



March 2021

# DECENNIAL CENSUS

## Bureau Should Assess Significant Data Collection Challenges as It Undertakes Planning for 2030

Accessible Version



A Century of Non-Partisan Fact-Based Work

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### Bureau Should Assess Significant Data Collection Challenges as It Undertakes Planning for 2030

#### Why GAO Did This Study

The 2020 Census was conducted under extraordinary circumstances. In response to the COVID-19 pandemic and related Commerce decisions, the Bureau made a series of late changes to the design of the census. As GAO previously reported, these changes introduced risks to the quality of data that the Bureau provides for congressional apportionment and redistricting purposes.

GAO was asked to review the Bureau's implementation of the 2020 Census. This report assesses the Bureau's implementation of the: (1) nonresponse follow-up operation, (2) group quarters enumeration, and (3) plans to assess those operations. To address these objectives, GAO conducted a series of surveys of all 248 census offices during the collection of data for those operations. GAO also monitored the cost and progress of operations and interviewed census field supervisors for each operation.

#### What GAO Recommends

GAO is recommending that the Bureau inform 2030 Census planning by evaluating the effects of major operational changes made during data collection and challenges encountered for nonresponse follow-up and group quarters enumerations. In its comments, the Department of Commerce agreed with GAO's findings and recommendation. The Bureau also provided technical comments, which GAO incorporated as appropriate.

#### What GAO Found

In March 2020, the Census Bureau (Bureau) delayed the start of field data collection because of COVID-19 safety, and then revised several operational timelines in response to the pandemic and Department of Commerce (Commerce) decisions. Nationally the Bureau reported completing more than 99 percent of nonresponse follow-up cases (households that have not responded to the census) by October 15, 2020. The Bureau attributes the use of technology as among the reasons it completed the work by this date.

The Bureau, however, had lower completion percentages ranging between 94 and 99 for 10 local geographic areas, in part because of natural disasters and COVID-19. For example, according to the Bureau, in Shreveport, Louisiana, short-term closures stemming from the hurricane impacted data collection for 82,863 housing units. As a mitigation strategy, the Bureau shifted the Shreveport operation to telephone enumeration and brought in more than 1,200 enumerators from travel teams. Despite these efforts, the Bureau was unable to complete 22,588 cases in Shreveport before data collection ended. For these cases the Bureau will need to rely on alternate methods including imputation, which draws data from similar nearby households to determine whether a housing unit exists, whether it is occupied, and, if so, by how many people.

In addition to the challenges brought on by natural disasters, the Bureau encountered other difficulties during nonresponse follow-up, such as, the inability of supervisors to reassign open cases in a timely fashion. GAO found that census field supervisors did not have the authority to reassign cases and had to wait for the field manager to make those reassignments. Bureau officials told GAO it would consider the reassignment of cases as it moves towards planning for the 2030 Census.

To monitor nonresponse follow-up, the Bureau used quality control procedures, such as real-time monitoring of enumerator activities by supervisors and training assessments. However, GAO found the Bureau did not have proper controls in place, allowing some enumerators to work without having passed the required training assessment. The Bureau agreed that additional controls were necessary.

The Bureau planned to count individuals living in group quarters, such as skilled-nursing and correctional facilities, between April 2, 2020, and June 5, 2020, but revised those dates to July 1, 2020, through September 3, 2020. The pandemic made it difficult to count group quarters. For example, Bureau staff found it challenging to locate a point of contact at some group quarters because facilities were closed due to the pandemic. Bureau officials told us that in December 2020 they decided to re-contact more than 24,000 out of approximately 272,000 group quarter facilities to collect data, and that imputation would be used to count individuals at the remaining facilities still reporting a zero population count.

The Bureau is updating plans to assess operations and identify resulting lessons learned from the 2020 Census. As part of its planning for 2030, it will be important for the Bureau to assess the impact of the 2020 late design changes and the operations' challenges that arose.

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**Abbreviations**

ACOs	Area Census Offices
Bureau	Census Bureau
CFS	Census Field Supervisors
COVID-19	Coronavirus Disease 2019
Commerce	Department of Commerce
eResponse	Electronic Response Data Transfer
PPE	Personal Protective Equipment

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March 22, 2021

### Congressional Requesters

The decennial census is a complex and costly undertaking under ordinary conditions. The 2020 Decennial Census was taken under extraordinary circumstances. In response to the Coronavirus Disease 2019 (COVID-19) pandemic and related Department of Commerce (Commerce) decisions, the Census Bureau (Bureau) made a series of late changes to the design of the census. These changes affected the schedule and way the Bureau collected census responses in the field. The changes also introduced risks to the quality of data that the Bureau provides for congressional apportionment and redistricting purposes. As we testified in December 2020, for these reasons it will be important for the Bureau to conduct a robust evaluation and assessment process to determine the quality of data collection operations for the 2020 Census.<sup>1</sup>

The largest field data collection operation for the 2020 Census was nonresponse follow-up. Nonresponse follow-up is an operation where enumerators personally visit households that do not respond to the census in order to count the household. The Bureau also conducts group quarters enumeration which is a count of residents of group facilities (such as skilled nursing facilities and correctional facilities). Another enumeration operation that generally is conducted at about the same time as group quarters enumeration is service-based enumeration. For this operation, the Bureau counts individuals experiencing homelessness where they receive services such as at soup kitchens and shelters, or at non-sheltered outdoor locations where they sleep.

You asked us to review how the 2020 Census Nonresponse Follow-up and Group Quarters Enumeration operations performed. This report assesses (1) the Bureau's implementation of the 2020 Census Nonresponse Follow-up; (2) the Bureau's implementation of Group Quarters Enumeration and Service-Based Enumeration operations; and (3) the Bureau's plans to assess these operations.

To accomplish these objectives, we reviewed key documents including the 2020 Census Operational Plan that discussed the goals and objectives for each of the operations included in this review, weekly

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<sup>1</sup>GAO, *2020 Census: Census Bureau Needs to Ensure Transparency over Data Quality*, [GAO-21-262T](#) (Washington, D.C.: Dec. 3, 2020).

updates on cost and progress of operations, as well as training manuals and e-training modules and other related documents for nonresponse follow-up, group quarters enumeration, and service-based enumeration. To obtain an on-the-ground perspective of the conduct of nonresponse follow-up, group quarters enumeration, and service-based enumeration, we interviewed 40 Census Field Supervisors (CFS) from 20 Area Census Offices (ACO) for nonresponse follow-up, 20 CFSs from 10 ACOs for group quarters enumeration, and six CFSs from the service-based enumeration operation. ACOs were selected based on several factors, including workload size, expected response rate, and recruitment capabilities. Information collected from CFSs are not generalizable to the experiences of all CFSs nationally.

We also surveyed ACO managers at all 248 ACOs, regularly interviewed Census Headquarters officials, and reviewed data from the Bureau's information technology systems to monitor progress throughout peak operations. We examined data from the Bureau's unified tracking systems to check for logical errors and inconsistencies, and followed up with agency officials knowledgeable about the data in cases where we had questions about potential errors or inconsistencies, and to inquire about the accuracy and completeness of the data. Based on these efforts, we determined those data to be sufficiently reliable for the purposes of our reporting objectives. Finally, we compared the information we gathered from the interviews and surveys to the Bureau's Operational Plans, including plans revised due to COVID-19. Appendix I presents a more detailed description of our scope and methodology.

We conducted this performance audit from March 2020 to March 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Background

For the 2020 Census, the Bureau was required by law to count the population as of April 1, 2020 (Census Day) and deliver state population counts to the President by December 31, 2020, to determine the number

of congressional seats apportioned to each state.<sup>2</sup> The Bureau is also required by law to deliver population counts to the states within 1 year of Census Day for redistricting purposes—March 31, 2021, in the case of the 2020 Census. Even in normal circumstances, conducting the count to meet these deadlines is an enormous and complex undertaking, for which the Bureau spends years planning. This decennial, the COVID-19 pandemic made the effort all the more challenging for the Bureau.

While the cost of the decennial census has steadily increased over the past several decades, with enumeration costs rising from about \$16 per household in 1970 to around \$92 in 2010 (all in constant 2020 dollars), the percentage of households self-responding to mailed census questionnaires has generally declined. The self-response rate declined from 78 percent in 1970 to 63 percent in 2010. However, for the 2020 Census, the Bureau saw an increase in the self-response rate to 67 percent. According to Bureau Officials, this was due in part to the inclusion of an internet response option and the extension of the deadline for self-response from July 31, 2020, to October 15, 2020, due to COVID-19.

To ensure nonrespondents are included in the decennial count the Bureau conducts the nonresponse follow-up operation—where enumerators personally visit nonresponding households. Nonresponse follow-up is labor intensive and is the largest and costliest operation that the Bureau undertakes. During the nonresponse follow-up operation, enumerators confirm vacant and nonexistent addresses and make repeated visits to occupied homes to capture full information from each household. Enumerators also leave a notice of visit form if they cannot reach a household, encouraging a member of the household to go online or call a Census Questionnaire Assistance Center to complete a self-response.

Happening at about the same time as nonresponse follow-up, the group quarters enumeration operation counts individuals living or staying in group housing, such as college/university student housing, correctional facilities, and nursing/skilled-nursing facilities. To count people during this operation, enumerators may visit the facility to administer the census questionnaires; pick up completed questionnaires or paper listings of census response data for each person who is served or staying at the

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<sup>2</sup>On January 28, 2021, the Bureau released a statement that its current schedule points to April 30, 2021, for the completion of the apportionment counts.

facility on April 1, 2020; or swear in and train group quarters administrators to conduct the enumeration of their own facility. Group quarters facilities also had the option to self-enumerate electronically through a new Electronic Response Data Transfer (eResponse) option.

Additionally, the service-based enumeration and targeted non-sheltered outdoor location operations are used to count persons experiencing homelessness. To conduct these operations, the Bureau sent census takers to count people at shelters, soup kitchens, and locations previously identified by the Bureau where people are known to sleep outdoors. Enumerators completed in-person interviews or, in response to the pandemic, shelters were given the option to have enumerators drop off and pick up completed paper listings from administrators.

To adapt to the COVID-19 pandemic, the Bureau acquired personal protective equipment (PPE) for all field and office staff. Specifically, the Bureau reported that it provided more than 3.2 million masks, 14 million gloves, and 3.3 million individually sized bottles of hand sanitizer to field staff. Also, most training was conducted remotely due to COVID-19 concerns. The Bureau provided 2 hours of in-person enumerator training where enumerators also received equipment. The original plan had been for 2 days of in-person training. Training discussed avoiding contact and remaining outside at a 6-foot distance (see fig. 1).

**Figure 1: Census Bureau COVID-19 Related Safety Protocols**

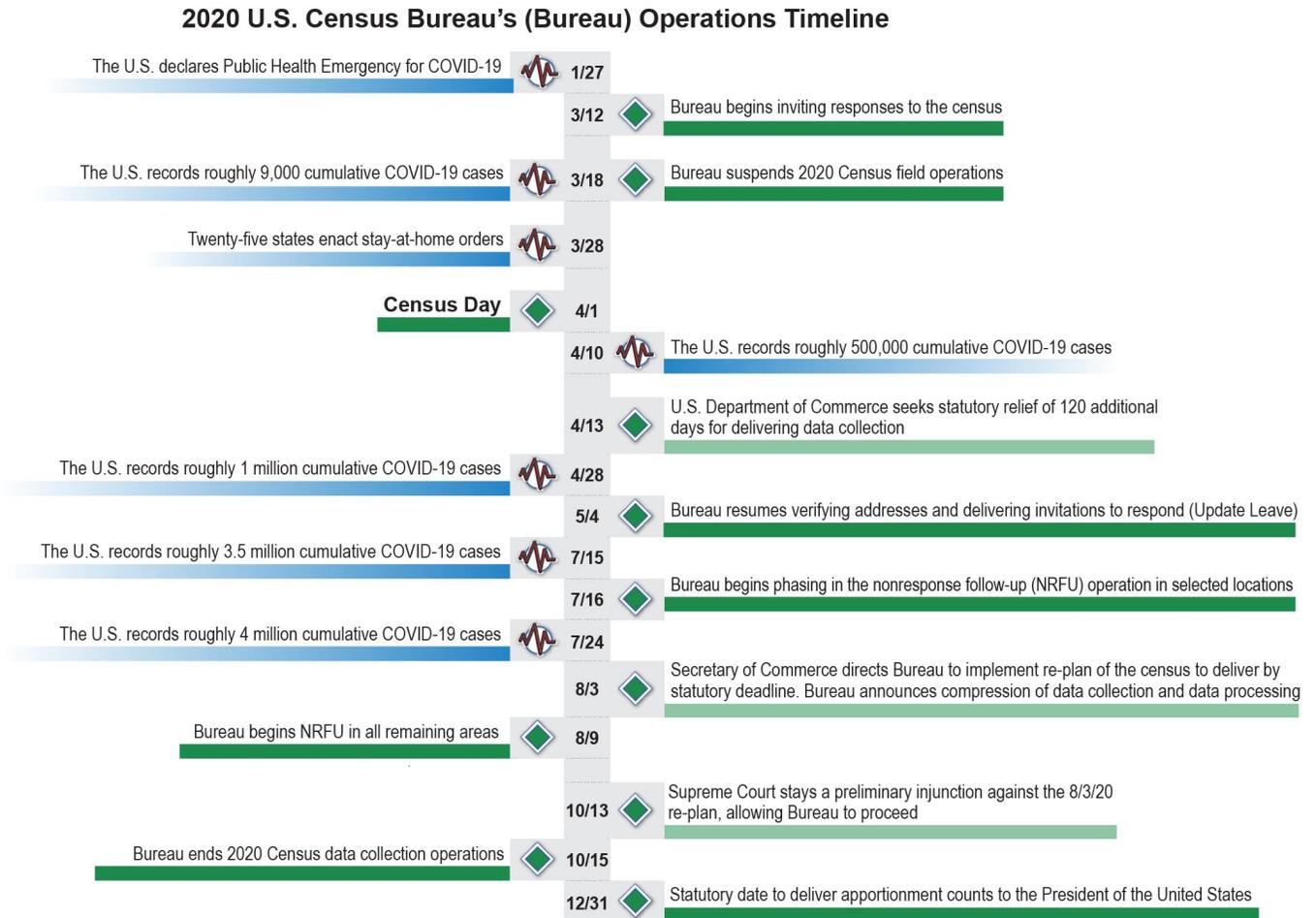


Source: GAO analysis of Census Bureau protocols. | GAO-21-365

## The Bureau Generally Met Its Nonresponse Follow-up Operational Goals, but Faced Data Collection and Monitoring Challenges

In March 2020, the Bureau delayed the start of nonresponse follow-up because of COVID-19 safety concerns, and then revised operational timelines in response to the pandemic and Commerce decisions. Figure 2 shows a timeline of these events.

Figure 2: 2020 U.S. Census Bureau's Operations Timeline



Pandemic event denotes an occurrence external to the census that impacted Bureau decisions  
 Operational development denotes a key marker of progress or a decision made in implementing 2020 operations

Source: Bureau documentation and data from the Centers for Disease Control and Prevention and John Hopkins University of Medicine. | GAO-21-365

**Initial suspensions.** As part of its initial COVID-19 response and to promote the safety of its workforce and the public, the Bureau delayed its field operations multiple times. On March 18, 2020, the Bureau announced it would suspend operations for 2 weeks. On March 28, 2020, the Bureau announced another 2-week suspension. In recognition of the pandemic's community spread, on April 13, 2020, the Bureau announced that it would extend the suspension of nonresponse follow-up to a total of 3 months.

**Plan for delayed delivery of population counts.** On April 13, 2020, the Bureau and Commerce announced plans to deliver population counts for apportionment purposes by April 30, 2021, and for redistricting purposes by July 31, 2021—4 months later than the respective statutory deadlines. According to the announcement, Commerce had requested that Congress grant a 120-day extension to the Bureau’s reporting deadlines. The Bureau also announced an extension to the self-response period and planned to conduct the nonresponse follow-up operation through October 31, 2020.

**Gradual resumption of operations.** The Bureau gradually resumed nonresponse follow-up operations, announcing a phased approach on May 4, 2020. Between July 16, 2020, and August 9, 2020, the Bureau began nonresponse follow-up in areas that the Bureau deemed sufficiently safe. Nonresponse follow-up was fully launched in all areas by August 9, 2020.

**Time frames revised again to meet original statutory deadlines.** On August 3, 2020, the Bureau announced that it would accelerate its timeline, as directed by the Secretary of Commerce, to deliver population counts for apportionment and redistricting purposes by the statutory deadlines—4 months earlier than the plan the Bureau announced on April 13, 2020. To meet this timeline, the Bureau announced that nonresponse follow-up and the self-response period would now end on September 30, 2020—1 month earlier than previously announced.

**August 3 re-plan of nonresponse follow-up.** The Bureau developed a nonresponse follow-up “re-plan” that modified certain procedures to meet the shortened time frame. For example, to meet production goals the Bureau offered enumerators awards, encouraged increased enumerator travel to areas in need, and instituted phone enumeration as an additional contact method. To reduce the workload of nonresponse follow-up, the Bureau also made a set of changes to quality control including reducing the scope of the quality control operation and reducing the number of contact attempts for a quality control interview.

The nonresponse follow-up operation continued under the re-plan for approximately 1 month before the U.S. District Court for the Northern District of California issued a temporary restraining order, followed by a preliminary injunction, which barred the Bureau from operating under the August 3 re-plan. Due to the injunction, the Bureau ceased re-plan operational changes and the court required that nonresponse follow-up operations continue past the Bureau’s September 30, 2020, deadline. On

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October 13, 2020, the Supreme Court granted a stay of the injunction, allowing the Bureau to cease data collection, and on October 15, 2020, the Census Bureau ended all data collection operations, including nonresponse follow-up.

**Processing census data.** On November 20, 2020, senior Bureau officials told us that they ran into what the Bureau referred to as anomalies as they processed responses for the apportionment count. For example, as they integrated data in group quarter counts they found mismatches and duplicates. In addition, as they changed the year for the date of birth to align with a person's age they found that the system was sometimes aging people incorrectly. According to Bureau officials, processing anomalies are not unexpected, in that they occur with each census, and time is typically built into the schedule to identify and address them. As a result of addressing the anomalies to ensure quality data, as of March 2021 apportionment data have not yet been delivered to the President.<sup>3</sup>

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## The Bureau Met National Nonresponse Follow-up Completion Goals Overall, but Struggled in Some Areas

The Bureau reported that nonresponse follow-up came in under budget and completed more than 99 percent of cases by the end of the operation. The Bureau reported that as of March 5, 2021, it had spent nearly \$1.43 billion dollars, more than \$180 million under its planned budget of \$1.61 billion.

By October 15, the Bureau reported that it had completed 99.93 percent of its national nonresponse follow-up workload (almost 64.1 million cases), which included occupied, vacant, nonexistent housing units, as well as cases selected for quality control and other addresses added for verification. According to Bureau documentation, a nonresponse follow-up case is considered completed under the following circumstances:

- a field interview of a household member is conducted;
- the household self-responds via phone, mail, or internet after being added to the nonresponse follow-up workload;

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<sup>3</sup>On January 28, 2021, the Bureau released a statement that its current schedule points to April 30, 2021, for the completion of the apportionment counts.

- a proxy (i.e., neighbor, landlord, caretaker, etc.) provides information on the household;
- after visiting the household at least once, the Bureau uses administrative records such as Internal Revenue Service or Social Security records to enumerate the household;
- the address is identified as vacant or nonexistent by a field visit or a proxy interview; or
- after the maximum attempts (typically six visits) the case is flagged as closed.<sup>4</sup>

Bureau officials attribute high productivity as one of the factors that led to the Bureau completing 99.93 percent of its nonresponse follow-up by October 15.<sup>5</sup>

Census data presented in figure 3 show reported productivity throughout the operation exceeded the Bureau's projections. Specifically, according to Bureau reporting, as of October 15, a cumulative 1.92 cases were completed per hour, exceeding the Bureau's planned 1.55 cases. Bureau officials told us that increased use of technology in the 2020 Census, including the use of software on handheld devices to assign cases, helped increase productivity.

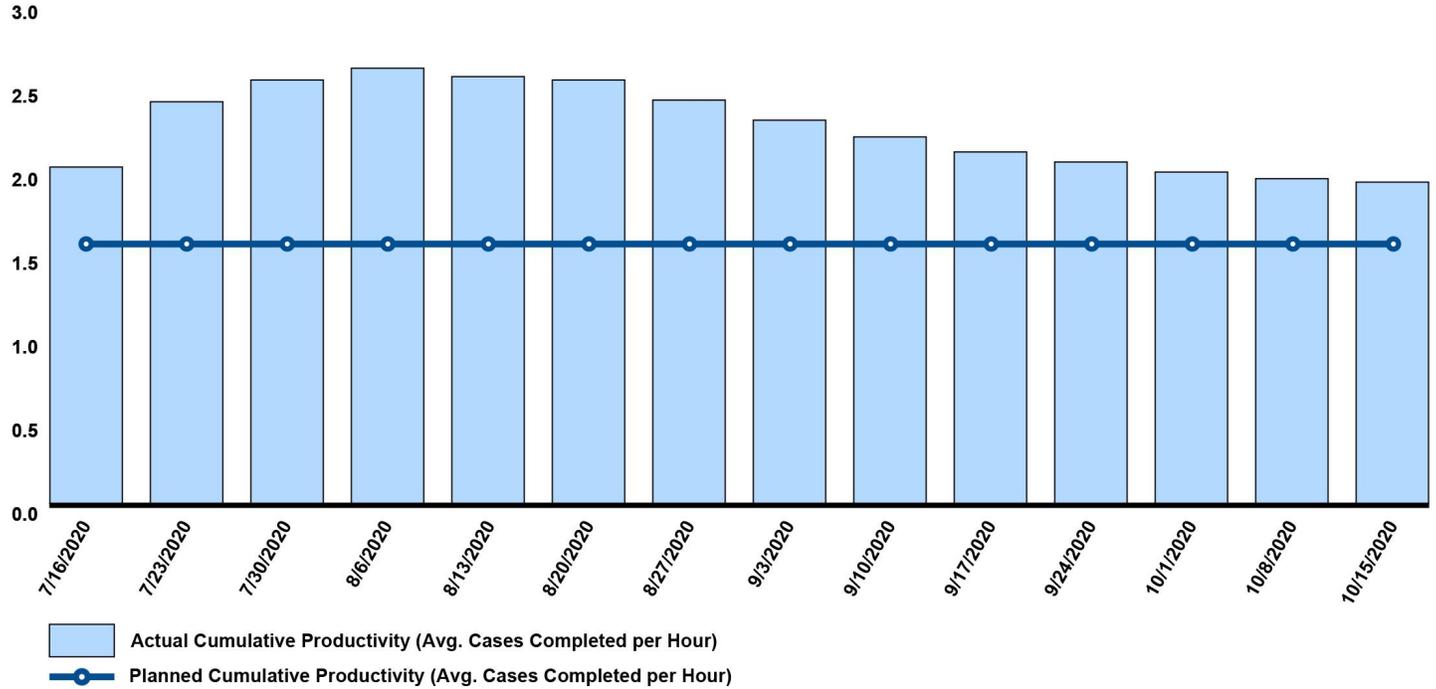
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<sup>4</sup>Maximum attempt cases were reopened near the end of nonresponse follow-up in an attempt to collect the data. The Bureau imputes data for cases still open at the end of nonresponse follow-up.

<sup>5</sup>The Bureau rounds to whole numbers due to disclosure avoidance rules and its published numbers may differ from ours as a result.

**Figure 3: 2020 Census Nonresponse Follow-up Operation Cumulative Productivity**

2020 NRFU Cumulative Productivity During Operation



Source: GAO analysis of Census data. | GAO-21-365

**Data table for Figure 3: 2020 Census Nonresponse Follow-up Operation Cumulative Productivity**

Date	Actual Cumulative Productivity (Avg. Cases Completed per Hour)	Planned Cumulative Productivity (Avg. Cases Completed per Hour)
7/16/2020	2.01	1.55
7/23/2020	2.4	1.55
7/30/2020	2.53	1.55
8/6/2020	2.6	1.55
8/13/2020	2.55	1.55
8/20/2020	2.53	1.55
8/27/2020	2.41	1.55
9/3/2020	2.29	1.55
9/10/2020	2.19	1.55
9/17/2020	2.1	1.55
9/24/2020	2.04	1.55

Date	Actual Cumulative Productivity (Avg. Cases Completed per Hour)	Planned Cumulative Productivity (Avg. Cases Completed per Hour)
10/1/2020	1.98	1.55
10/8/2020	1.94	1.55
10/15/2020	1.92	1.55

Under the August 3 re-plan, the Bureau employed other methods to complete nonresponse follow-up cases within the shortened time frame. Specifically, the Bureau offered enumerators financial awards for working additional hours while completing a minimum number of cases, and removed restrictions on overtime. Of the area census office managers we surveyed, 48.3 percent of respondents stated that they were satisfied with the effectiveness of awards to speed up nonresponse follow-up, retain staff, or increase the number of hours worked.

The Bureau also increased the use of travel teams to complete cases in hard-to-count areas, sending approximately 26,000 enumerators to other areas or regions during nonresponse follow-up. In some circumstances, the Bureau also offered incentive awards to enumerators willing to travel to particular areas. In March 2021, the Bureau reported \$98.4 million in expenses for enumerator awards, \$795,000 of which was for travel awards.

### Areas Where Census Completion Rates Were Less than the National Average

Although the Bureau completed more than 99 percent of nonresponse follow-up cases nationwide, some geographic areas were less complete. Specifically, 10 Area Census Offices (ACOs) completed less than 99 percent of their nonresponse follow-up workloads (see table 1). The Shreveport area in Louisiana had the lowest completion rate with 93.54 percent of workload completed. Bureau officials attributed lower completion rates in some geographic areas to challenges such as natural disasters (hurricanes) and difficulties accessing some locations, such as tribal lands due to COVID-19 restrictions.

For example, Louisiana was hit by a category 4 hurricane in August. Evacuations and short-term closures stemming from the hurricane impacted data collection for the remaining uncounted 82,863 housing units in Shreveport and 25,062 in Jefferson Parish, according to the Bureau. As a mitigation strategy, the Bureau shifted the Shreveport

operation to telephone enumeration and brought in more than 1,200 enumerators from travel teams to the area once it was safe to return. Despite these efforts, the Bureau was unable to complete 22,588 cases in Shreveport before the nonresponse follow-up operation ended. For these cases the Bureau will need to rely on alternate methods including imputation, which draws data from similar nearby households to determine whether a housing unit exists, whether it is occupied, and, if so, by how many people.

**Table 1: Area Census Offices That Completed Less than 99 Percent of Their Nonresponse Follow-up Workload**

Area census office	State	Percent of Nonresponse Follow-up workload complete	Number of open cases
Shreveport	Louisiana	93.54%	22,588
Manhattan 2	New York	98.49%	4,192
Window Rock	Arizona	98.74%	1,129
San Francisco	California	98.75%	1,999
Chicago South	Illinois	98.86%	1,929
Quincy	Massachusetts	98.88%	1,104
Sunnyvale	California	98.89%	1,803
New Haven	Connecticut	98.93%	1,876
Vista	California	98.94%	1,430
Colorado North	Colorado	98.96%	2,823

Source: GAO analysis of Census Bureau reports. | GAO-21-365

Notes: The data above are as of October 19, 2020, which accounts for delays in reporting. However, the nonresponse follow-up operation ended on October 15, 2020. The data source used here does not count cases with a status of "Max Attempts – Unresolved" as completed.

Under the August 3 re-plan, in areas struggling to resolve cases or facing challenges to accomplish in-person interviews because of COVID-19 and natural disasters, enumerators were able to enumerate households by phone.<sup>6</sup> According to Bureau data, enumerators made more than 10 million calls and completed nearly 1.2 million cases by phone. This new option was made available at the discretion of regional leadership beginning August 12 through the end of nonresponse follow-up. Phone enumeration allowed enumerators to attempt an interview without being

<sup>6</sup>Enumerators called nonresponding households and offered to complete their questionnaire for them over the phone. In cases where the enumerator did not reach the respondent, the enumerator left a voicemail to remind the respondent of the ways in which they could complete the census questionnaire. Telephone contact also included calls made by enumerators when they located a phone number in the field, such as for a real estate agent or building manager. Phone numbers provided to enumerators were from other surveys administered by the Bureau, including the American Community Survey.

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physically present at the location. Enumerators could also leave a voicemail encouraging the resident to call the Census phone number.

However, one CFS we spoke to told us that phone enumerations were difficult to conduct remotely due to nonresponse follow-up rules that required an in-person proxy rather than over the phone after three contact attempts. After we notified the Bureau of this concern, the Bureau clarified for enumerators how they could use the handheld device to indicate that they could not complete an in-person proxy, or to complete the proxy interviews later when they returned to the field. According to Bureau officials, while many phone numbers were not always current or were nonresidential, they were, nevertheless, satisfied with its success to make contact and complete census responses during nonresponse follow-up.

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### Bureau Faced Challenges Completing Nonresponse Follow-up Cases

We identified other factors that may have contributed to the Bureau's difficulty completing cases, including restricted access to large multi-unit buildings. According to 24 of 40 CFSs we interviewed, enumerators experienced difficulties completing cases due to building access issues. Some CFSs we interviewed (16 out of 40) attributed these access issues to COVID-19 related concerns. In our late September to early October survey of area census office managers, less than half (41.5 percent) of responding managers were satisfied with procedures for enumerating large multi-unit structures.

According to Bureau officials, the ACO officials along with partnership staff were to help enumerators gain access to multi-unit buildings. However, the pandemic made communication with the building managers difficult. Specifically, CFSs told us that enumerators were often turned away from accessing multi-unit buildings because of the pandemic. Bureau officials at headquarters also told us that some building managers worked remotely during the pandemic, often leaving enumerators with no point of contact. Bureau officials told us that even before COVID-19, access to multi-units had been an issue and that the pandemic made access to multi-unit buildings more challenging, and that they will continue to look for ways to address access issues. If enumerators could not get access to conduct an interview, then the Bureau had to rely on alternative sources of data collection such as administrative records or proxy data.

ACO managers surveyed expressed dissatisfaction with the technological capability used by the Bureau to assign and route cases (a capability known as the optimizer). The 2020 Census was the first decennial to use electronic case assignment. Only 21.6 percent of ACO managers who responded to our final survey reported satisfaction with the accuracy and efficiency of the optimizer to assign cases. CFSs we interviewed mentioned specific frustrations with the optimizer, such as what they determined was the illogical assignment of cases that led to routes that sent enumerators to households in a confusing order, the enumeration start times late in the day, and the uneven distribution of cases among available enumerators. These CFSs expressed concern that the optimizer negatively affected nonresponse follow-up efficiency.

When we asked Bureau officials about these concerns, they said that the optimizer's algorithm works effectively. Specifically, Bureau officials pointed to the increased productivity for the 2020 nonresponse follow-up operation as an indicator of the optimizer's effectiveness. Officials also clarified that the routes planned by the optimizer can appear counterintuitive because it calculates the best route and time frame to maximize in-person interviews. However, Bureau officials acknowledged that they might have done a better job of explaining the optimizer during the CFS and enumerator training. Bureau officials said they plan to evaluate the effectiveness of new technological tools such as the optimizer, as well as the training.

CFSs also said they experienced some challenges related to case reassignments. The Bureau's protocol positioned Census Field Managers, who supervise the CFSs, to assign cases. Some CFSs we interviewed reported difficulty with the timely reassignment of cases, especially in multi-unit buildings, due to the Field Managers' volume of work and other responsibilities. Bureau officials told us that the reassigning of cases occurred more often than expected because of the increased need for enumerator travel, but understood the need to reassign cases in a timely manner for routine multi-unit visits, and would reconsider whether the CFS should have responsibility for reassigning cases.

#### **Perspective on Case Assignments**

"I would like to have more power to assign cases. I have been in touch with luxury building management and, for example, one said that enumerators can come in the next day from 10 AM to 3 PM but as a CFS I can't assign

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enumerators these addresses for this requested timeframe. The CFM [Census Field Manager] can turn requests around but they are overwhelmed.”

Source: GAO interview with Census Field Supervisor. | GAO-21-365

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## The Bureau Faced Challenges Monitoring Quality during Nonresponse Follow-up

The Bureau used several quality control procedures to monitor nonresponse follow-up in near real time that posed challenges.

**Supervisory Alerts.** To effectively manage nonresponse follow-up, the Bureau provides data-driven tools for the CFSs to manage enumerators, including system alerts that identify issues that require the supervisor to follow up. Operational issues such as enumerators not working assigned hours or falling behind schedule need to be resolved quickly because of the tight time frames. For the nonresponse follow-up operation, the system generated codes that covered a variety of operational issues such as unusually high or low productivity (which may be a sign of fraud or failure to follow procedures) and administrative issues such as the completion of expense reports and time cards.

During the operation, more than 10 million alerts were sent to census field supervisors, with the highest number of alerts (2.2 million) in the Atlanta region. Each alert requires the supervisor to take action and then record how the alert was resolved. According to census field supervisors we interviewed, a little more than half (21 out of 40) said they received 20 or fewer alerts per day. Other supervisors (11) reported receiving 21 or more alerts per day, with two reporting circumstances where they received hundreds of alerts a day.

To assist supervisors, these alerts need to be reliable and properly used. However, 17 out of 40 census field supervisors we spoke to indicated the alerts were not always useful. For example, CFSs told us that alerts would be triggered for enumerators standing too far from the door of the household (inaccurate location) or if an enumerator’s start time was outside of the approved time range. According to Bureau officials, enumerators did not always stand in front of the door because of COVID-19 and this often triggered the inaccurate location alert. Bureau officials also told us that enumerators also logged on early to view their cases for the day and that this would trigger the enumerator start time (too early) alert.

In addition, our area census office manager survey results collected toward the end of the nonresponse follow-up operation show that 41.3 percent of responding managers were satisfied with the usefulness of CFS alerts. Moreover, we previously reported during the address canvassing operation for the 2020 Census that CFSs also found that alerts were not always useful.<sup>7</sup> According to Bureau officials, they plan to review new technology, which includes CFS alerts, as part of its nonresponse follow-up assessment plan.

Further, Bureau officials determined that one type of alert (“No Proxy Attempt”) did not trigger properly in the Los Angeles, Dallas, and Chicago regions. This type of alert is triggered when the enumerator is prompted to contact a proxy but fails to record that an attempt was made. According to Bureau documentation, alerts are important because they notify supervisors to enumerators not following procedures. According to Bureau officials, they will be looking into why the no proxy alert failed to trigger in some parts of the country.

**Enumerator and census field supervisor evaluation after initial training.** Ensuring that the material learned during the initial training of enumerators and CFSs is understood and retained is critical. At the end of training, enumerators and CFSs are evaluated using automated software that replicates various situations and prompts them for the correct action to take. Not only does this post-training knowledge assessment reiterate what the enumerators and CFSs have already learned, but also more training can be provided for anyone who did not retain or understand the training. For example, the enumerators who score less than 70 percent on this assessment are supposed to receive additional on-the-job training led by their CFS (referred to as an observation).

According to Bureau quality control reports, about 2.45 percent (nearly 8,000) of active enumerators failed the assessment and were not observed, yet continued to work. According to the Bureau this is an improvement from an earlier census test. During the Bureau’s 2018 End-to-End Address Canvassing Test the Commerce Inspector General identified 26 out of 237 listers (11 percent) who either had no score

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<sup>7</sup>GAO, *2020 Census: Bureau Generally Followed Its Plan for In-Field Address Canvassing*, [GAO-20-415](#) (Washington, D.C.: Mar. 12, 2020).

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recorded to show they took the training assessment, or failed the assessment and had no record of successful observation.<sup>8</sup>

According to Bureau officials, for the 2020 Census they actively monitored enumerators who had failed the training assessment. For example, a regional quality working group monitored enumerator assessment scores and tracked whether needed observations by the census field supervisor had occurred. According to Bureau officials, regional operations staff were notified of enumerators who continued to work but had not yet passed the assessment or had an observation.

We were told that some enumerators were given up to three chances to pass the assessment; however, the system that tracks assessment scores is not integrated with the system that assigns work to enumerators. Therefore enumerators who had failed still received work. Bureau officials told us that enumerators were not always deactivated and attributed this, in part, to disruptions caused by COVID-19, and the rapid nature of the operation, which made scheduling and completing training observations challenging for census field supervisors. Bureau officials also said that paper observation forms were not always entered into the training system in a timely fashion, thus inflating the number of enumerators flagged by quality control as working without a completed observation.

Nevertheless, enumerators completing cases without having passed the assessment or without having been observed introduced risk that cases could be improperly completed. Bureau officials agreed that enumerators should not be working if they have not passed the assessment and that additional controls were necessary. Officials also told us that they intend to automate the submission of forms for the 2030 Census and improve the ability to monitor and correct enumerators working (after having failed the initial assessment) without proper training or observation.

**Quality control reinterviews.** The Bureau conducts a sample of reinterview cases to ensure enumerators follow proper procedures and that results were not falsified. For the 2020 Census, the Bureau conducted approximately 1.57 million reinterview cases. Once a case is selected for reinterview, it is assigned to an enumerator who did not complete the original interview. Under the original plan, enumerators had

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<sup>8</sup>U.S. Department of Commerce, Office of Inspector General, *2020 Census: Issues Observed During the 2018 End-to-End Census Test's Address Canvassing Operation Indicate Risk to Address List Quality*, OIG-19-008-A (Washington, D.C.: February 2019).

up to six attempts to conduct the reinterview. The reinterview operation compares the reinterview data to the original nonresponse follow-up interview to identify enumerator errors and possible falsification.

The Bureau selects cases for reinterview using random, analytic, or supplemental assignment. Random reinterviews are a selected sample of cases from each enumerator's workload. For analytic reinterviews, the Bureau uses statistical calculations to flag enumerators whose work differs significantly from others. Cases completed by these enumerators are chosen so that an analytic reinterview can be used to further investigate these enumerators to determine if they are following proper enumeration procedures. Quality control staff at the Bureau's National Processing Center can select cases for supplemental reinterview if they suspect that an enumerator may not be following procedures. The Bureau also conducts "re-work" reinterviews to verify or correct all eligible case information collected by enumerators who the Bureau confirms to have falsified information. For the 2020 Census, the Bureau reported that 587,000 random reinterviews were conducted, compared to 970,000 analytic reinterviews. Less than 12,000 supplemental cases were conducted.

Because of the August 3 re-plan, the Bureau eliminated the random selection of reinterview cases and reduced the number of contact attempts for conducting a reinterview from six to three. According to Bureau officials, these steps were taken to meet the new time frames for completing nonresponse follow-up, which moved from October 31 to September 30. In making these changes the Bureau estimated that it would reduce the number of random reinterviews by an estimated 800,000 cases and increase productivity, but noted that there could be a potential reduction in the quality of enumerator work. Subsequently, on September 5, 2020, a temporary restraining order was issued and the Bureau reversed the changes it made to reinterview as part of the August 3 re-plan. As such, it resumed making six visits to obtain a reinterview and resumed the random selection of cases for reinterview.

Bureau officials told us that with the temporary elimination of random reinterviews before the restraining order 23.5 percent of (nearly 70,000) enumerators did not have cases selected. The Bureau also stated that, nevertheless, it believes that its analytic selection techniques sufficiently detect unusual patterns, and thus for 2030 it may consider not randomly selecting cases for reinterview.

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## During Pandemic, the Bureau Had Successes and Challenges Counting People in Group Quarters and Service-Based Locations

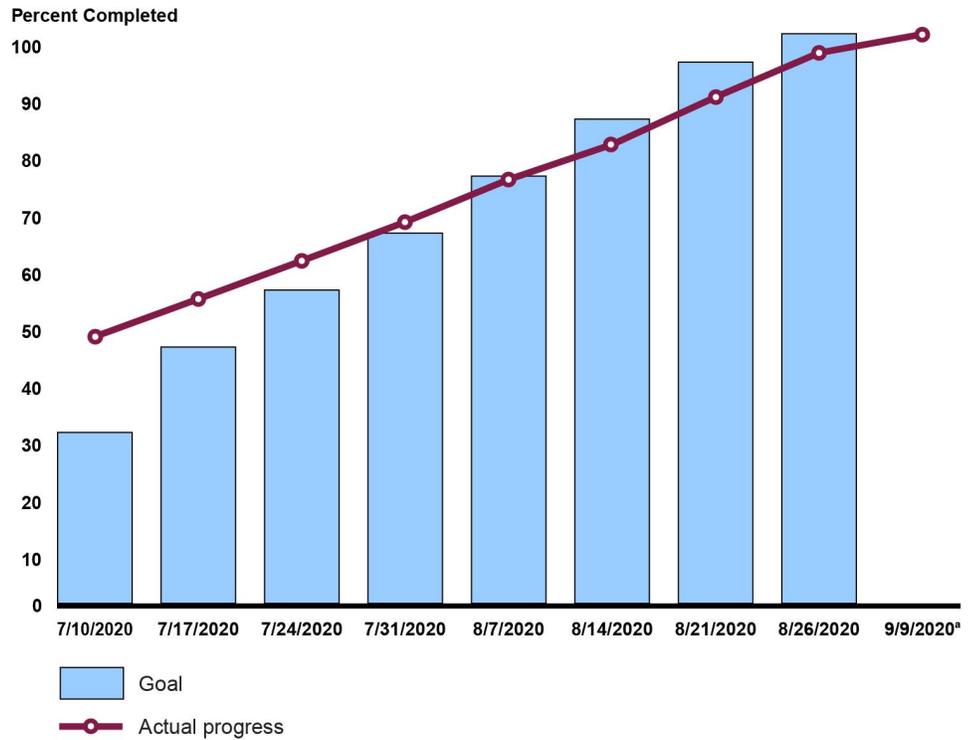
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### The Bureau Completed Group Quarters According to a Revised Schedule and under Budget

The Bureau had planned to count individuals living in group quarters between April 2 and June 5, 2020, but it delayed the in-field operation due to the pandemic. The in-field operation progressed according to a revised schedule. The Bureau began the in-field group quarters operation on July 1, 2020, and completed field work September 3, 2020 (see fig. 4).

The Bureau collected information from 272,164 group quarter facilities. This included group quarters from military enumeration, maritime/military vessel enumeration, service-based enumeration, and other group quarters enumeration operations. Most facilities (62 percent, or approximately 168,741) were of three types: noncorrectional adult group homes, college/university student housing, and nursing/skilled-nursing facilities.

**Figure 4: Group Quarters Operation Generally Progressed According To Revised Schedule**



Source: GAO analysis of Census Bureau Data. | GAO-21-365

**Data table for Figure 4: Group Quarters Operation Generally Progressed According To Revised Schedule**

Date	Goal - Percent of GQ Completed	Actual progress	T&V-er
7/10/20	30%	46.82%	
7/17/20	45%	53.43%	
7/24/20	55%	60.13%	
7/31/20	65%	66.94%	
8/7/20	75%	74.41%	
8/14/20	85%	80.55%	
8/21/20	95%	88.88%	
8/26/20	100%	96.64%	
9/9/20 <sup>a</sup>		99.91%	

<sup>a</sup>Progress after data processing was completed.

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The Bureau completed the group quarters operation under budget. In March 2021, the Bureau reported that the operation cost \$60.2 million, while the budgeted cost was \$72.4 million—a difference of 17 percent. The Bureau stated many group quarters administrators opted for low-contact enumeration methods, which required fewer or no enumerators and lowered costs.

The service-based enumeration operation, designed to count individuals experiencing homelessness, was scheduled for March 30, 2020, to April 1, 2020, but was also delayed due to the pandemic. After consulting with stakeholders, including direct service providers, advocates, and local government officials, the Bureau conducted the operation between September 22, 2020 and September 30, 2020. The Bureau reported that it enumerated more than 53,000 service-based locations, including almost 37,000 temporary non-sheltered outdoor locations.

The Bureau budgeted for an estimated 77,000 service-based enumeration locations and identified 53,701 service-based locations to be enumerated at the start of the service-based enumeration operation. Bureau officials told us some service-based sites shut down due to the pandemic and natural disasters. They said people fleeing disasters and experiencing homelessness who were housed in hotels due to the pandemic would be counted as part of a separate transitory locations operation.<sup>9</sup>

In March 2021, Bureau officials stated the cost of the service-based enumeration operation was \$9.7 million, compared to an anticipated cost of \$14 million. Similar to group quarters, the Bureau stated low-contact enumeration methods at emergency and transitional shelters required fewer enumerators and reduced the cost of the operation.

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## The Bureau Adapted Operations in Response to the Pandemic

To count group quarters during the pandemic, the Bureau implemented new low-contact enumeration options and COVID-19 safety measures. For example, the Bureau encouraged administrators at group quarters

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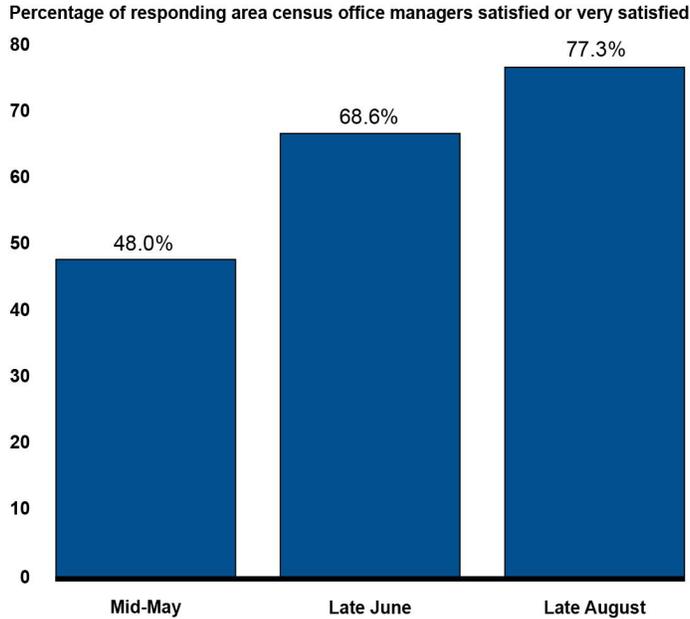
<sup>9</sup>The Enumeration at Transitory Locations operation enumerates respondents living in transitory locations such as recreational vehicle parks, campgrounds, hotels, motels, marinas, racetracks, circuses, and carnivals, and those who do not have a usual home elsewhere.

facilities to switch their method of enumeration from in-person enumeration to eResponse (whereby facility administrators can electronically submit enumeration data at a date of their choosing within operational time frames) and offered group quarter facilities the chance to mail back paper listings, rather than have them be picked up by an enumerator. These changes helped reduce person-to-person contact. By contrast, in 2010, census workers visited all group quarters in person.

Field staff responsible for conducting group quarters enumeration reported they were generally satisfied with the Bureau's COVID-19 safety measures. These measures included providing staff with PPE and requiring enumerators to practice social distancing and wear masks during field operations. The majority (16 out of 18) of group quarters CFSs who we interviewed said they were very or generally satisfied with the Bureau's response during the pandemic.

Our survey of area census office (ACO) managers also found that they grew more satisfied with the adequacy of PPE provided over time. When surveyed in mid-May, 48 percent of the ACO managers who responded said they were satisfied with the PPE provided; by August the percent satisfied increased to 77 percent.

**Figure 5: Satisfaction with Personal Protection Equipment Provided for the Group Quarters Operation among Area Census Office Managers Improved over Time**



Source: GAO survey of are census office managers, May through August 2020. | GAO-21-365

**Data table for Figure 5: Satisfaction with Personal Protection Equipment Provided for the Group Quarters Operation among Area Census Office Managers Improved over Time**

Wave, Date	Wave Dates	Percent satisfied	Source for percent satisfied	T&V sign off (initials and date)
3	Mid-May	48.0 %	Cell AC 249	
4	Late June	68.6 %	Cell AD 249	
5	Late August	77.3 %	Cell AE 249	

## The Bureau Experienced Challenges with Group Quarter Data Collection

### Data Collection in the Pandemic

The Bureau experienced group quarter and service-based enumeration data collection challenges due to the pandemic and at group quarter facilities with multiple sites. Prior to the pandemic, group quarters were given the option to:

- respond via eResponse,

- have census field staff conduct in-person enumeration,
- have census field staff drop off individual census questionnaires for the administrator to distribute, or
- complete a paper response data listing that would be picked up by census field staff.

However, when the pandemic hit, 2020 group quarter facilities were encouraged to move away from in-person enumeration and opt for low contact enumeration methods, such as eResponse and mail back of paper listings.

Group quarter and service-based enumeration field staff found it challenging to locate a point of contact at some group quarters because facilities were closed due to the pandemic. Interviews with CFSs and in open-ended comments on our ACO managers survey (see text box) confirmed this challenge. Identifying and communicating with points of contact were important because census field staff needed to encourage facility administrators to not only switch to low-contact enumeration methods, but to also set new enumeration appointment times after the operational timeline was moved, as well as encourage nonresponding group quarters to provide their data.

**Perspective on Impact of the Pandemic on Group Quarters Operation**

“[The Group Quarters Operation] is greatly affected by COVID. Many group quarters are closed and staff was furloughed which made collection very, very difficult.”

Source: GAO survey of area census office managers. | GAO-21-365

Particularly difficult to enumerate were colleges and university student housing. Because of COVID-19, many colleges and universities ceased in-person instruction in March 2020 and students left college campuses. According to Bureau guidance college students are to be counted as of April 1, 2020, where they live and sleep most of the time, which would be at school if it had not been for the pandemic. The Bureau communicated with colleges and universities in an attempt to obtain census data for college and university housing. Bureau officials stated they received data from 88 percent of student housing facilities. However, colleges and

universities did not always provide the data to the Bureau.<sup>10</sup> Bureau officials told us that:

- data privacy and confidentiality concerns resulted in some colleges not providing data about their student population to the Bureau;
- many school administrators said they planned to submit data to the Bureau, but completing the census was not a priority for administrators and they subsequently failed to submit the data to the Bureau; and
- fraternity and sorority houses in particular presented a challenge, because it was difficult to locate a point of contact for these sites.

In December 2020, as the Bureau processed group quarter data, Bureau officials told us they found some census tracts with group quarters population data that were inconsistent with benchmark data derived from other Bureau data sources. These sources included the 2010 Census, the Bureau's American Community Survey data, and the 2020 Census Group Quarters Advance Contact operation. Early analysis identified multiple census tracts where the group quarters population count was either too high, too low, or misallocated across tracts.<sup>11</sup> Specifically, the Bureau found that about 24,000 group quarter locations had returned their enumeration data with zero population counts or were not enumerated.

According to the Bureau, group quarter facilities (such as a university or federal correctional facility) with multiple locations may have also contributed to preliminary data on group quarters being over and under counted. Specifically, Bureau officials stated that group quarters have complicated structures given the relationship between group quarters' overall facility (university) and the respective group quarters units (dormitories).

According to Bureau officials, group quarters can be over counted when the individual units submit the same data for all units within the facility or under counted when neither the unit nor the facility submits data due to confusion over the responsible reporting entity. For example, according to

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<sup>10</sup>Bureau officials told us that detailed information on why universities did not always provide data will not be known until assessments are completed.

<sup>11</sup>A census tract usually covers a contiguous area and its boundaries generally follow visible and identifiable features. The primary purpose of census tracts is to provide a stable set of geographic units for the presentation of statistical data. Census tracts generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people.

Bureau officials they found some universities submitted the total dormitory population for the entire university to each individual residence hall (see table 2).

**Table 2: Example of Group Quarter Facility Population Overcount**

<b>University Housing</b>	<b>Expected Population Count</b>	<b>2020 Count Submitted</b>
Residence Hall 1	250	1,250
Residence Hall 2	250	1,250
Residence Hall 3	250	1,250
Residence Hall 4	250	1,250
Residence Hall 5	250	1,250
<b>Total</b>	<b>1,250</b>	<b>6,250</b>

Source: GAO analysis of Census Bureau reports. | GAO-21-365

According to Bureau officials, enumeration data submitted with zero population counts primarily affected college/university student housing, correctional facilities, nursing/skilled-nursing group quarters, and military quarters.<sup>12</sup> For example, Bureau officials said some college/university student housing contact persons were no longer located on campus at the time enumeration occurred because schools had closed, correctional facilities were relocating and releasing people due to the pandemic, and nursing facilities frequently would not allow enumerators on the premises because of concerns about spreading COVID-19.

Bureau officials also noted that group quarter contact persons responsible for several group quarters at the facility oftentimes submitted data for all the group quarters under a single group quarter identification. This resulted in a single group quarter being over counted and the remaining group quarters having a zero population.

Concerned about the accuracy and completeness of group quarter data, in mid-December 2020, Bureau officials began making phone calls to group quarters that were not enumerated, and in many cases successfully gathered additional data. For example, Bureau officials said that they had population data for 88 percent of the college/university student housing prior to the follow-up phone calls and after the phone calls were able to resolve a total of approximately 97 percent. Nevertheless, Bureau officials told us that some group quarters that

<sup>12</sup>Bureau officials told us that data broken down by group quarters that submitted a zero population count will not be known until all the post-processing of data is complete.

remain unresolved with a zero population count would go through count imputation for group quarters, which according to Bureau officials was specifically developed to address this problem and will be the first time the Bureau plans to use count imputation for group quarter facilities with zero population counts.<sup>13</sup> The Bureau has previously used characteristic imputation for individuals in group quarters where data for individuals were missing for characteristics such as sex or race and ethnicity.

### eResponse

The share of group quarters that took advantage of the eResponse option was greater than anticipated due to the pandemic, an innovation since the 2010 Census. Before the operation began, the majority of group quarters (67.4 percent) chose in-person enumeration methods versus by eResponse (32.6 percent), according to the Bureau. Later, the Bureau contacted group quarters administrators to encourage them to shift enumeration methods to low-contact options like eResponse.

According to the Bureau, overall approximately 42 percent of responses were received through eResponse and 58 percent were enumerated by in-field methods. Bureau officials pointed to the availability of eResponse, and the fact that it began as planned on April 2, 2020, as successes.

Nonetheless, Bureau officials said some group quarters facilities found eResponse challenging to complete. They said that some group quarters administrators who were in charge of multiple facilities had difficulty submitting eResponse data. The eResponse template required group quarters administrators to provide a unique ID for each group quarters facility, but some administrators submitted all group quarters under one ID. Figure 6 shows an example of the template administrators were to fill out for eResponse.

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<sup>13</sup>The Bureau uses imputation to create records for housing units that appear occupied, but for which no other information is available. In previous censuses, the Bureau has used count imputation for occupied households with no census data, but has not used count imputation for group quarter facilities.

**Figure 6: Screenshot of Group Quarters eResponse Excel Data Entry Template**

	A	B	C	D	E	F
	Census ID	GQ Name	First Name	Middle Initial	Last Name(s)	Sex
1						
2						
3	<p>In order to continue, you must provide your Census ID. The Census ID is located in the letter you received.</p> <p>OMB No. 0607-0999 Approval Expires 09/30/2020</p> <p>Example data: is in Rows 4, 5, and 6</p>		<p>Please read the Instructions tab before completing the template.</p> <p>It's very important to enter the Census ID for every row for each person in the GQ.</p>			
4	123456789125	Freshman Hall	Mary	Q	Jones	Female
5	123456789125	Freshman Hall	John	D	Kay	Male
6	123456789125	Freshman Hall	Omar		Barry Senior	Male
7						
8						
9						
10						
11						
12						
13						

Source: U.S. Census Bureau. | GAO-21-365

Also, Bureau officials said many of the group quarter’s administrators struggled to parse out the date of birth field into three separate fields because their systems stored this data item in one single field. Bureau officials also pointed to other challenges, including a facility’s lack of access or unfamiliarity with Excel, which was the preferred format to complete eResponse. The Bureau accepted eResponse data submitted by group quarters administrators in other formats.

In open-ended comments on our survey of ACO managers, some said eResponse was complicated and confusing for group quarters administrators. While others saw value in the ability of eResponse to collect the data (see text box), Bureau officials said testing eResponse specifically would be helpful for 2030.

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**Perspectives on Group Quarters eResponse Option**

“I think [group quarters] was poorly conceived, and [eResponse] poorly designed. [eResponse] is clunky, confusing, and requires too much on the part of respondents to adequately participate, and has required far too much of my staff’s time to walk them through the process.”

“Many of the group quarter and service-based organizations were slow, even reluctant, at responding, but there were many that transitioned to e-Response and paper drop off/pick up and that expedited the operation.”

Source: GAO survey of area census office managers. | GAO-21-365

We previously reported that during the 2018 End-to-End Census test, only 25 of the 75 facilities that selected the eResponse enumeration option submitted responses by the deadline. The Bureau pointed to issues with the required format for the submission of response files as a possible explanation for these challenges during the End-to-End test. According to Bureau officials, a set of adjustments was made after the 2018 End-to-End-Test including adding a detailed instructions tab to the eResponse template. Nevertheless, problems persisted with the eResponse option. Bureau officials acknowledge that additional adjustments and testing will help to improve and simplify this data collection process for group quarters administrators prior to 2030.

**Enumeration of Military Group Quarters**

In addition to the challenges described above with regard to zero population counts for military group quarters, Bureau officials told us that the military group quarters enumeration was the slowest to respond. As of August 24, 2020, military group quarters had the lowest completion rate at 63.5 percent (3,783 of 5,955) complete, followed by military disciplinary barracks and jails at 77.8 percent (28 of 36) complete.<sup>14</sup> According to Bureau officials, even though they had consistent communication with military personnel from the Department of Defense Joint Services Working Group collecting enumeration data proved to be difficult because of the pandemic—similar to other group quarter types.

Specifically, some military installations did not allow access to installations until late summer because of the pandemic, and some

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<sup>14</sup>Due to the way the Bureau calculates completion rates all group quarter types are reported as reaching 100 percent completion at the end of the operation. However, due to the zero population counts the Bureau is unable to provide final numbers until the post-processing of data is complete.

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barracks were being used to house military COVID-19 patients. However, for the most part, Joint Services Working Group members encouraged the use of other methods such as eResponse and once the installations lifted restrictions, they made sure enumerators had access to barracks when notified of access issues.

Bureau officials said they also experienced challenges with military barrack points-of-contact. According to Bureau officials, a common issue was the assigned point of contact would often change or would be delegated to someone unfamiliar with the Census requirements. In 2010, the Bureau also experienced issues with coordinating the enumeration with the military installation points of contact. The 2010 Census assessment included a number of recommendations for improving the enumeration of military sites in the group quarters workload, including continued advanced phone calls to establish military points of contact, to ensure a timely enumeration.

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## Bureau Needs to Assess Design Changes and Data Collection Challenges as It Begins Planning for 2030

The Bureau made operational changes in response to COVID-19 and Commerce decisions that for example, included shortening the time frames for implementing operations and reducing the scope of quality checks on field data collection.

The Bureau has numerous planned assessments and evaluations of 2020 operations which, in conjunction with its post-enumeration survey—a survey conducted independently of each census to determine how many people were missed or counted more than once—help determine the overall quality of the census and document lessons for future censuses.

In December 2020, we reported that the Bureau was updating its study plans to examine the range of operational modifications made in response to COVID-19, including the August 3 re-plan and later changes.<sup>15</sup> In that report, we recommended that the Bureau update and

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<sup>15</sup>GAO, *2020 Census: Census Bureau Needs to Assess Data Quality Concerns Stemming from Recent Design Changes*, [GAO-21-142](#) (Washington, D.C.: Dec. 3, 2020).

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implement its assessments to address data quality concerns, as well as any operational benefits. Commerce agreed with that recommendation.

In this report, we have discussed a number of changes that were made for the 2020 Census including a set of late design changes as well as challenges identified with new methods for collecting data for nonresponse follow-up and eResponse for group quarters enumeration. In January 2021 we spoke to Bureau officials about the status of those study plans and they told us they were in the process of updating those plans and therefore they were not yet available for review. *Standards for Internal Control in the Federal Government* indicates that agencies should analyze and respond to identified risks, including by considering relevant changes that have taken place within the agency's environment. Accordingly, as part of updating its plans, it is important that the Bureau includes assessing the risks and impacts of late design changes and challenges raised in this report during nonresponse follow-up and group quarters enumeration. The resulting study plans can then lead to more comprehensive and essential lessons learned for 2030 Census planning.

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## Conclusions

Conducting a census amid a global pandemic posed unprecedented challenges to the Bureau. The Bureau delayed the start of nonresponse follow-up and group quarters and service-based enumerations, and was later required to revise operational timelines.

Given these disruptions, it is critical for the Bureau to ensure that it can learn as much as possible about the effects of design and schedule changes on data collection and quality control operations, as well as challenges encountered implementing new methods for collecting data. Moreover, actions taken by the Bureau out of necessity to meet compressed deadlines may be considered as options in future censuses.

As the Bureau formalizes its updated approach, it will be important that it includes in its plans a thorough evaluation of issues stemming from late design changes and challenges encountered in trying to collect data. Doing so will help inform future census efforts.

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## Recommendations for Executive Action

We are making one recommendation to the Department of Commerce:

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The Secretary of Commerce and the Director of the U.S. Census Bureau should, to inform 2030 planning, evaluate how major operational changes in response to data collection challenges affected the quality and completeness of nonresponse follow-up and group quarters enumerations. At a minimum, this evaluation should address:

- late design changes;
- procedures for accessing multi-unit buildings;
- the process for reassigning cases;
- supervisory alerts used to manage enumerators;
- quality control over training assessments; and
- the eResponse option for group quarter data collection.  
(Recommendation 1)

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## Agency Comments and Our Evaluation

We provided a draft of this report to the Department of Commerce. In its written comments, reproduced in appendix II, the Department of Commerce agreed with our findings and recommendation. The Bureau also provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the Secretary of Commerce, the Undersecretary of Economic Affairs, the Acting Director of the U.S. Census Bureau, and the appropriate congressional committees. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report please contact J. Christopher Mihm at (202) 512-6806 or by email at [mihmj@gao.gov](mailto:mihmj@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.



J. Christopher Mihm

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Letter

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Managing Director, Strategic Issues

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*List of Requesters*

The Honorable Patrick Leahy  
Chairman  
Committee on Appropriations  
United States Senate

The Honorable Gary C. Peters  
Chairman  
The Honorable Rob Portman  
Ranking Member  
Committee on Homeland Security and Governmental Affairs  
United States Senate

The Honorable Ron Johnson  
Ranking Member  
Permanent Subcommittee on Investigations  
Committee on Homeland Security and Governmental Affairs  
United States Senate

The Honorable Jeanne Shaheen  
Chairwoman  
Subcommittee on Commerce, Justice, Science, and Related Agencies  
Committee on Appropriations  
United States Senate

The Honorable Carolyn B. Maloney  
Chairwoman  
The Honorable James Comer  
Ranking Member  
Committee on Oversight and Reform  
House of Representatives

The Honorable Jamie Raskin  
Chairman  
Subcommittee on Civil Rights and Civil Liberties  
Committee on Oversight and Reform  
House of Representatives

The Honorable Gerald E. Connolly  
Chairman  
The Honorable Jody Hice  
Ranking Member  
Subcommittee on Government Operations  
Committee on Oversight and Reform  
House of Representatives

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*List of Requesters Continued*

The Honorable Christopher Coons  
United States Senate

The Honorable Dianne Feinstein  
United States Senate

The Honorable Joe Manchin III  
United States Senate

The Honorable Jack Reed  
United States Senate

The Honorable Brian Schatz  
United States Senate

The Honorable Chris Van Hollen  
United States Senate

The Honorable Karen Bass  
House of Representatives  
The Honorable Joaquin Castro  
House of Representatives

The Honorable Judy Chu  
House of Representatives  
The Honorable Steven Horsford  
House of Representatives

The Honorable Jim Jordan  
House of Representatives

The Honorable Chip Roy  
House of Representatives

## Appendix I: Objectives, Scope, and Methodology

This report assesses (1) the Census Bureau's (Bureau) implementation of nonresponse follow-up; (2) the Bureau's implementation of group quarters enumeration and service-based enumeration operations; and (3) the Bureau's plans to assess these operations.

To meet objectives one and two, we used a combination of approaches and methods to examine the conduct of these operations. These included surveys of the Bureau's 248 area census office (ACO) managers administered at six key points during Census operations; analysis of Bureau data on case completion methods; interviews with key Bureau Headquarters officials, directors of Regional Census Centers, and ACO census field supervisors (CFS); and reviews of relevant documentation including from our prior work on the 2010 Census and the planning and implementation of the 2020 Census.

To examine how conditions in the field affected the implementation of nonresponse follow-up, group quarters enumeration, and service-based enumeration operations, and how changes to time frames and plans in response to the Coronavirus Disease 2019 (COVID-19) pandemic and Department of Commerce decisions affected the field operations, we interviewed CFSs from each operation.

- For nonresponse follow-up, we conducted 40 phone interviews with CFSs from 20 different ACOs from August 6, 2020, through October 1, 2020. We selected ACOs to capture responses from areas with low response rates in 2010, recruiting challenges, high workload, those who participated in the soft launch of nonresponse follow-up, or those whom we had previously contacted during the Bureau's address canvassing operation. In selecting ACOs we also considered those with unique attributes, such as tribal territory or congressional interest. See below for a complete list of the ACOs with CFSs we interviewed.
- For group quarters enumeration, we conducted 20 phone interviews with CFSs from 10 different ACOs from July 6, 2020, through August 19, 2020. We selected these ACOs to capture responses from areas with recruiting challenges, high workload, those who participated in the soft launch of nonresponse follow-up, or those whom we had previously contacted during the Bureau's address canvassing

operation. Interviews were conducted by phone, rather than in person, due to health and safety concerns related to COVID-19. The selected ACOs are listed below.

- We also conducted six phone interviews with CFSs from six different ACOs involved with the service-based enumeration (SBE) and the temporary non-sheltered outdoor locations (TNSOL) operations from September 25, 2020, through October 1, 2020. We limited our interviews to six CFSs due to the short window of employment for CFSs once they complete SBE and TNSOL operations. We selected ACOs with the highest workload for SBE and TNSOL operations. The six selected site are listed below.

**Table 3: Interviewed Census Field Supervisors from 25 Area Census Offices**

Area Census Office	Nonresponse Follow-up	Group Quarters Enumeration	Service-Based Enumeration
Atlanta, GA	x	x	—
Beckley, WV	x	—	—
Boston, MA	x	x	x
Bronx, NY	x	x	x
Brooklyn, NY	—	x	x
Brooklyn [2], NY	x	—	—
Chicago, IL	x	—	—
Washington, DC	x	—	—
Denver, CO	x	x	x
Detroit, MI	x	—	—
Fairfax, VA	—	x	—
Hagerstown, MD	—	x	—
Inglewood, CA	x	—	—
Las Vegas, NV	x	—	—
Lexington, KY	x	—	—
Milwaukee, WI	x	—	—
Oakland, CA	x	x	x
Philadelphia, PA	—	x	x
Providence, RI	x	—	—
San Antonio, TX	x	—	—
Savanna, GA	x	—	—
Seattle, WA	x	—	—
State College, PA	x	—	—
Trenton, NJ	—	x	—

Area Census Office	Nonresponse Follow-up	Group Quarters Enumeration	Service-Based Enumeration
Window Rock, AZ	x	—	—
<b>Total: 25</b>	<b>20</b>	<b>10</b>	<b>6</b>

Source: GAO. | GAO-21-365

Additionally, to obtain a ground-level perspective on the conduct of the nonresponse follow-up, group quarters enumeration, and SBE operations, we surveyed the Bureau’s entire population of 248 ACO managers six times during the 2020 Census, including in late February to early March, early April, late May, late June to early July, late August, and early October. The response rates were 71, 75, 76, 72, 67, and 69 percent, respectively. We also reviewed open-ended responses provided by the ACO managers as part of this survey.

To track the progress of the nonresponse follow-up operation, we reviewed daily reports that tracked progress by ACO and case completion at the ACO and national level. These reports also included data such as the number of proxy responses collected and the number of cases closed as vacant housing units. To assess the reliability of these Bureau-provided data, we reviewed Bureau electronic documentation to gain information about the data and their sources. We examined data from the Bureau’s Unified Tracking System to check for logical errors and inconsistencies, and followed up with agency officials knowledgeable about the data in cases where we had questions about potential errors or inconsistencies, and to inquire about the accuracy and completeness of the data. Values are updated by the Bureau throughout the operations, and may be revised by the Bureau even after the operations close. On the basis of our efforts, we determined that the data were sufficiently reliable for the purposes of this engagement.

Finally, to address our third objective to review the Bureau’s plans to assess the quality of these operations, we interviewed Bureau officials to discuss whether operational changes made to the design would be included in the assessments of operations. We were unable to review those study plans because they have not been finalized due to changes being made as a result of the pandemic.

We conducted this performance audit from March 2020 until March 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audits to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that

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the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Appendix II: Comments from the Department of Commerce



UNITED STATES DEPARTMENT OF COMMERCE  
The Secretary of Commerce  
Washington, D.C. 20230

March 15, 2021

Mr. Chris Mihm  
Managing Director, Strategic Issues  
U.S. Government Accountability Office  
441 G Street, NW  
Washington, DC 20548

Dear Mr. Mihm:

Thank you for the opportunity to review and comment on the Government Accountability Office's (GAO) draft report entitled *Decennial Census: Bureau Should Assess Significant Data Collection Challenges as It Undertakes Planning for 2030* (GAO-21-365). The U.S. Census Bureau agrees with this summary of the steps it took in response to the COVID-19 pandemic.

The Census Bureau agrees with the recommendation to evaluate the impacts of major operational changes made during data collection and challenges encountered for nonresponse follow-up and group quarter enumerations. That work is already underway, including establishment of the Data Quality Executive Guidance Group and external assessments from JASON (an independent scientific advisory group) and the American Statistical Association Quality Indicators Task Force. Also, the Census Bureau has begun Post Enumeration Survey efforts to measure Census coverage and implement numerous Census Program for Evaluations and Experiments studies in which results will be issued over the next two years. These assessments and studies will inform planning for and the operational design of the 2030 Census.

Should you have any questions, please contact MaryAnn Mausser, Commerce Audit Liaison, at (202) 482-8120.

Sincerely,

A handwritten signature in blue ink, appearing to read "Gina M. Raimondo".

Gina M. Raimondo

Enclosure

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## Text of Appendix II: Comments from the Department of Commerce

March 15, 2021

Mr. Chris Mihm

Managing Director, Strategic Issues

U.S. Government Accountability Office 441 G Street, NW

Washington, DC 20548 Dear Mr. Mihm:

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Enclosure

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## Appendix III: GAO Contact and Staff Acknowledgments

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### GAO Contact

J. Christopher Mihm at (202) 512-6806 or [mihmj@gao.gov](mailto:mihmj@gao.gov)

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### Staff Acknowledgments

In addition to the contact named above, Lisa Pearson (Assistant Director), Timothy Wexler (Analyst-in-Charge), Mark Abraham, Anna Blasco, Michael Bechetti, Devin Braun, Arpita Chattopadhyay, Alexandra Edwards, Margaret Fisher, Sam Gaffigan, Rob Gebhart, Kirsten Lauber, Paulina Maqueda Escamilla, Kerstin Meyer, Ty Mitchell, Emmy Rhine Paule, Rachel Schultz, Kate Sharkey and Jon Ticehurst made key contributions to this report.

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