

2020 Census

Recent Decision to Compress Census Timeframes Poses Additional Risks to an Accurate Count

The 2020 Decennial Census is underway after pausing operations in response to the COVID-19 national emergency. As the Bureau resumes its operations, it faces a new set of operational and public safety challenges as a result of COVID-19. These delays, the resulting compressed timeframes, implementation of untested procedures, and additional challenges such as COVID-19 could adversely impact downstream operations, escalate census costs and undermine the overall quality of the count.

In recent years, GAO has identified challenges to the Bureau's ability to conduct a cost-effective count of the nation, including new innovations, acquisition and development of IT systems, and other challenges. In 2017, these challenges led GAO to place the 2020 Census on its High-Risk list.

Over the past decade, GAO has made 112 recommendations specific to the 2020 Census. To date, the Bureau has implemented 90 and GAO has closed 1 recommendation as not implemented. As of August 2020, 21 of the recommendations had not been fully implemented.

GAO was asked to provide regular updates on the 2020 Census. This report examines the cost and progress of key 2020 Census operations critical to a cost-effective enumeration, and early warnings that may require Census Bureau or congressional attention.

The Bureau provided technical comments that were incorporated as appropriate.

View [GAO-20-671R](#). For more information, contact J. Christopher Mihm at (202) 512-6806 or by email at mihmj@gao.gov and Nick Marinos at (202) 512-9342 or by email at marinosn@gao.gov.

This correspondence is the fourth in a series of updates reporting on the Census Bureau's (Bureau) 2020 Census activities and operations. This update includes information from GAO's ongoing work on the status of 2020 Census operations and challenges, including those raised by COVID-19.

As part of a series of decisions to suspend, extend, and delay certain operations and extend data collection activities until October 31, the Department of Commerce requested statutory relief on the required dates for delivering census data to the President and states for apportioning seats in the House of Representatives and redistricting for elections. While legislation providing this relief was introduced in Congress, the legislation has not been enacted into law. On August 3, the Bureau announced it would accelerate completion of its data collection and data processing operations to deliver the apportionment counts by the statutory deadline of December 31, 2020. To do so, the Bureau announced it would end all data collection operations by September 30, reducing the amount of time the Bureau has to complete its nonresponse follow-up (NRFU) operation. GAO and the Bureau have previously identified late design changes as a risk to a complete and accurate count.

As of August 10, the Bureau had received responses from 63.4 percent of households and plans to hire up to approximately 435,000 enumerators to follow-up with the approximately 56.4 million nonresponding households.

Areas for Continued Bureau Attention to Help Ensure a Complete and Accurate Census

COVID-19 has forced the Bureau to change how it will conduct its operations. As it implements those operations and anticipates completing them within the new compressed timeframes, the Bureau must monitor a number of areas to help ensure a complete and accurate census, including:

- **Hiring a sufficient NRFU workforce.** The Bureau began hiring for NRFU on July 14, and as of August 18, the Bureau hired 309,391 enumerators, but is experiencing higher attrition than expected. To complete the operation by September 30, the Bureau plans to maximize the number of hours worked by staff each week and continue recruiting, hiring, and training replacement enumerators.
- **Ensuring the safety of Census workers and the public.** The Bureau is taking social distancing steps to protect census enumerators and the public and to increase the likelihood that households will participate in door-to-door interviews- see figure.

Safety Protocols for the 2020 Census in Response to COVID-19



Source: GAO analysis of Census Bureau protocols. | GAO-20-671R

- **Maintaining the public's awareness of the 2020 Census.** The Bureau has expanded its communications campaign with new advertisements promoting online self-response and promoting cooperation with in-person interviews. To

reach new audiences, it will advertise in 33 additional languages with an expanded list of media vendors for a total of 45 languages in addition to English.

- **Safely planning for an in-person outreach strategy to encourage responses.** While the Bureau initially moved to a virtual outreach strategy in light of COVID-19, partnership specialists resumed in-person efforts in early June 2020. The Bureau also modified its Mobile Questionnaire Assistance initiative, intended to offer in-person assistance at large community events in low-response areas, by placing staff outside locations such as grocery stores and pharmacies.
- **Limiting in-person contact for Group Quarters.** To reduce in-person contact to enumerate group facilities—such as prisons and nursing homes—staff are calling these facilities to ask them to submit their responses electronically or by mail.
- **Counting persons experiencing homelessness.** In consultation with stakeholders, the Bureau decided to count persons experiencing homelessness in late September to better mirror the weather conditions of the original planned operation in late March and early April.
- **Counting college students while colleges are closed.** To count college students at the correct address, the Bureau requested records from colleges and universities for students living in university-owned housing and those living off campus. According to the Bureau, as of August 19, colleges and universities with housing facilities have already submitted their administrative records for students living in 81.3 percent of those facilities (approximately 33,000 facilities).
- **Monitoring ongoing risks to information technology (IT) systems implementation.** The Bureau is utilizing 52 IT systems to conduct the 2020 Census. It will be important that the Bureau continue to assess the risks to the implementation of these systems. For example, it is critical for the Bureau to continually monitor performance of the IT systems supporting NRFU and quickly address any system defects or other issues, if they arise.
- **Adequately protecting mobile devices.** The Bureau will need to protect up to about 435,000 mobile devices provided to enumerators to collect personally identifiable information (PII) from households that did not self-respond to the survey.
- **Managing disinformation and misinformation.** The Bureau has reviewed the performance from previous operations in the 2020 Census and adapted the policies and practices for ongoing and future operations to improve event response.
- **Ensuring timely and quality processing of census responses.** After 2020 Census data collection, the Bureau must conduct its response processing operation, which removes duplicate responses, ensures complete information is collected, and formats the data files used to produce census results. The Bureau's August announcement that it intends to deliver the apportionment counts to the President by December 31, 2020, increases the risks associated with conducting the response processing operation. The Bureau must complete remaining IT system and operational testing expeditiously in order to ensure that its systems are ready to fully support this operation under compressed timeframes.
- **Evaluating the impact of census delays on data quality and coverage.** Delays to data collection operations, public reluctance to participate in door-to-door interviews, and compressed timeframes for data collection and processing response data may affect the accuracy, completeness, and quality of the count. The Bureau has stood up internal working groups in an effort to address some of these issues.



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Congressional Requesters

2020 Census: Recent Decision to Compress Census Timeframes Poses Additional Risks to an Accurate Count

In March 2020, the Census Bureau (Bureau) was forced to pause its operations as a result of the Coronavirus Disease 2019 (COVID-19) national emergency. In May 2020, the Bureau began to resume select operations while facing a new set of operational and public safety challenges resulting from COVID-19. In addition, the Department of Commerce (Commerce) had requested that Congress extend its statutory reporting dates by 4 months. While legislation providing this relief has been introduced in Congress, the legislation has not been enacted into law.¹

On August 3, the Bureau announced it would accelerate completion of its data collection and data processing operations to deliver the apportionment counts by the statutory deadline of December 31, 2020. The Bureau stated that it is also adapting its plans to comply with the President’s memorandum to exclude foreign nationals unlawfully residing in the United States from the apportionment count.²

We have previously reported that late design changes can introduce new risks and the Bureau identified this as a risk in August of 2015.³ Delays, the resulting compressed timeframes, implementation of untested procedures, and continuing challenges such as COVID-19 could escalate census costs and undermine the overall quality of the count. We will continue to monitor the operational implications of these changes in our future updates on the 2020 Census.

You asked us to provide regular updates on the implementation of the 2020 Census. For these updates, we review the cost and progress of key 2020 Census operations critical to a cost-effective enumeration and early warnings that may require Bureau or congressional attention. For this correspondence—the fourth in a series of products—we focused on the status of 2020 Census operations since our last report in June 2020, including the Bureau’s response to challenges raised by COVID-19 and additional areas requiring continued management attention.⁴

¹One bill, The Heroes Act, has passed the House of Representatives. The Heroes Act, H.R. 6800, 116th Cong. (2020). See also Fair and Accurate Census Act, H.R. 7034, S. 4048, 116th Cong. (2020).

²*Excluding Illegal Aliens From the Apportionment Base Following the 2020 Census*, 85 Fed. Reg. 44,679 (July 23, 2020).

³GAO, *2020 Census: Additional Actions Needed to Manage Risk*, [GAO-19-399](#) (Washington, D.C.: May 31, 2019)

⁴For the prior reports in this series, see GAO, *2020 Census: COVID-19 Presents Delays and Risks to Census Count*, [GAO-20-551R](#) (Washington, D.C.: June 9, 2020); *2020 Census: Initial Enumeration Underway but Readiness for*

To describe the status of the Bureau's execution of key operations for the 2020 Census and describe major trends and early warning signs, we reviewed Bureau-provided data on cost and progress of key operations and compared those data with Bureau plans and Bureau-determined target dates and metrics. We determined those data were sufficiently reliable for the purposes of our reporting objectives by interviewing Bureau staff about the information technology (IT) systems used. We interviewed Bureau officials to gather additional information on the status and progress of these key operations.

In addition, to obtain a ground-level perspective on the conduct of key field activities, we surveyed the Bureau's entire population of 248 area census office (ACO) managers at various points during the production of the 2020 Census, including late February to early March, early April, late May, and late June to early July. The response rates were 71, 75, 76, and 72 percent, respectively. We also reviewed open-ended responses provided by the ACO managers as part of this survey.

In addition, we included information from our ongoing work related to the Bureau's IT system implementation and cybersecurity activities for the 2020 Census. We collected and reviewed documentation on the status of systems testing and implementation and for addressing cybersecurity risks, such as executive-level system status reports and dashboards. We also interviewed relevant agency officials about systems testing and implementation.

We conducted this performance audit from June 2020 to August 2020 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.

Background

Past Work on the 2020 Census

In 2017, we designated the 2020 Census as a high-risk area and added it to our 2017 High-Risk list.⁵ The 2020 Census remains on the list, as new innovations, and acquisition and development of IT systems for the 2020 Census, along with other challenges we have identified in recent years—such as the reliability of the cost estimate—raise serious concerns about the Bureau's ability to conduct a cost-effective enumeration.⁶ Over the past decade, we have made 112 recommendations specific to the 2020 Census to help address these risks and other concerns. Commerce has generally agreed with these recommendations and has taken action and made progress to address them. To date, the Bureau has implemented 90 of our recommendations and we have closed one recommendation that Commerce did not implement. However, as of August 2020, 21 of the recommendations have not been fully implemented and 10 of these are designated as priority recommendations.⁷

Upcoming Operations is Mixed, [GAO-20-368R](#) (Washington, D.C.: Feb. 12, 2020); and *2020 Census: Status Update on Early Operations*, [GAO-20-111R](#) (Washington, D.C.: Oct. 31, 2019).

⁵GAO's high-risk program identifies government operations with vulnerabilities to fraud, waste, abuse, and mismanagement, or in need of transformation to address economy, efficiency, or effectiveness challenges.

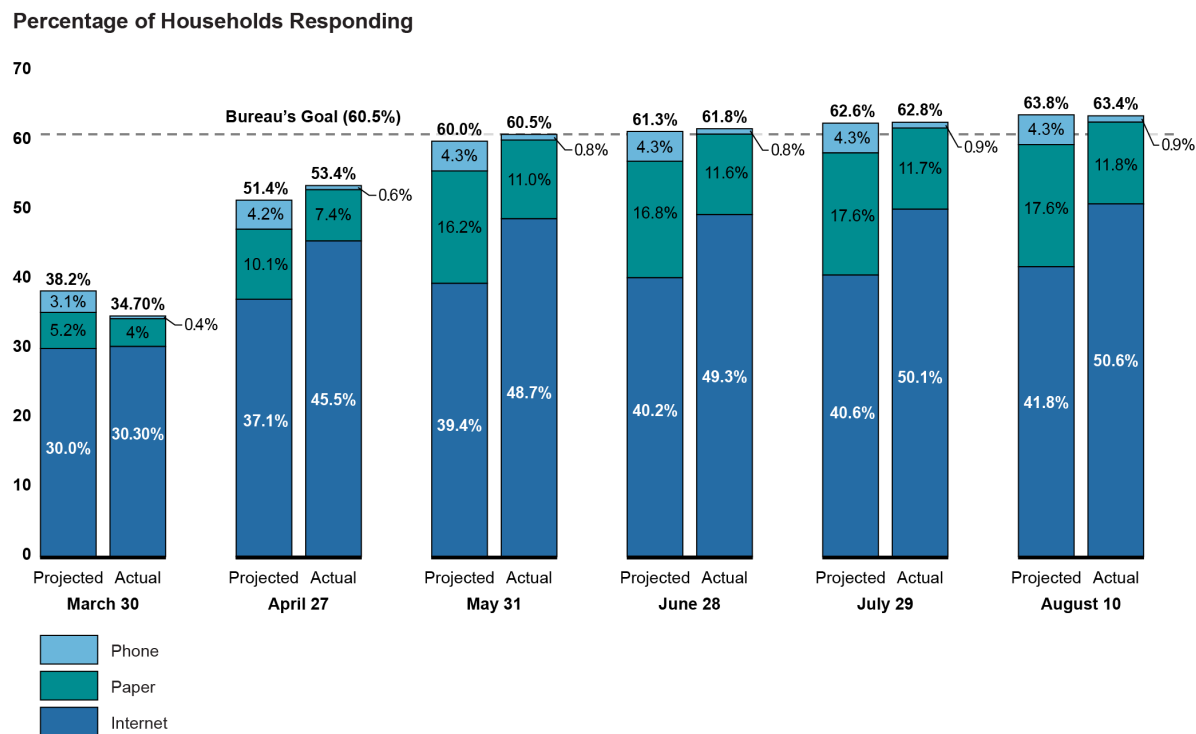
⁶GAO, *High-Risk Series: Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas*. [GAO-19-157SP](#) (Washington, D.C.: March 2019) and *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*. [GAO-17-317](#) (Washington, D.C.: Feb. 15, 2017).

⁷Priority recommendations are those that GAO believes warrant priority attention from heads of key departments or agencies. They are highlighted because, upon implementation, they may significantly improve government

The Bureau Exceeded Its Target for Self-Response

The Bureau's self-response operation will end on September 30 instead of on October 31 as the Bureau previously planned. As of August 10, 2020 the Bureau has received responses from 63.4 percent of households (approximately 93.6 million housing units), exceeding its goal of 60.5 percent.⁸ This is an important achievement because high self-response rates reduce the number of households requiring in-person visits from a census worker as part of the Bureau's Nonresponse Follow-up (NRFU) operation. The majority of self-responses have been received via the Bureau's internet self-response option, which was new for the 2020 Census (see figure 1).

Figure 1: Percentages of Households Self-Responding by Mode Compared to Census Bureau Projections



Source: GAO analysis of Census Bureau management reports and updated projections as of August 10, 2020. | GAO-20-671R

While the national response rate is important, the decennial census is a local endeavor, and self-response rates vary widely across states and counties. For example, while Minnesota had a self-response rate of 72.7 percent as of August 13, Alaska had a 50.3 percent self-response rate. Additionally, as of August 13, 16 counties in South Dakota, Arizona, Utah, Texas, Puerto Rico, Nevada, Colorado, New York, New Mexico and Alaska had a self-response rate of less than 20 percent. On July 27, the Bureau announced it would begin emailing all households for which it has contact information in areas where the response rate is less than 50 percent.

operations; for example, by realizing large dollar savings; eliminating mismanagement, fraud, and abuse; or making progress toward addressing a high-risk or fragmentation, overlap, or duplication issue.

⁸The Bureau includes households that submitted a response as part of the Update Leave operation in its calculation of self-response.

The Bureau Resumed Operations, but Data Collection Efforts Will Now End One Month Earlier Than Planned

In March and April of 2020, the Bureau made several announcements to suspend, extend, and delay certain operations until June 1 and extend data collection activities until October 31. On April 13, Commerce also asked Congress to act to change required dates for (1) delivering data to apportion seats in the House of Representatives among states to the President, and (2) delivering data for redistricting for elections to states by approximately 120 days to account for the delays to data collection operations. However, on August 3 the Bureau announced that it would plan to deliver the apportionment data to the President by the statutorily mandated deadline of December 31, 2020.

To deliver the apportionment data by this date, the Bureau announced it would end all data collection operations by September 30 (see figure 2). This change affects NRFU, the Bureau's largest operation, during which the Bureau will send enumerators to approximately 56.4 million households that have not yet responded to the 2020 Census.

Figure 2: Changes to Census Operations Due to Coronavirus Disease 2019 (COVID-19)

Activity/Operation	2020												2021						Description of Adjustment
	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	
Self-Response: Households can respond online, by phone, or by mail.	March 12 – July 31												March 12 – September 30						Operation extended approximately 60 days.
Update Leave: Field staff hand deliver questionnaires in areas without postal service delivery to the door. ^a	March 15 – April 17												May 6 – July 9						Stateside operation delayed 90 days. The Bureau resumed the operation in Puerto Rico on May 22 and finished June 29.
Update Enumerate: Field staff visit housing units and collect census data in remote areas.	March 16 – April 30												June 14 – July 29						Operation delayed 90 days. The Bureau will extend the Remote Alaska portion of this operation into August.
Service-Based Enumeration: Field staff collect census data from persons using services such as soup kitchens and shelters. Field staff will count persons experiencing homelessness outdoors.	March 30 – April 1												September 22 – September 24						Operation delayed 176 days.
Mobile Questionnaire Assistance (MQA): Bureau staff assist people with responding online at places such as grocery stores and community centers.	March 30 – July 31												July 13 – September 18						Operation delayed 105 days. MQA activities will take place in low-response areas. The Bureau will determine where MQA activities will take place each week by coordinating with local partners to ensure safety.
Group Quarters Enumeration: Field staff visit group housing (such as prisons and nursing facilities) to collect census data.	April 2 – June 5												April 2 – September 3						Operation extended 90 days. Many group quarters have already begun responding using the Bureau's e-Response option.
Enumeration of Transitory Locations: Field staff visit transitory locations (such as RV parks and motels) to collect census data.	April 9 – May 4												September 3 – September 28						Operation is delayed 5 months.
Nonresponse Follow-up: Field staff make at least one visit to each nonresponding household to collect census data. ^b	May 13 – July 31												August 9 – September 30						Operation delayed approximately 90 days. The operation will also be approximately 30 days shorter than originally planned.
Processing Data for Apportionment	July 31 – December 31												September 30 – December 31						The timeframe available to complete this operation is approximately 60 days shorter than originally planned.
Deliver apportionment counts to the President.	December 31, 2020																		The Bureau plans to deliver the apportionment data on the mandated date. The Bureau previously requested a 120-day delay.
Deliver redistricting counts to states.													April 1, 2021						The Bureau has not announced whether delivery will occur on the original date. The Bureau previously requested a 120-day delay.

Extended Delayed Reduced Operations Length Old Operation Dates New Operation Dates

Source: GAO analysis of Census Bureau revised schedule. | GAO-20-671R

^aThe Bureau resumed its Update Leave operation in select locations on May 6, 2020. This decision was made based on an assessment of local conditions.

^bThe Bureau resumed its NRFU operation in select locations beginning on July 16 prior to the official start of the operation on August 9. This decision was made based on an assessment of local conditions.

As of June 11, 2020 the Bureau had resumed operations at all 248 ACOs. The Bureau was able to resume select operations, including Update Leave, at some ACOs starting on May 6 and made subsequent announcements each week that it would resume operations at additional ACOs. The Bureau decided which areas would be able to support operations by considering (1) whether the state had begun phased reopening, (2) whether data on federally established health criteria supported the decision to restart, and (3) whether the Bureau could meet the safety needs of its employees and the public.

The Bureau completed its Update Leave operation, which hand delivers questionnaires to more than 6.8 million households that do not receive mail delivered to the door, on August 11. Census workers took additional precautions such as wearing government issued personal protective equipment (PPE) while working, and collecting necessary household data by observation when delivering a questionnaire, instead of knocking on doors to speak with residents.

In mid-June, the Bureau announced it would also use a phased approach for beginning NRFU. Six ACOs—one in each census region—began the operation in mid-July, and another six started 1 week later.⁹ The Bureau began the operation by July 30 with a third group of 35 ACOs. As of August 6, 200 ACOs had begun NRFU, and all remaining ACOs began NRFU by August 9.¹⁰

Completing NRFU by September 30 means the Bureau must complete its workload with 31 fewer days than previously planned. Bureau officials told us they are taking steps to ensure that the workload will be completed, primarily by increasing the amount of hours worked in the field each week. To do this, the Bureau said it is continuing to recruit, hire, and train enumerators and is asking those already working to work for a greater number of hours each week. Bureau officials also said they are planning to implement a pay-incentive program that would reward enumerators for high productivity and working increased hours. We have requested details on the Bureau's revised planning for its operations.

Responses to our early July survey of ACO managers showed an increase in satisfaction regarding the timeliness and clarity of Bureau communication about its pandemic plan when compared to responses from our early April survey. We previously reported that responses to our early April survey underscored the need for the Bureau to ensure open lines of communications for ACO managers to ask questions and get timely responses.¹¹ From mid-April to early July, reported satisfaction among responding ACO managers increased for communication timeliness (from 35 to 48 percent) and clarity (from 42 to 53 percent).

The Bureau Has Taken Steps to Ensure Worker Safety

According to the Bureau, it has taken a number of steps to ensure worker safety, including ordering sufficient PPE for all field and office staff and increasing the number of laptops available to enable additional telework for office staff. The Bureau also told us it has ordered and is distributing more than 3.2 million masks, 14 million gloves, and 3.3 million individually sized bottles of hand sanitizer.

In our early July survey, satisfaction among responding ACO managers was fairly high regarding PPE for staff conducting Update Leave (75 percent), the largest field operation being conducted at the time. Additionally, the majority of responding managers reported satisfaction with PPE adequacy for their office and field workers more generally (52 and 51 percent, respectively). However, more than 30 survey comments in early July reflected concerns about ACOs not receiving gloves, and other PPE being slow to arrive.

⁹The initial six ACOs began NRFU on July 16 and included Gardiner, ME; New Orleans, LA; Oklahoma County, OK; Boise, ID; Beckley, WV; and Kansas City, MO. The additional six ACOs began NRFU on July 23 and included Hartford, CT; State College, PA; Evansville, IN; Wichita, KS; Tacoma, WA; and Crystal City, VA.

¹⁰According to Bureau officials, the ACOs chosen for initial NRFU operations were chosen considering (1) re-opening trends in the cities where ACOs were located, (2) whether the state met federal guidance for re-opening and (3) operational readiness including local availability of PPE, staff, and devices for enumerators, such as census laptops and tablets. The Bureau also selected varied locations to test different work conditions, such as potential internet connectivity challenges, to allow them to make any necessary adjustments before the remaining ACOs began NRFU.

¹¹[GAO-20-551R](#)

The Bureau has also changed its onboarding process and the content of its trainings to protect workers. According to Bureau officials, site operators at its fingerprinting locations are required to wear masks and gloves and selected applicants are required to wear masks.¹² Additionally, Bureau officials told us the fingerprint equipment is sanitized between each fingerprinting appointment. To train staff on social distancing protocols for the enumeration, the Bureau added an additional module to its trainings for all field staff that covers safety procedures.

ACO managers who responded to our survey reported higher satisfaction in early July than in early April with their ACO's ability to safely manage employees and operations during the pandemic (increasing from 55 to 69 percent of respondents on average across three questions on this topic). Despite this increase in confidence, responding managers expressed concerns regarding worker safety in open-ended comments in the survey.

For example, in early July managers expressed concerns with adequately and safely fingerprinting large numbers of staff—necessary to fulfill the census mission—under conditions of social distancing. Managers' comments also reflected that training sites have become unavailable or difficult to secure because of the pandemic. Additionally managers noted that to keep their staff properly socially distanced in the office, they have had to stagger their employees' shifts.

Some managers expressed concerns about not having enough space to have the necessary number of staff in the office while adhering to social distance guidelines. Bureau officials told us that some of their office operations and the work at their Paper Data Capture Centers are difficult to complete while maintaining social distancing. In these situations, Bureau officials told us that they had provided PPE for office workers to wear.

Areas for Continued Bureau Attention to Help Ensure a Complete and Accurate Census

COVID-19 has forced the Bureau to change how it will operate. As the Bureau implements those changes and anticipates completing them within the new compressed timeframes, the Bureau must monitor a number of areas to help ensure a complete and accurate census, including:

- **Hiring a sufficient Nonresponse Follow-up workforce.** The Bureau plans to hire up to 435,000 enumerators to conduct NRFU. The Bureau began hiring for NRFU on July 14, and as of August 18, had hired 309,391 NRFU enumerators. The Bureau plans to hire additional enumerators in areas with low self-response, such as tribal nations, to ensure they receive contact early and often if needed during NRFU. Bureau officials told us they are managing local hiring needs for NRFU to ensure there are sufficient applicants with the necessary skills in the hiring pool.

In our early-July survey of ACO managers, the majority of respondents reported satisfaction with the aspects of field-worker hiring we asked about, with the exception of background check procedures where satisfaction continued to be low (42 percent of responding managers). The majority of respondents expressed satisfaction with aspects including Bureau procedures to support field worker recruitment and hiring, positions authorized and filled, quality of individuals recruited and hired, language skills of applicants to meet area needs, and geographic distribution of applicants to meet area needs (with satisfaction rates in these areas ranging from 52 to 72 percent).

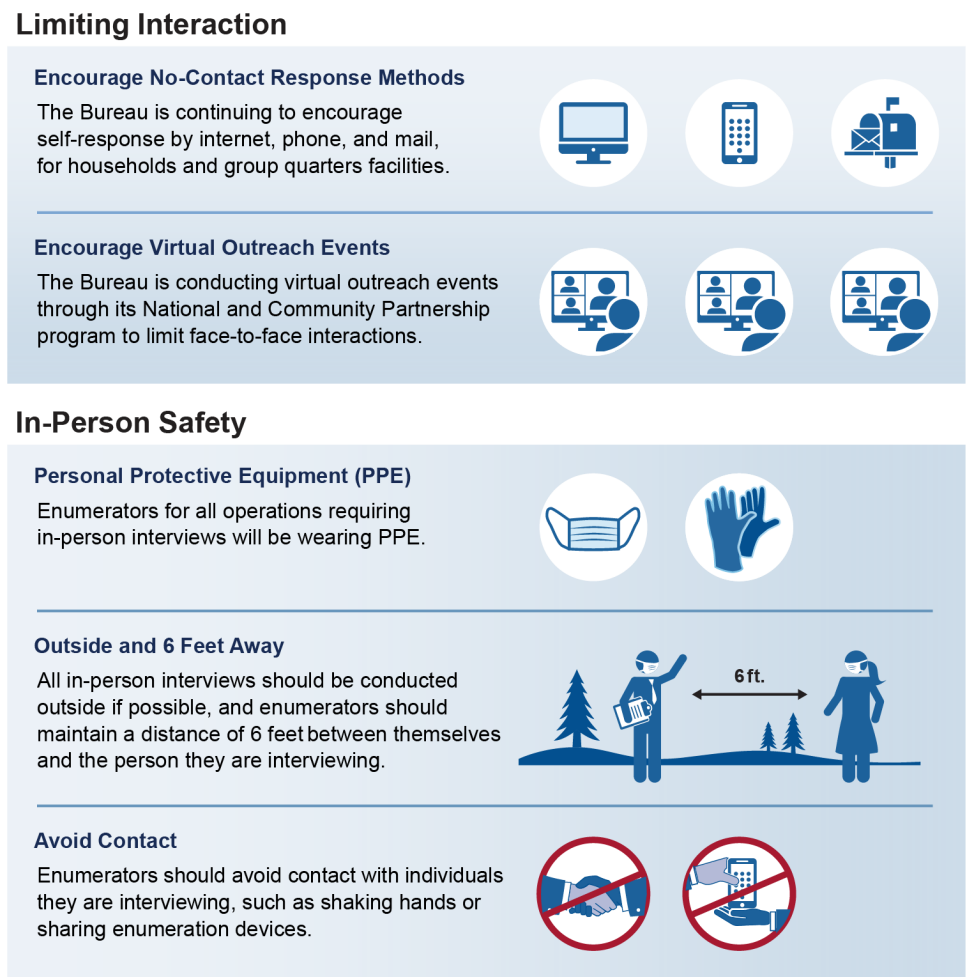
¹²The Bureau considers applicants "selected" when they have accepted a job offer. After being selected, individuals must complete fingerprinting and a background check.

However, according to officials, the Bureau is experiencing a greater attrition rate than it anticipated. The Bureau expected 10 percent of enumerators that started training would not show up for work in the field. However, as of August 18, approximately 35 percent of employees that started training did not show up for field work.

To combat attrition, Bureau officials told us they plan to continue recruiting, hiring, and onboarding enumerators, and that they plan to schedule additional training sessions for replacement enumerators. Additionally, as mentioned previously, Bureau officials told us they plan to provide pay-incentives to enumerators who maximize productivity and the number of hours worked. We will continue to monitor attrition rates as operations continue.

- **Ensuring the safety of census workers and the public.** The Bureau is taking social distancing steps to increase the likelihood that households will participate in door-to-door interviews as part of NRFU (see figure 3).

Figure 3: Safety Protocols for the 2020 Census in Response to COVID-19



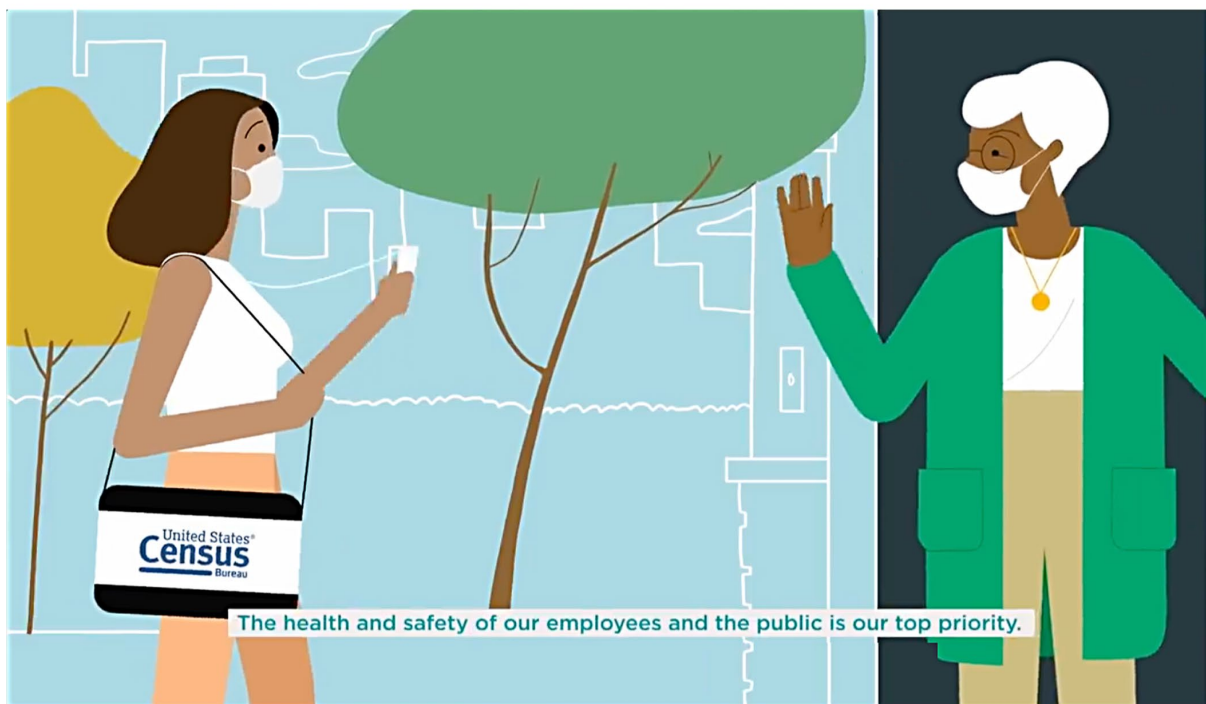
Source: GAO analysis of Census Bureau protocols. | GAO-20-671R

The Bureau developed a training module to instruct enumerators on these new safety protocols. The training includes content on (1) conducting interviews outside, whenever possible, at a distance of 6 feet from the respondent and (2) avoiding physical contact such as shaking hands and never allowing respondents to use or see the screen of Bureau-issued devices.

The module also covers the basics of COVID-19, including recognizing common symptoms, and provides instructions for properly wearing and cleaning facemasks. Additionally, the module notes that enumerators should follow local guidelines regarding use of face coverings. However, according to Bureau officials, as of July 2020 staff are required to wear face coverings while working with fellow employees and while conducting all field operations with the public.

- **Maintaining the public’s awareness of the 2020 Census.** In June 2020, the Bureau announced that its communications campaign would include new advertisements encouraging online self-response and promoting cooperation when census takers arrive to conduct an interview. It also aims to reach new audiences with advertisements in 33 additional languages and an expanded list of media vendors for a total of 45 languages in addition to English. New advertisements also feature census staff wearing PPE while in the field to address public safety concerns (see figure 4).

Figure 4: Example of Census Bureau Advertisement Showing Use of Personal Protective Equipment



Source: Census Bureau. | GAO-20-671R

- **Safely planning for an in-person outreach strategy to encourage responses.** Many of the Bureau’s efforts to reach hard to count populations, such as minorities, short-term renters, and small children, rely on in-person face-to-face interactions with trusted organizations and leaders in the community. While the Bureau initially moved to a virtual outreach strategy in response to COVID-19, it announced on June 12 that partnership specialists had resumed in-person efforts and begun attending in-person events across the country where it was safe to do so. According to the Bureau, these decisions were made in coordination with guidance from local health authorities.

According to Bureau officials, partners indicated that virtual engagement was insufficient to reach all members of hard-to-count populations. The Bureau requires all partnership staff

engaging with the public to adhere to social distancing and document all their outreach activities for purposes of contact tracing.

In July 2020 the Bureau announced that its Mobile Questionnaire Assistance (MQA) initiative, which was initially intended to provide staff at community events in locations with low self-response to help people complete questionnaires and answer questions, would start with modifications on July 13. The Bureau planned for MQA staff to resume offering in-person assistance in select areas based on current health conditions and in accordance with local PPE and social distancing guidelines.

The new plan positioned staff in locations such as grocery store and pharmacy entrances rather than at large community events. To avoid sharing devices, MQA staff will now interview respondents to fill out a census form rather than helping individuals respond to the census on Bureau-issued tablets.

- **Limiting in-person contact for Group Quarters.** The Group Quarters (GQ) operation counts individuals living or staying in group housing such as prisons and nursing homes. According to Bureau officials, they had completed approximately 83 percent of GQ enumeration as of mid-August 2020. Officials stated that to reduce in-person contact for the GQ operation they encouraged GQ facilities to use the e-Response option and electronically transfer data about their residents to the Bureau.

Bureau officials told us they are providing additional support to GQ facilities to ensure the success of these submissions. For example, GQs can contact ACOs for assistance with submitting their data and ACOs have assigned staff to contact facility administrators who appear to not have completed their submission.

In April, the Bureau deployed a second enumeration method, Paper Listing, in which the facility management provides the ACO a nonelectronic listing of its residents. The Bureau asked facilities that had opted to provide a paper listing of residents to mail their listings to their ACOs. However, Bureau officials told us that not all facilities are mailing back the paper listings and that ACOs will need to pick up paper listings from facilities as needed.

To meet the needs of GQ facilities that were unable to complete enumeration through e-Response or Paper Listing, Bureau officials told us they began in-person enumeration of facilities on July 1. The Bureau released safety guidelines for census workers to follow in those instances when a GQ facility requests in-person enumeration.¹³ In addition to the general safety protocols noted above, this safety guidance includes calling ahead to confirm appointments with the GQ facility contact and avoiding contact with frequently touched surfaces of public places—elevator buttons, door handles, tables, handrails—as well as hand sanitizing after touching these surfaces.

- **Counting persons experiencing homelessness.** On June 12, 2020, the Bureau announced that it will conduct the Service Based Enumeration (SBE) and Targeted Non Sheltered Outdoor Location (TNSOL) operations to count persons experiencing homelessness between September 22 and 24. To conduct these operations, the Bureau sends census takers to count people at various locations including shelters, soup kitchens, and locations previously identified by the Bureau where people are known to sleep outdoors.

In coordination with local stakeholders, the Bureau told us it chose these dates because the climate in late September best mirrors the weather of late March and early April—when the

¹³These in-person enumeration methods include distributing and picking up questionnaires; swearing in and training facility staff on how to conduct enumeration; picking up a paper listing of census response data; and conducting in-person interviews.

operations were originally planned to take place. The climate also affects where these populations may be located. For example, Bureau officials told us that during the summer, persons experiencing homelessness are less likely to use shelters or other services. This affects the count because the SBE operation uses these services to reach persons experiencing homelessness.

While this decision to enumerate the SBE population in September was made, in part, to improve data quality, it means that these individuals will be counted where they are on the day of the operation in September rather than on April 1, the reference date used for all other census operations.¹⁴ According to the Bureau, it may be difficult for persons experiencing homelessness to recall, months later, where they were staying on April 1.

According to the Bureau, counting persons experiencing homelessness in September instead of April should not significantly affect the overall census count, and therefore apportionment data, because these two operations count a relatively small number of people—about 500,000 individuals in the 2010 Census.

- **Counting college students while colleges are closed.** The Bureau's plans for enumerating college students were significantly affected by COVID-19 as many colleges and universities ceased in-person instruction in spring 2020. According to the Bureau's residence rules, college students should be counted where they live and stay most of the time—at their college or university.¹⁵ Students who live in on-campus housing are included in the enumeration of group quarter facilities. There are approximately 40,000 college and university housing facilities counted as part of this operation.

According to the Bureau, as of August 19, colleges and universities with housing facilities have already submitted their administrative records for students living in 81.3 percent of those facilities (approximately 33,000 facilities). The Bureau planned to conduct NRFU earlier in areas around universities—before the end of the spring semester—to ensure an accurate count of those students living off-campus but was unable to do so.

In June 2020, in consultation with stakeholders, Bureau officials identified numerous problems with students completing census forms or being accurately counted as a result of COVID-19. These problems include students not setting up their mail to forward and therefore not receiving census notices, and foreign students' inability to complete their forms from a foreign IP address.¹⁶

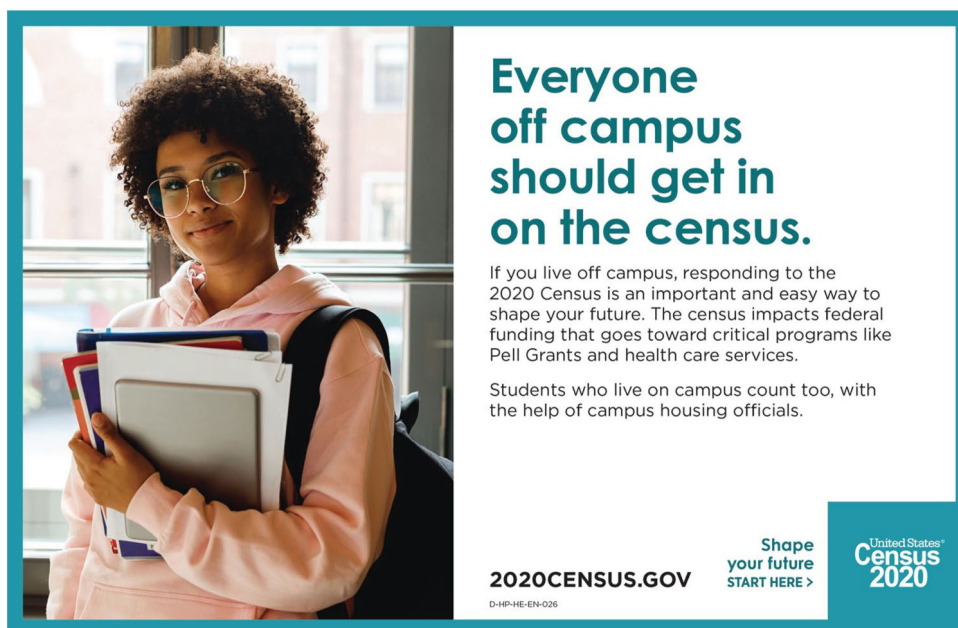
To ensure that college students are counted at the correct address and to avoid duplicate responses if the student's family also counts them at home, the Bureau developed print and media materials for use in partnership and communications efforts, including a web page for 2020 graduates, emphasizing the importance of counting college students (see figure 5).

¹⁴Bureau officials told us that when the SBE and TNSOL operations were originally scheduled for 3 days on and around April 1, they were able to consider April 1 as the reference date for the data collected. However, they do not always ask individuals where they were on the reference date. For example, during the TNSOL operation, enumerators are instructed to count individuals without waking them up to ask questions.

¹⁵United States Census Bureau, *Residence Criteria and Residence Situations for the 2020 Census of the United States*, accessed July 22, 2020, <https://www.census.gov/content/dam/Census/programs-surveys/decennial/2020-census/2020-Census-Residence-Criteria.pdf>.

¹⁶College students who are foreign citizens living in the United States while attending college in the United States are to be counted at the on- or off-campus residence where they live and stay most of the time.

Figure 5: Census Bureau Advertisement to Motivate College Student Self-Response



Source: Census Bureau. | GAO-20-671R

Additionally, Bureau officials told us that the Director of the Census Bureau sent a letter on June 15, 2020, to the presidents of more than 1,300 4-year colleges and universities located in towns and cities with large student populations.¹⁷ The letter asked colleges and universities to provide housing-unit roster information, which includes the addresses of where students lived off-campus. Bureau staff also began calling school officials, and at a minimum will request students' full names, dates of birth, and local and alternative addresses.

As of August 14 Bureau staff have reached out to 1,377 colleges with mixed success—706 said they would provide administrative data, 510 said they would not, and the Bureau has received files from 509 colleges. Bureau officials said that they will request the data again from colleges that initially declined to provide them, and noted that these student data may also be captured through students' parents or through other outreach to students, such as through social media.

- **Monitoring ongoing risks to IT systems implementation.** Due to the ongoing impacts of the COVID-19 pandemic on the Bureau's 2020 Census operations schedule, as well as the recent start of NRFU, it will be important that the Bureau continue to monitor risks to its IT systems implementation. To conduct the 2020 Census, the Bureau is utilizing 52 IT systems and plans to deploy them across 16 operational deliveries.¹⁸ As of July 2020, the Bureau

¹⁷Bureau officials told us they used a list of 2,873 four year schools located within the United States and Puerto Rico and removed any that were online only, out of business or permanently closed, commuter schools, or required all students to live on campus.

¹⁸The Bureau plans to deploy the 52 systems being used in the 2020 Census multiple times across 16 operational deliveries, which includes operations such as self-response and NRFU. That is, the Bureau may deploy a system for one operation in the 2020 Census (such as self-response), and again for a subsequent operation (such as NRFU). As such, additional development and testing may occur each time a system is deployed.

had made progress in executing work against its IT development and testing schedule by deploying the systems for 10 of the 16 operational deliveries.¹⁹

However, the Bureau is continuing to monitor several risks, including those associated with NRFU, as well as the impact of COVID-19-related schedule changes to the implementation of IT. Among the ongoing risk areas are those related to NRFU system performance and IT contractor support.

- *NRFU system performance*—As one of the most complex 2020 Census operations, NRFU involves the interaction of 23 systems to support a series of new technical innovations. These innovations include, for example, the planned use of mobile devices by up to about 435,000 enumerators to conduct follow-up work, as well as technology to optimize the assignment of their work. According to Bureau documentation, these technical innovations are expected to reduce the cost of the NRFU operation; however, they also introduce new risks if they do not perform as intended.

The Bureau has taken steps to reduce NRFU system performance risks, including conducting system, integration, and operational testing, over the past several years. In addition, in June 2020, the Bureau reported that it had completed an analysis of the potential impacts to NRFU systems resulting from the COVID-19 operational delays. As a result, the Bureau stated that it increased NRFU system storage and performance capabilities in anticipation of a revised NRFU training and operations schedule.

Moreover, as mentioned earlier, the Bureau's phased approach to beginning NRFU at a subset of ACOs in July 2020 was intended to, among other things, help identify and address system performance issues before the remaining ACOs begin NRFU in August 2020. In this regard, as of July 2020, the Bureau had identified several NRFU systems issues. For example, on July 14, 2020, the Bureau identified an issue with the software used to deliver and manage NRFU mobile device applications, which affected its ability to conduct NRFU enumerator training at six ACOs.

Specifically, the Bureau determined that the design of the NRFU software was not properly optimized and did not perform as expected, resulting in enumerators that were receiving training being temporarily unable to log in to their NRFU devices. Bureau officials stated that the Bureau had implemented a temporary solution in mid-July 2020 so that enumerators could complete their training and, by early August 2020, had completed a permanent solution for this issue.

However, due to the complexity of NRFU, significant risks remain regarding how the systems will perform. For example, if any aspect of the technical innovations—including the systems that support those innovations—do not perform as expected, the Bureau may incur significant costs to troubleshoot and resolve systems issues that arise. In addition, if NRFU systems do not perform as expected, the Bureau may miss scheduled milestones for completing the operation.

¹⁹As of July 2020, the Bureau had deployed the systems for the following 10 operational deliveries: early operations preparation; address canvassing; peak recruiting and hiring; integrated partnership and communications; count review/remote Alaska; GQ advanced contact; self-response; update enumerate/update leave; GQ enumeration; and NRFU. The systems for the remaining six operational deliveries that had not yet been deployed were: response processing; data products/dissemination; providing data for redistricting; island area census; and post-enumeration survey.

The Bureau's August 2020 announcement that it was increasing the speed of data collection further increases the risks with NRFU system performance. As mentioned earlier, the Bureau is planning to maximize employee work hours in order to accelerate data collection and complete NRFU by September 30, 2020—31 days earlier than previously planned.

This compressed schedule could have implications on NRFU system performance if, for example, more enumerators than previously planned are working concurrently using their mobile devices in certain areas of the United States. Therefore, it is critical for the Bureau to continually monitor NRFU systems, and quickly respond to address any system defects or other issues, if they arise.

- *IT contractor support*—The Bureau is relying extensively on contractors to implement the IT systems needed to conduct the 2020 Census. We have previously reported that it was important for the Bureau to continue to assess the effect of COVID-19 related schedule changes on its contractor support.²⁰ This includes, for example, monitoring the availability of contractor staff needed to perform system testing and provide IT support for both ongoing and upcoming census operations.

It will also be important for the Bureau to continue to monitor contractor support for its IT hardware and software components. In May 2020, the Bureau completed an analysis of the 2020 Census hardware and software components that, due to COVID-19 delays, were expected to no longer be sustainable through the completion of 2020 Census operations. For example, these IT hardware and software components would have limited or no contractor support and need to be upgraded to a new version or replaced to remain operational.

The Bureau has made progress in addressing this issue by, for example, upgrading the component or negotiating IT contractor support through the completion of the 2020 Census operations. Nevertheless, additional work remains. For example, according to Bureau documentation, the agency is monitoring a risk related to losing contractor support for a critical 2020 Census software component.

This component provides IT server management capabilities for census operations, including the Post-Enumeration Survey (PES).²¹ If not addressed, the Bureau may lack support to continue operation of the software component, including being able to address any system issues, obtain security updates, or address any other security issues or questions as they emerge.

- **Adequately protecting mobile devices.** The 2020 Census will be the first decennial in which the Bureau will provide mobile devices to enumerators to collect personally identifiable information from households that did not self-respond to the survey. As described above, the Bureau plans to use a contractor to provide mobile devices up to about 435,000 enumerators. The contractor will be responsible for, among other things, the provisioning, shipping, storing, and decommissioning of the devices.

Many threats to mobile devices are similar to those for traditional computing devices; however, the threats and attacks to mobile devices can be facilitated by vulnerabilities in their design and configuration, as well as the ways consumers use them. As we previously

²⁰GAO-20-551R.

²¹The Bureau conducts a PES to collect person and housing unit information (independent from the 2020 Census operations) from a sample of housing units to provide estimates of census coverage.

reported, common vulnerabilities include a failure to enable password protection and operating systems that are not kept up to date with the latest security patches.²² In addition, because of their small size and use outside of an office setting, mobile devices are easier to misplace or steal, leaving sensitive information at risk of unauthorized use or theft.

According to the Bureau's Decennial Information Security Manager, the Bureau utilizes several security measures to protect mobile devices from malicious behavior. These security measures include, among others, multi-factor authentication, encryption, and procedures to remotely wipe devices that are exhibiting suspicious or malicious activity.²³ We have ongoing work monitoring the Bureau's implementation of mobile device security controls.

- **Managing disinformation and misinformation.** The Bureau continues to track, categorize, and respond to disinformation and misinformation that may be shared over traditional or social media.²⁴ For example, in May 2020, in response to questions by the public, the Bureau issued a statement on its website to clarify that individuals may be contacted by representatives of the Bureau to inquire about their responses to the 2020 Census and other household surveys.²⁵

According to Bureau officials in the Trust and Safety team, they have reviewed the performance from previous operations in the 2020 Census and adapted the policies and practices for ongoing and future operations. For example, the Bureau used lessons learned from the Address Canvassing operation and applied them to future operations, such as Update Leave and NRFU. Specifically, the Bureau has not only monitored the threats of misinformation and disinformation to those operations, but has identified, monitored, and responded to potential physical threats to the safety of Bureau employees such as 2020 Census enumerators.

Additionally, according to a Trust and Safety Team official, the Bureau adapted policies and procedures, to include escalating reports from employees in the field to the Trust and Safety team for situational awareness, and coordinating responses with security teams and stakeholders. According to this official, the Bureau worked with subject matter experts and reviewed internal practices to improve event response.

- **Protecting the privacy of respondent data.** The Bureau continues to report progress in implementing a disclosure avoidance technique, known as differential privacy, to its publicly-released statistical products to protect the confidentiality of its respondents and their data.²⁶

²²GAO, Information Technology: *Better Management of Interdependencies between Programs Supporting 2020 Census Is Needed*, [GAO-16-623](#) (Washington, D.C.: Aug. 9, 2016).

²³Multifactor authentication—the use of more than one of the combinations of the following factors: something you know (e.g., a password), something you have (e.g., an identification badge), or something you are (e.g., a fingerprint or other biometric)—is a stronger form of authentication than single-factor authentication. Encryption of data can be used to help protect the integrity and confidentiality of data and computer programs by rendering data unintelligible to unauthorized users and by protecting the integrity of transmitted (in transit) or stored (at rest) data.

²⁴Disinformation is manufactured information that is deliberately created or disseminated with the intent to cause harm. Misinformation is false information shared without the intent to mislead.

²⁵<https://2020census.gov/en/news-events/rumors.html>.

²⁶Differential privacy is a disclosure avoidance technique aimed at limiting statistical disclosure and controlling privacy risk. According to the Bureau, differential privacy provides a way for the Bureau to quantify the level of acceptable privacy risk and mitigate the risk that individuals can be reidentified using the Bureau's data. Reidentification can occur when public data are linked to other external data sources. According to the Bureau, using differential privacy means that publicly available data will include some statistical noise, or data inaccuracies, to protect the privacy of

Specifically, the Bureau has changed the disclosure avoidance approach it plans to use for its redistricting and demographic and housing data products, based on feedback it received from data users and the public. For example, at the end of May 2020, the Bureau published a set of summary metrics based on use cases and stakeholder feedback. These metrics are intended to allow data users to track the Bureau's progress in refining its disclosure avoidance system, especially as it relates to data accuracy.

The Bureau still has work left to be done before final decisions regarding its implementation of differential privacy can be made. For example, Bureau officials reported that they plan to hold training sessions on differential privacy this summer for the data stewardship executive policy committee—the committee in charge of making privacy policy decisions for the Bureau. Additionally, as of July 2020, the Bureau plans to continue collecting feedback from data users through January 2021.

According to Bureau officials, the data stewardship executive committee is expected to make final decisions about the implementation of differential privacy for the 2020 Census in early 2021. We have ongoing work monitoring the Bureau's progress as it works to implement differential privacy for the 2020 Census.

- **Ensuring timely and quality processing of census responses.** It will also be important that the Bureau monitor the risks associated with the ability of its systems to perform census response processing under compressed time frames. Before the Bureau is able to deliver data from the 2020 Census, it must conduct its response processing operation, which removes duplicate responses, ensures that complete information is collected, and formats data files used to produce census results.

However, the Bureau is behind schedule in completing integration testing of the 12 systems needed to conduct the response processing operation. Specifically, the Bureau did not complete system integration testing by mid-June 2020 as originally planned, and now expects to complete this testing by the beginning of October 2020—approximately 3.5 months later than planned. The Bureau is also concurrently conducting operational testing, which is intended to ensure that all components are ready to conduct the operation, and will need to complete this testing before the response processing operation begins.

The Bureau's August 2020 announcement that it intends to deliver the apportionment counts to the President by December 31, 2020, further increases the risks associated with conducting the response processing operation. More specifically, the Bureau now expects to begin response processing in October 2020, instead of January 2021, as previously planned after the Bureau had requested a statutory change to its required deadlines. As a result, there will be less time available to complete the remaining system integration testing and operational testing needed before the response processing operation begins.

As of early August 2020, Bureau officials stated that they were in the process of assessing the impact of the announcement on the remaining IT testing work. In addition, according to the Bureau's announcement, it is planning other efforts intended to improve the efficiency of its response processing operation, including increasing the number of staff and prioritizing delivery of the apportionment counts in order to meet the required deadline.

Going forward, it will be important that the Bureau complete all remaining system and operational testing for the response processing operation as expeditiously as possible to better ensure that its systems are ready to complete this operation under compressed

individuals. Differential privacy provides algorithms that allow policy makers to decide the trade-off between data accuracy and privacy.

timeframes. If the Bureau does not complete all required testing, it may face an increased number of system defects or other issues after it deploys the response processing operation, which could affect the quality and accuracy of the census count.

- **Evaluating the impact of delays and operational changes on data quality and coverage.** Delays to census data collection operations as a result of COVID-19, the resulting compressed time frames, and public health concerns may affect the quality of the data collected as part of the 2020 Census in several ways:
 - *Accuracy of Data Collected*— As a result of the delays to data collection operations, some individuals will answer the census later in 2020 than originally planned. Larger gaps of time between Census Day, April 1, and completing the census form may make it more difficult for respondents to recall who was living in their respective households on April 1, affecting the quality of the data collected and overall accuracy of the count. For example, NRFU enumerators began visiting households that did not respond online, by mail, or by phone in mid-July rather than mid-May. The Bureau’s Data Quality Documentation Team will document how data challenges such as recall bias, births and deaths since April 1, individuals who have moved, and individuals who live in different parts of the country at different times of the year affect respondents’ ability to submit an accurate response.
 - *Completeness of Data Collected*— In the COVID-19 environment, the public may be less likely to cooperate with the door-to-door interviews used to reach nonresponding households during NRFU, and less responsive to other in-person interactions used to engage with hard-to-count populations, which may result in a less complete count. Though the Bureau resumed in-person partnership and MQA activities in June and July of 2020, a shorter NRFU operation gives these efforts less time to motivate response among hard-to-count populations. Additionally, less responsiveness to in-person interviews may also affect one of the Bureau’s tools for assessing data quality, the PES, which will survey individuals using multiple methods, including using door-to-door visits.²⁷

In an effort to improve completeness, one team reporting to the Bureau’s 2020 Data Quality Executive Governance Group is expanding existing efforts to evaluate coverage of children and the college-age population. Another team is considering use of administrative data, such as data on births in January-March 2020 as a benchmark against which the Bureau can compare data gathered as part of evaluation efforts.

- *Data Quality*—The decision to deliver apportionment data by December 31 despite delays to certain data collection operations means the Bureau will have less time to conduct its post data collection activities, which improve the completeness and accuracy of census data. These activities were designed to take 153 days, but will have to be completed in 92 days. During response processing, the Bureau checks for duplicate, inconsistent, and incomplete responses and uses administrative records to supplement response data.

Bureau officials said that to meet the statutory date, they will prioritize tasks needed to produce apportionment counts rather than simultaneously preparing redistricting

²⁷The Bureau has modified its procedures for collecting information as part of its PES survey to reduce personal contact because of COVID-19. Originally, staff were instructed to contact a household member (or a proxy or by observation as a last resort) at each housing unit selected. Now staff are allowed to collect information by observation first before attempting to interview by telephone or by a personal visit. 85 Fed. Reg. 41,947 (July 13, 2020).

data, which requires greater precision. Additionally, they will examine each activity and determine which ones, if removed, would have the smallest effect on the accuracy of the census count.

Post data collection activities will also be affected by the President's memorandum directing the Bureau to take action consistent with applicable law to exclude foreign nationals unlawfully residing in the United States from apportionment data. Information on citizenship was not collected as part of the 2020 Census and the Bureau will need to use alternative sources of information to fulfill the request in the President's memo. We will continue to monitor any operational impacts resulting from this memorandum.

Agency Comments

We provided a copy of this draft report to the Department of Commerce. The Census Bureau provided technical comments that were incorporated as appropriate.

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We are sending copies of this report to the Secretary of the Department of Commerce, the Under Secretary of Economic Affairs, the Director of the Census Bureau, and interested 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 or Nick Marinos at (202) 512-9342 or by email at marinosn@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 enclosure I.



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Enclosure (1)

List of Requesters

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Chairman
The Honorable Gary C. Peters
Ranking Member
Committee on Homeland Security and Governmental Affairs
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
The Honorable Chip Roy
Ranking Member
Subcommittee on Civil Rights and Civil Liberties
Committee on Oversight and Reform
House of Representatives

The Honorable Gerald E. Connolly
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The Honorable Jody Hice
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The Honorable Karen Bass
House of Representatives

The Honorable Joaquin Castro
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The Honorable Judy Chu
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The Honorable Steven Horsford
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Enclosure I: GAO Contacts and Staff Acknowledgments

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