
5-OC Military	2.9	51.4
6-OC Nursing Home	2.1	45.0
7-OC Jail	1.0	48.6
8-HCD (Paper)	4.9	42.7
10-OC Job	16.9	47.2
Total	3.8 million cases	

* Percentages in this column may not add to 100% due to rounding.

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2020 Coverage Improvement Call Summary

- **Cases Sent to CQA:** 8.7 Million (Groups 1-17)
- **Cases Attempted:** 3.8 Million (Groups 1-8, 10)
 - Total Dial Attempts: 18.3 Million
 - CSR Handled: 6.1 Million
- **Overall Cases Completed:** 1.7 Million
 - 44.8% Completion Rate
- **Respondent Callbacks:** 1.3 Million
 - 70.4% same day
 - Median time between outbound call and callback: 1.7 hours
 - CSR Handled: 850,000
 - 63.4% were completed

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2020 Coverage Improvement Lessons Learned

- CI was able to modify calling priorities to address changing circumstances seen in workload numbers.
- CQA was able to adjust calling workloads based on the availability of CSRs as a result of COVID restrictions.
- CQA was able to work an additional group of cases while staying within budget because of the efficiency of CSRs.
- Respondents were reluctant to answer questions during the telephone interviews because they already responded to the Census.

Coverage Improvement Takeaways for 2030

- Maintain flexibility in adjusting the prioritization of the calling workloads.
- Reduce respondent burden and reluctance, as well as costs associated with telephone followup interviews, by incorporating coverage checks in the automated, data-collection modes: ISR, CQA, and NRFU.