United Nations Expert Group Meeting on the Impact of the Covid-19 Pandemic on Conducting Population and Housing Censuses and on Census Data Quality Concerns

United States: 2020 Census Data Quality

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Approach to Conducting a Successful Census

- **Complete and accurate count—**The goal of the 2020 Census is to count everyone once, only once, and in the right place.
- **Safe and secure—**Incorporate industry and federal IT best practices for encrypting data in transmission and at rest.
- **Easy and convenient—**Respond any way you want, online, by mail, or over the phone.

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External Factors Impacting Progress and Potentially Quality

- COVID-19 – March 18
- Civil Unrest – May 25
- Derecho – August 10
- Tropical Storm Marco – landfall on August 24
- Hurricane Laura – landfall on August 26
- California, Oregon and Washington Fires and Air Quality – September 7
- Hurricane Sally – landfall September 16
- Tropical Storm Beta – landfall on September 21
- Legal challenges

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Key Milestones/Activities – Original Schedule with Progress Through March 17, 2020

Milestones/Activities	Dates
Begin 2020 Census Program	November 18, 2011
Begin Local Update of Census Addresses (LUCA) Program	January 2017
Deliver 2020 Census Topics to Congress	March 28, 2017
Deliver 2020 Census Questions to Congress	By March 31, 2018
Open Regional Census Centers	By April 1, 2018
Go-Live with Online Job Application and Website	September 4, 2018
Open Area Census Offices	January 7, 2019 – September 23, 2019
Conduct In-Field Address Canvassing	August 18, 2019 – October 11, 2019
Launch Advertising Campaign	November 1, 2019
Conduct Remote Alaska	January 21, 2020 – April 30, 2020
Conduct Group Quarters – Advance Contact	February 3, 2020 – March 6, 2020
Conduct Enumeration at Transitory Locations – Advance Contact	February 24, 2020 – March 21, 2020
Conduct Self-Response	March 12, 2020 – July 31, 2020
Conduct Update Leave	March 15, 2020 – April 17, 2020
Conduct Update Enumerate	March 16, 2020 – April 30, 2020
Conduct Group Quarters – Service Based Enumeration	March 30, 2020 – April 1, 2020
2020 Census Day	**April 1, 2020**
Conduct Group Quarters Enumeration	April 2, 2020 – June 5, 2020
Conduct Coverage Improvement	April 7, 2020 – July 31, 2020
Conduct Enumeration at Transitory Locations	April 9, 2020 – May 4, 2020
Conduct Early Nonresponse Followup	April 9, 2020 – May 13, 2020
Conduct Nonresponse Followup	May 13, 2020 – July 31, 2020
Begin Post Enumeration Processing Activities	August 1, 2020
Deliver Apportionment Counts to the President	By December 31, 2020
Complete Delivery of Redistricting Counts to the States	By March 31, 2021
Complete 2020 Census Program	September 29, 2023

2020 Census:
Monitoring Quality During Operations

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Operational Controls to Ensure Data Quality

- Management by System-generated Alerts based on an Enumerator's Work
  - Supervisors and Managers were served alerts about their employees
  - Alerts focused on both management of staff and management of work
  - Action was required to resolve all alerts
  - Examples of alerts related to data quality:
    - High rates of refusals
    - High occurrences of cases with a population count of 1
    - No proxy attempts completed
    - Low/High case attempts per hour

- Nonresponse Followup (NRFU) Quality Assurance Goals:
  - Detect and deter falsification by enumerators.
  - Detect and correct poor-quality work.
  - If we discover an enumerator has falsified data or is performing poor quality work, we rework all eligible cases that have not already been selected for reinterview (RI).

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Real Time Monitoring to Ensure Data Quality

Decennial Field Quality Management (DFQM)

- Monitor and analyze near real-time data to support field data collection:
  - Increase efficiency of operations
  - Improve data quality
- Examples of how DFQM made the 2020 Census more efficient and increased the quality of the field data collection
  - Detected outliers in data collection and provided rapid feedback to management. Helped ensure isolated issues didn't become larger.
  - Brought a systematic process to monitor and address alerts.
  - Provided customized, on-demand data tabulations and analysis to increase the efficiency of the field data collection production operations.

Real-Time Analysis of Data (RTAD)

- Monitor issues during data collection
  - data quality
  - areas of concern
- Get ahead of possible problems
- Support operations and management to provide additional metrics in a quick, dynamic manner as needed

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Administrative Records Usage

Use information people have already provided to reduce expensive in-person follow-up.

Improve the Quality of the Address List	Update the address list Validate incoming data from federal, tribal, state, and local governments
Increase Effectiveness of Advertising and Contact Strategies	Support the micro-targeted advertising campaign Create the contact frame (e.g., email addresses and telephone numbers)
Validate Respondent Submissions	Validate respondent addresses for those without a Census ID and prevent fraudulent submissions
Reduce Field Workload for Followup Activities	**Remove vacant and nonresponding occupied housing units from the nonresponse followup workload** Optimize the number of contact attempts

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2020 Census:
Post Data Collection Quality Efforts

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Post Data Collection Processing

Overview

- Once field data collection concluded on October 15, we began processing the data.
- The processing of the data collected from a census is just as important to ensuring quality as is data collection itself and is a large and complex task on its own.
- As with all prior censuses we have found data quality issues as we prepare the data for tabulation. While some issues appear to be pandemic related, most are what we experience with every decennial census and other Census Bureau surveys.
- Importantly, we have not uncovered anything so far that would suggest that the 2020 Census will not be fit for its constitutional and statutory purposes.
- Census Bureau is working to thoroughly correct and address all issues and anomalies as a part of our mission to deliver accurate 2020 Census data products as close to the statutory deadline as possible

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Post Data Collection Data Review

The primary purposes of data review are:

1. To **identify data processing errors** and verify that edits and other processing steps have been properly applied.

2. To **assess data quality** by looking at item nonresponse/missing rates, population count only responses, proxy responses, and other early indicators of possible data quality issues.

3. To **evaluate demographic reasonableness** by looking at census responses and subsequent data files at multiple levels of geography compared to benchmarks, i.e., 2010 Census, American Community Survey data, and Population Estimates.

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2020 Census:
Understanding the Quality

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Efforts to Understand Data Quality

Formation of an internal Data Quality Executive Guidance Group

- Draws upon expertise within the Census Bureau in the fields of census operations, statistical methodology, acquisition and utilization of administrative records, and in the social, economic, and housing subject areas
- Defines and oversees the release of operational metrics to coincide with the release of constitutionally mandated data

Historical tools to assess Census Quality

- Demographic Analysis
- Post Enumeration Survey
- Operational Assessments and Evaluations

Ongoing Engagement with Independent External Experts

- American Statistical Association
- JASON

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Demographic Analysis

- Demographic Analysis (DA) is a method that the Census Bureau uses to evaluate the quality of the decennial census.
- We produced national estimates of the population on April 1, 2020 by age, sex, DA race categories, and Hispanic origin.
- Estimates are developed using current and historical vital records, data on international migration, and Medicare records.
- The estimates are used to develop estimates of net coverage error at the national level by demographic detail.

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Post Enumeration Survey

Goal

- Measure coverage of people and housing units in the decennial census
- Measure net coverage error and components of coverage
- No intent to adjust the census counts

How are the data used?

- To assess the success of the current census
- To provide information to improve the coverage of future censuses

How is coverage estimated?

- Conduct a survey in sample blocks
- Match people in the PES independent survey with enumerations in the census to determine who was missed or counted in error

Timing

- Data collection continues through 2021.
- Initial national person results shortly after field operations conclude.

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2020 Census Program for Evaluations and Experiments (CPEX)

The CPEX program is designed to document and evaluate the current decennial census and facilitate planning efforts for the next one

Experiments – Test new methods during the decennial census to inform future census processes

Evaluations – Determine effectiveness of census components and opportunities for improvement and innovation

Operational Assessments – Provide data on workload volumes, production rates, and costs related to operations, processes, and systems

Quality Control Profiles – Present quality measures for major census operations

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More information on the 2020 Census: http://www.census.gov/2020Census

More information on the 2020 Census Self-Response Rates: https://www.2020census.gov/en/response-rates/self-response.html

More information on the 2020 Census Nonresponse Followup Completion Rates: https://www.2020census.gov/response-rates/nrfu-completion.html

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Thank You

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