February 2022

2020 CENSUS

Lessons Learned from Planning and Implementing the 2020 Census Offer Insights to Support 2030 Preparations

Accessible Version

GAO-22-104357

GAO Highlight

2020 CENSUS

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Why GAO Did This Study

The 2020 Census, from the planning stages through the COVID-19-affected implementation, produced a unique set of experiences for the Bureau to draw on when planning future work. As GAO reported in June 2021, the census continues to be a costly undertaking, with the 2020 Census on track to cost roughly $96 per household, up slightly from $92 per household in 2010 (in constant 2020 dollars). Key features of the design for the 2030 Census are set to take shape during the next 3 years.

This report examines what lessons learned from preparing for and conducting the 2020 Census the Bureau can apply to its 2030 planning efforts. GAO reviewed planning documents for the 2020 and 2030 Censuses, prior GAO report findings related to selected program-management areas and IT systems development. GAO interviewed Bureau officials to obtain their perspectives on the 2020 Census and how they plan to incorporate lessons learned in 2030 Census planning efforts.

What GAO Recommends

GAO has made prior related recommendations and is recommending that the Bureau develop a plan to improve resiliency of its 2030 Census research and testing activity in response to Bureau-identified budget uncertainty, including but not limited to specifying the tests and projects that are most important to conduct. 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

To inform planning for the 2030 Census, the Census Bureau can leverage lessons learned from the 2020 Census related to: budgetary uncertainty; IT development and privacy controls; program management; and local-level data.

Budgetary uncertainty. The 2020 Census cycle demonstrated that budgetary uncertainty can disrupt key research and testing without adequate planning. The Bureau canceled or delayed many of its planned tests and justified the decisions citing budgetary issues, such as sequestration in 2013 and continuing resolutions in fiscal year 2017. The Bureau can likely expect continuing resolutions to continue to influence the budgetary environment. Bureau officials told us that smaller, more agile tests for the 2030 Census will help with 2030 planning. The figure below provides a provisional timeline of 2030 planning phases. A plan that specifies key research and testing can reduce overall risk to the 2030 Census.

2030 Census Planning Is Underway, with Key Milestones Expected in the Next 3 Years
Provisional 2030 Census life-cycle timeframe

FY**19** FY**20** FY**21**	FY**22** FY**23** FY**24**	FY**25** FY**26** FY**27** FY**28** FY**29** FY**30** FY**31** FY**32** FY**33**
Early planning phase	**Design selection phase**	**Development and integration phase**	**Peak production and close-out phase**
Initial rough order of magnitude based on 2020 actual costs for cost estimate Formation of planning teams	Risk management plan, risk registers created Testing and research projects Detailed integrated master schedule Development of initial life cycle cost estimate Major design innovations selected	Operational plan(s) released Life cycle cost estimate refined Initial tests of major field operations (such as address canvassing, non-response follow-up)	Address canvassing Enumeration, non-response follow-up Response processing Tabulation for data products Assessments and evaluations

Source: Interviews with U.S. Census Bureau officials and GAO review of U.S. Census Bureau planning documentation. | GAO-22-104357

IT development, privacy, and cybersecurity. The 2020 Census demonstrated that delayed IT-related decisions can impact schedules and costs. Given the Bureau's challenges in planning and developing enterprise-wide IT capabilities for the 2020 Census, it will be important for the Bureau to prioritize IT decisions early in this decade. In addition, continued attention to privacy and cybersecurity controls can mitigate risk. The 2020 Census introduced large-scale technological changes that increased the likelihood of efficiency and effectiveness gains, but also introduced many privacy and cybersecurity challenges that increased risk. The Bureau should continue to pay attention to privacy and cybersecurity controls to mitigate these challenges as it plans for the 2030 Census.

Program management. The Bureau generally made progress late in the decade in addressing weaknesses in the areas of cost estimation, schedule management, and risk management. Sustaining improvements in these areas will better position the Bureau for a high-quality, cost-effective census.

Local-level data. Prior GAO reporting shows that local data and perspectives can aid census planning and implementation.

—————————————— **United States Government Accountability Office**

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Abbreviations

Bureau	U.S. Census Bureau
CEDCaP	Census Enterprise Data Collection and Processing
DICE	Data Ingest and Collection for Enterprise
COVID-19	Coronavirus Disease 2019

GQ   Group Quarters
NRFU   Non-Response Follow-Up
OMB   Office of Management and Budget
PII   personally identifiable information
POA&M   plans of action and milestones

February 11, 2022

Congressional Addressees

The 2020 Census, from the planning stages through the Coronavirus Disease 2019 (COVID-19)-affected implementation, produced a unique set of experiences for the U.S. Census Bureau (Bureau) to draw on when planning future work. The Bureau implemented innovations (such as an Internet response option) and faced pandemic- and schedule-related challenges that increased risk to the quality of the census. With its initial planning steps for the 2030 Census already underway, the Bureau has an opportunity to leverage what it learned from preparing for and conducting the 2020 Census. As we reported in June 2021, the census continues to be a costly undertaking, with the 2020 Census on track to cost roughly $96 per household, up slightly from $92 per household in 2010 (in constant 2020 dollars).

Key features of the 2030 Census design are set to take shape during the next 3 years. Within that time frame, the Bureau expects to have created a detailed master schedule, developed its initial cost estimate for the entire census life cycle, and selected major design features. The focus of early 2030 planning is to reduce risk to the cost and quality of the census.

During the 2020 planning phase, we raised concerns related to cost estimation, risk management, schedule management, testing, and the acquisition and development of new IT systems. For these reasons, we designated the 2020 Census a high-risk area in 2017.[1] We concluded in 2021 that these risks will continue beyond 2020 and may threaten the 2030 Census.[2] The importance of the decennial census to the nation reinforces the need for congressional oversight and stakeholder input during early planning for the 2030 Census.

This report examines which lessons learned from preparing for and conducting the 2020 Census the Bureau can apply to its 2030 planning

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[1]GAO, *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others,* GAO-17-317 (Washington, D.C.: Feb. 15, 2017).

[2]GAO, *High-Risk Series: Dedicated Leadership Needed to Address Limited Progress in Most High-Risk Areas,* GAO-21-119SP (Washington, D.C.: Mar. 2, 2021).

efforts. This report is the last in a series of retrospective reviews of the 2020 Census with the overall aim of informing planning and decisions for the design of the 2030 Census.[3] We performed our work under the authority of the Comptroller General to evaluate the 2020 Census to assist Congress with its oversight responsibilities.

To address our objective, we identified the following program-management areas that are key to the development of the 2030 Census operational plan: risk management, cost estimation, and schedule management. To identify prior observations in each of these program-management areas throughout the decade and potential lessons learned for the 2030 Census, we reviewed and synthesized prior report findings as well as findings related to systems development, privacy, and cybersecurity. We also updated information from our prior reports based upon the Bureau's lessons learned related to systems development, policies and ongoing implementation plans related to privacy, and progress in addressing an open cybersecurity recommendation.

For additional lessons learned, we reviewed 2030 Census planning documentation as well as available similar documentation from 2020 planning. To evaluate the Bureau's management of budgetary conditions, we consulted *Standards for Internal Control in the Federal Government* and our prior work on steps agencies have taken in managing in an environment of declining resources.[4] We also interviewed Bureau officials to obtain their perspectives on lessons learned from the 2020 Census and how they plan to incorporate those lessons learned in their 2030 planning efforts. Our discussions with Bureau officials also included regular meetings about the Bureau's ongoing privacy and cybersecurity efforts.

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[3]We issued several retrospective reviews of the 2020 Census. See 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). GAO, *2020 Census: Innovations Helped with Implementation, but Bureau Can Do More to Realize Future Benefits,* GAO-21-478 (Washington, D.C.: June 14, 2021). GAO, *2020 Census: Office Managers' Perspectives on Recent Operations Would Strengthen Planning for 2030*, GAO-21-104071 (Washington, D.C.: July 27, 2021). GAO*, Supplemental Material for GAO-21-104071: 2020 Census Survey of Area Census Office Managers*, GAO-21-105237 (Washington, D.C.: July 27, 2021).

[4]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: Sept. 2014). See also: GAO, *Declining Resources: Selected Agencies Took Steps to Minimize Effects on Mission but Opportunities Exist for Additional Action*, GAO-17-79 (Washington, D.C.: Dec. 20, 2016).

We conducted this performance audit from May 2020 to February 2022 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 objective.

Background

Conducting the decennial census is an enormous and complex undertaking and the Bureau spends years planning for it. The Bureau began planning for the 2030 Census in January 2019—approximately 15 months before Census Day (April 1, 2020) (see figure 1).[5] Just as testing and research for the 2020 Census started in fiscal year 2012, the Bureau plans to begin its testing and research phase for the 2030 Census during fiscal year 2022.

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[5]13 U.S.C. § 141.

Figure 1: Key Phases and Milestones of the 2030 Census's 15-Year Life Cycle

Provisional 2030 Census life-cycle timeframe

FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY 29	FY30	FY31	FY32	FY33
Early planning phase			Design selection phase			Development and integration phase					Peak production and close-out phase			

Early planning phase

Initial rough order of magnitude based on 2020 actual costs for cost estimate

Formation of planning teams

Design selection phase

Risk management plan, risk registers created

Testing and research projects

Detailed integrated master schedule

Development of initial life cycle cost estimate

Major design innovations selected

Development and integration phase

Operational plan(s) released

Life cycle cost estimate refined

Initial tests of major field operations (such as address canvassing, non-response follow-up)

Peak production and close-out phase

Address canvassing

Enumeration, non-response follow-up

Response processing

Tabulation for data products

Assessments and evaluations

Source: Interviews with U.S. Census Bureau officials and GAO review of U.S. Census Bureau planning documentation. | GAO-22-104357

Bureau officials said the COVID-19 pandemic complicated the initial planning effort for the 2030 Census, as the delays to 2020 operations also meant delays gathering formal lessons learned from 2020 operational assessment and evaluations. In response, the Bureau collected informal lessons learned from census staff and conducted an informal survey with senior leadership to gather their thoughts about the challenges and risks related to the 2020 Census. Bureau officials stated in June 2021 that most of their research to assess 2020 operations should be completed during fiscal year 2022 and that most of the 2030 planning staff should be in place by then as well. They said that they do not expect the COVID-19 scheduling delays to affect the remaining 2030 Census planning efforts after that time. They also said that the Bureau has since integrated its 2030 planning staff with ongoing decennial program-management staff to streamline efforts.

Developing the operational starting point for the 2030 Census involves addressing three functional areas:

- **Cost estimation.** Documenting program cost estimates has many benefits: It helps agencies make informed investment decisions, formulate realistic budgets, allocate program resources, measure

program progress, proactively correct course when warranted, and ensure overall accountability for results. In order to be reliable, a cost estimate must be well documented, accurate, credible, and comprehensive.[6] For example, the Bureau calculates the likely cost implications for a range of possible response rates to identify a range of projected costs and to calculate appropriate reserves to manage risk.

- **Schedule management.** The process of linking the thousands of interrelated activities of the decennial census enables the Bureau to deliver population counts according to statutory deadlines. Scheduling also allows program managers to decide between possible sequences of activities, determine the flexibility of the schedule according to available resources, predict the consequences of managerial action or inaction, and allocate contingency plans to mitigate risk. For example, in hiring field staff, the schedule lays out the sequence of activities needed, such as developing training materials, recruiting field staff, training staff, and equipping them with the tools needed to complete the enumeration.

- **Risk management.** This process involves developing documentation and practices to reduce the likelihood of risks and their possible impacts. Managing risks helps the Bureau ensure a complete, accurate, and cost-effective enumeration. Fundamental to effective risk management is the development of risk mitigation and contingency plans. Mitigation plans detail how an agency will reduce the likelihood of a risk event and its impacts, should it occur. Contingency plans identify how an agency will reduce or recover from the impact of a risk after it has been realized. These plans provide the roadmap for implementing the agency's selected risk response and the vehicle for monitoring, communicating, and reporting on the success of that response.

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[6]GAO, *GAO Cost Estimating and Assessment Guide, Best Practices for Developing and Managing Capital Program Costs,* GAO-09-3SP, (Washington, D.C., March 2009).

Lessons Learned from Planning and Implementing the 2020 Census Offer Insights to Support 2030 Preparations

Lesson Learned #1: Without Adequate Planning, Budgetary Uncertainty Can Disrupt Key Research and Testing

The Bureau had planned a large number of field tests of varying scales during the 2020 life cycle to explore and develop innovations. In 2011, the Director of the Census Bureau testified this was one of the key lessons learned from the 2010 Census. However, the Bureau canceled or reduced the scope of many of its planned tests and justified the decisions based on budgetary issues. Specifically, the Bureau cited an automatic, across-the-board cancellation of budgetary resources—known as sequestration—and a temporary lapse in appropriations in 2013, as well as continuing resolutions—laws that allow federal agencies to continue operating when their regular appropriations have not been enacted—in fiscal year 2017 as factors behind these decisions (see table 1). After encountering this budgetary uncertainty earlier in the decade, the Bureau reported later receiving sufficient funds to have leftover contingency funding by the end of census data collection.

Table 1: The U.S. Census Bureau Cited Budgetary Issues to Justify Testing Delays and Cancellations for 2020 Census

Examples of changes	Fiscal year when Bureau cited budgetary issues
Delayed release of operational plan from fiscal year 2014 to fiscal year 2015	2013
Canceled 14 field tests	2013
Canceled annual fieldwork (Master Address File Coverage Study) to test accuracy of in-office address canvassing	2017
Canceled second phase of in-office address canvassing	2017
Canceled field components from 2017 Census Test	2017
Canceled peak operations for 2018 Census Test (dress rehearsal) at 2 of 3 sites	2017

Source: U.S. Census Bureau documentation. | GAO-22-104357

In 2013, the Bureau canceled 14 of its originally scheduled 24 field tests that were planned for fiscal years 2013-2014 to research new address listing and enumeration methods. In 2017, the Bureau canceled its planned annual fieldwork for a sample of geographical areas, known as the Master Address File Coverage Study. That study was to compare the results of two operations: in-field address canvassing, when census field workers go door-to-door to verify the address list; and in-office address canvassing, when the Bureau virtually verifies the address list using imagery and available administrative records. Canceling this research removed a mechanism to test the accuracy of the in-office address canvassing methods. While we reported in June 2021 that preliminary indicators suggest that the decennial address list was of high quality, we also have noted the importance of testing key innovations such as in-office address canvassing prior to implementation.[7]

The Bureau canceled fieldwork from the 2017 Census Test, which was originally designed to test interdependencies between self-response modes, including the new Internet option, and fieldwork. The Bureau carried out a test of self-response and the Internet response option on a subset of planned households. However, the Bureau did not use this test on its subsequent Non-Response Follow-Up (NRFU) operation, where the Bureau attempts to enumerate households that did not initially self-respond to the census. That test would have given the Bureau the

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[7]GAO-21-478. See also: GAO, *2020 Census: Sustained Attention to Innovations, IT Systems, and Cost Estimation Is Needed*, GAO-17-584T (Washington, D.C.: May 3, 2017).

opportunity to test impacts of self-response on NRFU at the cancelled test sites.

The Bureau also removed key peak field operations—NRFU and Group Quarters (GQ) enumeration—from two of the three original sites from the 2018 Census Test, which was an end-to-end dress rehearsal for the 2020 Census.[8] Canceling these activities at the West Virginia and Washington State sites eliminated the Bureau's opportunity to test its field enumeration procedures in rural areas with Internet connectivity issues and areas with American Indian reservations, respectively.

Reducing the 2018 Census Test also reduced the opportunity to test the new digital eResponse option for Group Quarters Enumeration. The Bureau tested this option at just one site, where facilities that had selected that enumeration option often did not follow through and submit data.[9] Later, in March 2021, we reported that facility administrators had trouble completing the eResponse templates accurately, such as in cases where facility administrators had difficulty submitting data to cover multiple facilities. These and other GQ challenges related to the COVID-19 pandemic complicated the Bureau's data processing phases in late 2020.[10] Bureau officials acknowledged that additional testing would help eResponse implementation.

The Bureau's management of budgetary uncertainty also affected operational decisions. According to the Bureau, in 2013 it delayed release of the initial operational plan from fiscal year 2014 to fiscal year 2015 (with the operational plan ultimately coming out later, in November 2015). This resulted in the Bureau having less time to consider and test design decisions that might have deviated from its initial approach. The Bureau also stopped a key phase of its in-office address canvassing activities in 2017 (earlier than planned), citing budget uncertainty. As a result, the

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[8]Group Quarters enumeration is when the Bureau enumerates those living or staying in a group facility such as a college dorm or skilled nursing facility that provides housing or services.

[9]GAO, *2020 Census: Additional Steps Needed to Finalize Readiness for Peak Field Operations,* GAO-19-140 (Washington, D.C.: Dec. 10, 2018). The Bureau developed an eResponse option for group quarters facilities to submit enumeration data electronically. Like other enumeration components of the 2018 Census Test, the Bureau tested this feature only at the Providence, Rhode Island, site.

[10]*Decennial Census: Bureau Should Assess Significant Data Collection Challenges as It Undertakes Planning for 2030,* GAO-21-365 (Washington, D.C.: Mar. 22, 2021).

Bureau verified fewer housing units in-office. Officials at the time estimated that this decision alone increased the in-field address canvassing workload from 25 to 30 percent of housing units in self-response areas, and incurred greater costs.[11]

As early as 2011, the Bureau identified funding levels as a risk to research and testing. Yet the Bureau did not make sure that certain research and testing activities were resilient to the budgetary circumstances it faced. Instead, in 2017, public Bureau statements referred to the need to receive final appropriations for that year before testing decisions could be made. The decennial management team had to reevaluate testing and operational plans amid the periods of budgetary uncertainty in fiscal years 2013 and 2017 instead of working on other planning efforts.

In August 2021, Bureau officials told us that smaller, more agile tests for the 2030 Census will help them select an operational design, similar to the Bureau's initial posture in preparing for 2020. *Standards for Internal Control in the Federal Government* note that agencies should consider all significant changes within their internal and external environment when identifying, analyzing, and responding to risks.[12] We have also previously reported on steps agencies took to identify and protect key investments up front, such as with IT investments so as to avoid longer-term costs.[13] In addition, we have previously reported on administrative steps agencies may be able to take, such as scheduling key contracts to begin late in a fiscal year when they are less likely to be affected by continuing resolutions.[14]

The Bureau can likely expect continuing resolutions to influence the budgetary environment again. According to a Congressional Research Service report and our research, the federal government has operated under one or more continuing resolutions in all but 3 of the last 45 fiscal

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[11]The Bureau ultimately canvassed roughly 35 percent of housing units in self-response areas in the field.

[12]GAO-14-704G.

[13]GAO-17-79.

[14]GAO, *Budget Issues: Budget Uncertainty and Disruptions Affect Timing of Agency Spending*, GAO-17-807T (Washington, D.C.: Sept. 20, 2017).

years (fiscal years 1977 to 2021).[15] Thus, the Bureau has an opportunity now to plan steps that can help ensure resiliency of its key research and testing activities, protecting them from likely budgetary uncertainty where possible. A plan that specifies key research and testing that needs to be protected can help minimize delays in decision-making. The plan could also include other steps specific to its research and testing processes or its unique decade-long lifecycle of planning. These steps could additionally help minimize delays in decision-making and help ensure adequate testing going into 2030, thus reducing overall risk to the 2030 Census.

Lesson Learned #2: Delayed IT-Related Decisions Can Impact Schedules, Costs, and Scope
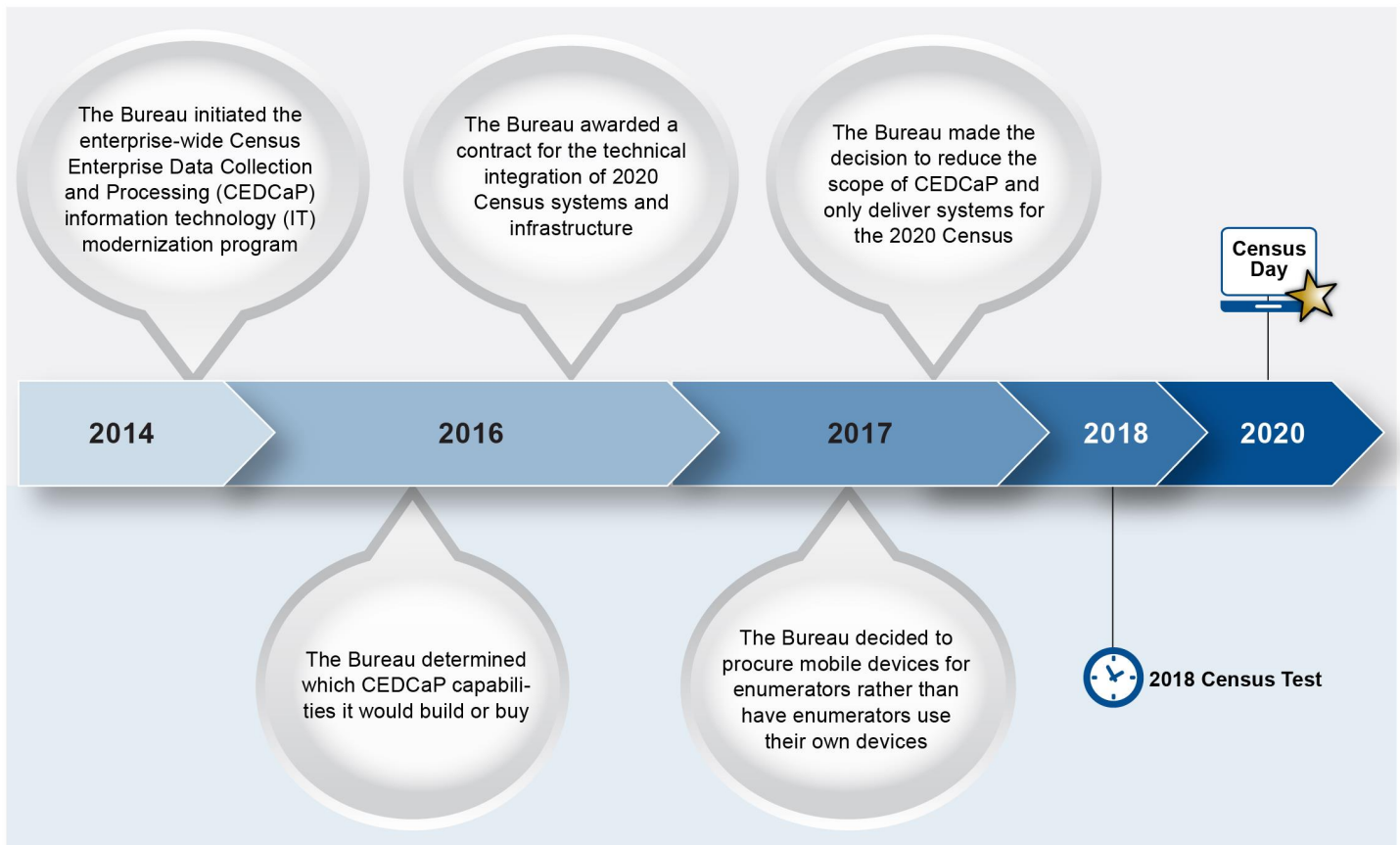
Over the past decade, we reported that the Bureau delayed decisions regarding IT plans and capabilities, which affected its ability to manage schedule, cost, and scope for the 2020 Census.[16] These IT plans and decisions were important as the Bureau relied heavily on IT systems and infrastructure to support its operations. In particular, the Bureau developed and deployed 52 IT systems for the 2020 Census, including several developed as part of an enterprise-wide initiative called Census Enterprise Data Collection and Processing (CEDCaP).[17] Figure 2 depicts several of our findings related to significant IT decisions during the lead up to the 2020 Census.

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[15]Congressional Research Service, *Continuing Resolutions: Overview of Components and Practices*, R46595 (Nov. 5, 2020). The federal government also operated under continuing resolutions during fiscal year 2021 (Pub. L. No. 116-159, Pub. L. No. 116-215).

[16]GAO, *Information Technology: Better Management of Interdependencies between Programs Supporting 2020 Census Is Needed,* GAO-16-623 (Washington, D.C.: Aug. 9, 2016); *2020 Census: Key Challenges Need to Be Addressed to Successfully Enable Internet Response,* GAO-15-225 (Washington, D.C.: Feb. 5, 2015); and *2020 Census: Prioritized Information Technology Research and Testing Is Needed for Census Design Decisions,* GAO-14-389 (Washington, D.C.: Apr. 3, 2014).

[17]The Bureau intended CEDCaP to be a large and complex modernization program to deliver a system-of-systems to support all of the Bureau's survey data collection and processing functions. Among other things, the CEDCaP program was expected to deliver numerous benefits to the Bureau's multiple survey programs, such as enabling an internet response option; automation of the assignment, control, and tracking of caseloads of the field-base enumerators, and enabling a mobile data collection for fieldwork.

Figure 2: Significant IT Decisions Made by the U.S. Census Bureau Leading Up to the 2020 Census

Source: Prior GAO reporting and documentation of U.S. Census Bureau IT systems Implementation. | GAO-22-104357

Among other things, we reported that the Bureau did not prioritize decisions about IT capabilities early in the decade, and struggled to answer IT research questions.[18] For example, we reported that the Bureau did not answer key IT research questions, such as the expected rate of respondents using its internet response option, in time to inform early design decisions.[19] These and other delayed IT decisions led to schedule impacts, cost increases, and reduced scope. Specifically:

- **The Bureau delayed key IT-related decisions for several years, which compressed the time available to develop and test**

[18]GAO-15-225; GAO-14-389

[19]GAO-16-623.

systems. For example, although the Bureau initiated the enterprise-wide CEDCaP IT modernization program in 2014, it did not make decisions about whether to build or buy CEDCaP capabilities (e.g., for internet self-response) until May 2016. This gave the Bureau less than 2 years to procure, develop, test, and integrate all of the systems and infrastructure before the 2018 Census Test, which was the Bureau's final opportunity to test all key systems and operations to ensure readiness for the 2020 Census. As we reported, the Bureau then faced significant challenges in managing the schedule for developing and testing IT systems—including systems developed as part of the CEDCaP program—due to issues experienced during systems development.[20] Because of these issues, the Bureau was not able to complete security assessments before deploying the systems for the 2018 Census test.

- **The Bureau faced challenges in controlling IT costs for the 2020 Census program.** These challenges were due, in part, to IT decisions that were delayed until after the Bureau completed its October 2015 cost estimate.[21] For example, in August 2016, the Bureau made the decision to award a technical integration contract for about $886 million—a cost that was not reflected in the October 2015 cost estimate.[22] In addition, in June 2017, the Bureau decided to change the way it provided mobile device capabilities for its enumerators, which added about $137 million to the original estimate. Ultimately, because of these and other IT cost increases, the Bureau reported that its IT costs for the 2020 Census had grown from $3.41 billion in its October 2015 estimate to $4.97 billion as of December 2017.

- **The Bureau was challenged in delivering enterprise-wide capabilities through the CEDCaP program.** In 2017, the Bureau decided to reduce the scope of the CEDCaP program. Those CEDCaP systems that were planned for the 2020 Census continued their development as part of the 2020 Census program. According to Bureau officials, this change allowed staff to focus on the systems needed for the 2020 Census. However, development stopped for any

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[20]GAO, *2020 Census: Actions Needed to Mitigate Key Risks Jeopardizing a Cost-Effective Enumeration,* GAO-18-215T (Washington, D.C.: Oct. 31, 2017).

[21]GAO, *2020 Census: Continued Management Attention Needed to Oversee Innovations, Develop and Secure IT Systems, and Improve Cost Estimation,* GAO-18-141T (Washington, D.C.: Oct. 12, 2017).

[22]In September 2017, Bureau officials told us that a portion of this integration work was included in the October 2015 cost estimate, but the Bureau assumed the work would be done in-house, rather than with contractors. However, the Bureau did not provide documentation to support this assertion.

CEDCaP capabilities that were planned to be used by future surveys but that were not within the scope of the 2020 Census. Although CEDCaP delivered several systems that were used for the 2020 Census, the Bureau formally closed the CEDCaP program in March 2020 without delivering enterprise-wide data collection and processing capabilities.

Senior IT officials at the Bureau have acknowledged that delayed IT decisions were a cause of some of the challenges faced during the lead up to the 2020 Census. Bureau officials reported that they have begun to incorporate several lessons learned into a follow-on effort to CEDCaP, known as the Data Ingest and Collection for Enterprise (DICE) program. These lessons include focusing on the schedule and timing of operations, implementing Agile development methodologies, and reducing the scope of capabilities to be delivered.[23] For example, in an effort to make IT decisions early in the decade, the DICE program officially began in April 2021, approximately 3 ½ years earlier in the 10-year decennial lifecycle when compared to CEDCaP. Given our prior reporting on the Bureau's challenges in planning and developing IT systems and enterprise-wide IT capabilities for the 2020 Census, prioritizing IT decisions and demonstrating DICE's capabilities early in this decade should help the Bureau deliver its planned functionality for the 2030 Census.

Lesson Learned #3: Continued Attention to Privacy and Cybersecurity Controls Can Mitigate Risk

As the IT systems used to support the federal government and its functions—including conducting the 2020 Census—have evolved, so have the privacy and cybersecurity threats facing those systems. Because of the government's dependence on IT systems to carry out its operations, we designated information security as a government-wide high-risk area in 1997.[24] The 2020 Census introduced large-scale technological changes that increased the likelihood of efficiency and effectiveness gains, but also introduced challenges in implementing privacy and cybersecurity controls. Continued attention to privacy and

[23]Agile is an approach to software development in which software is developed incrementally and is continuously evaluated for functionality, quality, and customer satisfaction.

[24]GAO, *High-Risk Series: An Overview,* GAO-HR-97-1 (Washington, D.C.: Feb. 1, 1997). In 2015, we further expanded this area to include protecting the privacy of personally identifiable information. See *High-Risk Series: An Update,* GAO-15-290 (Washington, D.C.: Feb. 11, 2015).

cybersecurity controls will help mitigate these challenges as the Bureau plans for the 2030 Census.

The Bureau's Privacy Policies Met Best Practices, but It Faced Challenges Implementing Privacy Protections

Federal law and guidance require agencies to have policies in place to address data privacy, and to protect personally identifiable information (PII).[25] For example, Title 13 prohibits Bureau employees from using the information collected from the census for any purpose other than the statistical purposes for which it is supplied.[26] The law also prohibits the Bureau from making any publication whereby the data that furnished by a particular establishment or individual can be identified.[27]

The Bureau established privacy policies to comply with law and relevant guidance. For example, the Bureau established a policy that ensured that PII related to respondent data was never published without authorization. It also had a policy for safeguarding and managing information. This policy established roles, responsibilities, and information handling categories and guidelines in Census Bureau facilities, their local networks, third-party networks, and in the cloud. These policies applied to all information collected, acquired, or maintained by the Bureau in any and all forms.

Nonetheless, the Bureau faced challenges in implementing privacy protections for the 2020 Census. In past censuses, the Bureau used methods such as data suppression, swapping, and rounding to prevent

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[25]For example, Office of Management and Budget (OMB), *Federal Agency Responsibilities for Review, Reporting, and Publication under the Privacy Act*, Circular A-108 (Washington, DC: Dec. 23, 2016); National Institute of Standards and Technology (NIST), *NIST Privacy Framework: A Tool for Improving Privacy Through Enterprise Risk Management*, (Gaithersburg, MD: Jan. 16, 2020); and NIST, *Guide to Protecting the Confidentiality of Personally Identifiable Information (PII)*, Special Publication (SP) 800-122 (Gaithersburg, MD, Apr. 1, 2010).

[26]13 U.S.C. § 9(a)(1).

[27]13 U.S.C. § 9(a)(2).

indirect disclosure of PII.[28] However, less than 3 years before 2020 Census data was due to be publicly released, using advances in technology since the 2010 Census, the Bureau identified vulnerabilities in the disclosure avoidance techniques used during prior decennials. To reduce this risk, the Bureau decided to use a disclosure avoidance technique, known as differential privacy, for its publicly released statistical products for the 2020 Census.[29]

The 2020 Census is the first instance of the Bureau using differential privacy to protect respondent data. Several challenges arose throughout the Bureau's planning and implementation:

- **Communication.** The Bureau provided information about its use of differential privacy to data users by holding webinars, updating information on the Bureau's website, providing users with demonstration data products, and addressing stakeholder concerns via blogs and other tools. Nonetheless, the Bureau, advisory committees, and data users raised concerns about the Bureau's communication to users about differential privacy. For example, they noted that data users may not be aware how the Bureau planned to apply differential privacy to data sets, and that data users may not have had the necessary resources or technical skills to effectively examine the effects of differential privacy. Bureau officials reported that they are documenting lessons learned about communicating with data users and other stakeholders, which they intend to incorporate in any plans for future use of differential privacy.

- **Schedule.** As we have previously reported, the Bureau's plans to implement differential privacy were affected by the delays and changes to 2020 Census operational schedules as a result of the COVID-19 pandemic.[30] For example, the Bureau originally planned to

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[28]Data suppression is when a record or certain parts of a record are not included in the published data to ensure that data cannot be re-identified. Swapping is exchanging certain data fields of one record with the same data fields of another similar record. The Census Bureau injects "noise", or small amounts of variation, into data by swapping records for certain households with those from households with similar characteristics in a nearby area.

[29]Differential privacy is a disclosure avoidance technique aimed at limiting statistical disclosure and controlling privacy risk by using an algorithm. 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 individuals. Differential privacy provides algorithms that allow policy makers to determine the trade-off between data accuracy and privacy.

[30]GAO-21-478.

make final decisions on differential privacy in December 2020. Because of changes to the data collection and data processing schedule, the Bureau made these decisions in June 2021—or about 6 months later. In addition, as of November 2021, the Bureau had not yet developed firm time frames for disclosure avoidance-related activities to occur for future 2020 Census data products. For example, Bureau officials in the Decennial Census Directorate reported notional timelines for disclosure avoidance activities, such as to produce demonstration data products for demographics and housing characteristics data in the winter and spring of 2022. However, as of January 2022 they had not yet defined a more specific time frame for these (and other) activities.

Data users and other stakeholders have also reported on these challenges and have made recommendations to the Bureau to address them. For example, in March 2021, the Census Scientific Advisory Committee issued 12 recommendations to the Bureau focused on differential privacy. The Bureau accepted most of these recommendations, including those related to communicating more with data users about differential privacy. In September 2021, the committee made 11 additional recommendations related to the use of differential privacy. These recommendations included several related to communication with data users about differential privacy. For example, the committee recommended that the Bureau publish 2020 Census data demonstration data products in more useful formats for data users and other stakeholders to assist with data users' understanding of differential privacy. Bureau officials plan to respond to these recommendations by March 2022.

The Bureau Faced New and Evolving Cybersecurity Threats for the 2020 Census

As we have previously reported, the Bureau effectively managed several new and evolving cybersecurity threats and challenges to the 2020 Census.[31] For example, the Bureau implemented security controls to mitigate cybersecurity threats on its mobile devices. These controls were important, since mobile data collection was a new and widely used innovation for this census. In addition, the Bureau implemented a process for combating misinformation and disinformation that is being shared with

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[31]GAO-21-478.

other agencies.[32] For example, as we previously reported, the Bureau established a dedicated team that identified and responded to misinformation and disinformation threats, coordinated with social media partners, and adapted policies and procedures based on lessons learned throughout conducting the 2020 Census.[33]

However, the Bureau faced challenges in mitigating other cybersecurity risks due, in part, to the compressed time to develop and test systems and perform security assessments on them. [34] These challenges include delays in completing system security assessments and taking corrective actions to address many of the cybersecurity weaknesses identified in those assessments. For example, prior to the 2017 operational test and the 2018 Census Test the Bureau accepted cybersecurity risks because delays in system development compressed the time available for security assessments. As a result, the Bureau deployed systems for the tests with an increased risk of cybersecurity weaknesses.

In addition, the Bureau struggled to complete cybersecurity corrective actions identified in the aforementioned security assessments in a timely manner. The Bureau's risk-management framework requires it to develop and implement corrective actions—known as plans of action and milestones (POA&Ms)—for each weakness identified in security assessments. The Bureau's framework requires that these POA&Ms describe the vulnerabilities identified during the security assessment that resulted from a weakness in their cybersecurity controls. In April 2019, we reported that the Bureau did not always address POA&Ms in accordance with its established deadlines.[35] We recommended that the Bureau ensure that corrective actions it identifies for cybersecurity weaknesses are implemented within prescribed time frames.

As of January 2022, the Bureau has fully implemented this recommendation. For example, the Bureau established a new process for addressing POA&Ms and began meeting quarterly to discuss options to

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

[33]GAO-21-478.

[34]GAO, *2020 Census: Actions Needed to Mitigate Key Risks Jeopardizing a Cost-Effective and Secure Enumeration,* GAO-18-543T (Washington, D.C.: May 8, 2018).

[35]GAO, *2020 Census: Further Actions Needed to Reduce Key Risks to a Successful Enumeration,* GAO-19-431T (Washington, D.C.: Apr. 30, 2019).

close delayed POA&Ms. In addition, the Bureau's Chief Information Officer has encouraged leadership across the agency to prioritize the closure of the POA&Ms. By taking these actions, the Bureau is in a better position to migrate risks associated with their identified cybersecurity weaknesses.

In light of the cybersecurity challenges and risks faced by the Bureau during the 2020 Census, agency officials stated they plan to incorporate lessons learned from the 2020 Census into their cybersecurity plans for the 2030 Census.

Lesson Learned #4: Program-Management Improvements Provide a Foundation for 2030 Census Planning

The Bureau generally made progress late in the decade in addressing weaknesses we had previously identified in the three program-management areas described below. Sustaining these improvements in the coming years will better position the Bureau for a high-quality, cost-effective census.
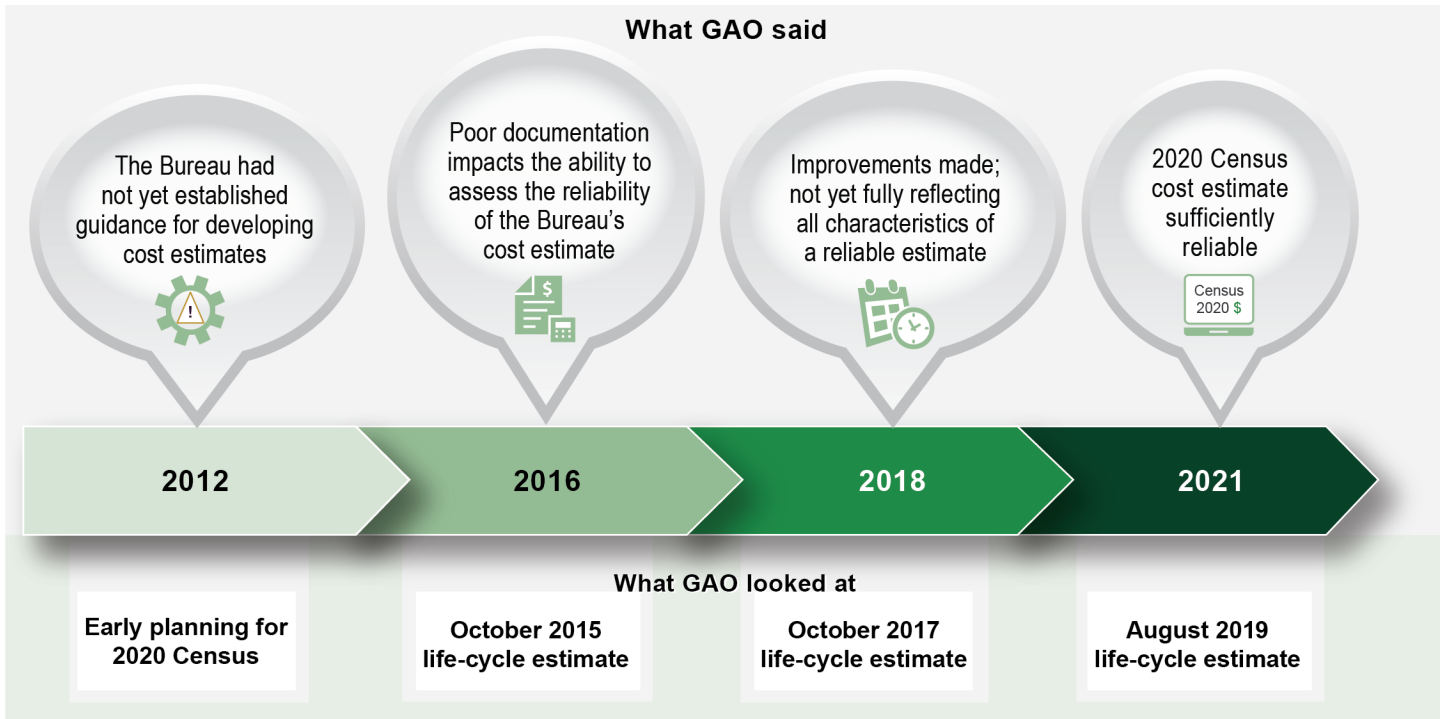
Cost Estimation

The cost estimate has been a longstanding challenge for the Bureau, preceding the 2020 Census life cycle.[36] Over the last decade, we have reported on weaknesses related to the Bureau's cost estimate such as a lack of guidance for developing cost estimates and insufficient documentation of source data used to generate cost elements.[37] We have also reported that the Bureau did not include all cost data in its cost risk analysis. However, the Bureau has shown improvement in recent years (see figure 3).

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[36]GAO, *2010 Census: Census Bureau Should Take Action to Improve the Credibility and Accuracy of Its Cost Estimate for the Decennial Census*, GAO-08-554 (Washington, D.C.: June 16, 2008).

[37]For key elements of our prior work on the Bureau's cost estimating practices, see: GAO, *Decennial Census: Additional Actions Could Improve the Census Bureau's Ability to Control Costs for the 2020 Census,* GAO-12-80 (Washington, D.C.: Jan 24, 2012) and GAO, *2020 Census: Census Bureau Needs to Improve Its Life-Cycle Cost Estimating Process,* GAO-16-628 (Washington, D.C.: June 30, 2016)

Figure 3: The Census Bureau Improved Its Cost Estimate during the 2020 Census Life Cycle

Source: Prior GAO reviews of U.S. Census Bureau cost estimate documentation. | GAO-22-104357

For example, in 2012, we found that the Bureau had not yet established guidance for developing cost estimates. Later, in 2018 we reviewed the Bureau's 2017 version of the cost estimate and found it was improved compared to the Bureau's 2015 version. For example, the Bureau provided more documentation on the calculations performed and the estimating methodology used to derive each cost element.[38] Furthermore, as part of the August 2019 update to the cost estimate, the Bureau had implemented a system to track and report variances between actual and expected cost elements.[39] If continued, the system should help management to measure progress against planned outcomes and prepare for the 2030 Census.

[38]GAO, *2020 Census: Census Bureau Improved the Quality of Its Cost Estimation but Additional Steps Are Needed to Ensure Reliability* GAO-18-635 (Washington, D.C.: Aug. 17, 2018).

[39]GAO-21-119SP.

Overall, as of November 2021, the Bureau has implemented eight of the nine recommendations we made related to the cost estimation process during the 2020 cycle. The Bureau is developing its action plan to implement the ninth recommendation, made in June 2021.[40] Specifically, we recommended that the Bureau should track future design innovations within the Bureau's cost estimation and budget execution framework, which will position the Bureau to demonstrate the value of future designs. According to the Bureau, it is currently evaluating ways to accomplish this. Adhering to best practices and sustaining progress made with cost estimation early in the planning stages for the 2030 Census will help the Bureau credibly justify requested investments in its 2030 design.[41]

Schedule Management

Throughout the past decade we raised concerns and made several recommendations related to the Bureau's schedule management practices. By 2020, the Bureau was following most key leading practices for schedule management. For example, in 2018 we assessed the Bureau's schedule and found that its credibility was improved from the projects we reviewed in 2013. We found that relationships between lower-level activities and higher-level activities and milestones included in the schedule were clearer, and the dates shown in the schedule and in high-level management documents were more consistent with each other. We also found that the Bureau had improved the clarity and sequencing of activities in the schedule.[42]

However, problems persisted in two areas. First, the Bureau was never able to provide information on the estimated level of resources (i.e., labor and equipment) needed to complete planned work within its schedule. We had recommended in 2009 that the Bureau include such estimates in preparing the 2020 Census integrated schedule for each activity as the schedule was built.[43] In July 2018, we reported again that this information

[40]GAO-21-478.

[41]GAO-16-628; GAO-21-478.

[42]GAO, *2020 Census: Bureau Has Made Progress with Its Scheduling, but Further Improvement Will Help Inform Management Decisions,* GAO-18-589 (Washington, D.C.: July 26, 2018)

[43]GAO, *2010 Census: Census Bureau Has Made Progress on Schedule and Operational Control Tools, but Needs to Prioritize Remaining System Requirements,* GAO-10-59 (Washington, D.C.: Nov. 13, 2009).

was still not in the schedule.[44] Information on resources would make the schedule a more effective management tool. As of November 2021, the Bureau had not fully addressed the recommendation. Bureau officials told us that for the 2030 Census they plan to provide resource information at the project level but not for the more detailed activity level because doing so would not be worthwhile. However, we maintain that while linking resources to activities may be a difficult exercise, it encourages management to assess the amount of resources available and promotes a discussion of difficult questions early in planning.[45]

Second, the Bureau made progress in how it assesses risk within its schedule but did not complete the effort before the 2020 Census. In 2013, we found that the Bureau was not in a position to carry out systematic quantitative schedule risk analysis on its schedule. Quantitative schedule risk analysis—using tools available within the software scheduling system the Bureau uses—can help illustrate the impact of risks on the schedule and how that would affect the Bureau's ability to meet milestones and provide a measure of how much contingency time should be built in the schedule to help manage certain risks.[46]

The Bureau began to take steps toward applying quantitative schedule risk analysis within its master schedule late in the 2020 Census cycle, but effectively ran out of time to do so across the entire schedule. For the 2030 Census, Bureau officials stated that they are evaluating quantitative schedule risk analysis, but a decision has yet to be made. We maintain that programs should include the results of the schedule risk analysis in constructing an executable baseline schedule.[47]

Risk Management

Similarly, over the last decade, we reported on weaknesses related to the Bureau's risk management practices, and the Bureau has implemented our recommendations. We made recommendations related to the

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[44]GAO-18-589

[45]GAO, *Schedule Assessment Guide: Best Practices for Project Schedules*, GAO-16-89G. (Washington, D.C.: Dec. 2015).

[46]GAO, *2020 Census: Bureau Needs to Improve Scheduling Practices to Enhance Ability to Meet Address List Development Deadlines,* GAO-14-59 (Washington, D.C.: Nov. 21, 2013).

[47]GAO-16-89G.

development, approval, and maintenance of risk registers and key risk documentation, such as contingency and mitigation plans.[48] In response, the Bureau updated its decennial risk management plan and required that risk registers clearly indicate the status of mitigation plans (whether they were in draft or had received approval), among other things. The updated decennial risk management plan also included clear time frames for developing and approving mitigation and contingency plans.

Overall, the Bureau adopted six of the seven key attributes we identified for contingency and mitigation plans as part of its updated decennial risk management plan. The Bureau has previously indicated that the lone missing attribute—a method of monitoring how the contingency or mitigation plan is being implemented—is something that the Bureau will further review for the 2030 Census. For 2030, Bureau officials stated that the Bureau will emphasize to internal risk owners the expectation of active risk management. Bureau officials also stated that risk owners will be expected to devote more time to implementing strategies outlined in the Bureau's Risk Management Plan.

Lesson Learned #5: Local-Level Data and Perspectives Can Aid Planning and Implementation

Data at the local level can enhance analysis and decision-making at the national level. The 2020 Census demonstrated how local variations in national data trends can influence operational monitoring and procedural responses. For example, when deciding when and where to resume 2020 field operations during the summer of 2020, the Bureau monitored local data on COVID-19 case trends, as well as the capacity of each area census office to deliver personal protective equipment and deploy field staff. Having data at the local level allowed the Bureau to institute a "soft launch" of NRFU flexibly in limited areas of the country and address issues before implementing the operation nationwide. Locations where the Bureau was able to start NRFU earlier meant having more time to complete the operation in those areas. We also reported in March 2021 that the Bureau used local data on NRFU case completion to inform where it would need to send in additional enumerators from

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

outside a given area to help complete the work.[49] The Bureau ultimately reallocated approximately 26,000 enumerators during NRFU in 2020.

Local census data can also reveal important nuances to conclusions drawn from national statistics. For instance, we reported in May 2020 that national-level data showed that by February 2020 the Bureau had already exceeded its goal of creating at least 300,000 community partnerships to help get the word out about the census—an impressive improvement upon the approximately 256,000 such partners the Bureau had in 2010.[50] However, partners in traditionally hard-to-count areas are especially important, and we found variation in partnership coverage in the hardest-to-count tracts across the country. For example, the Bureau had at least one partner in 90 percent of the hardest-to-count tracts in the Los Angeles region, but in the Philadelphia region it had at least one partner in 70 percent of such areas by March 2020, when census forms were disseminated.[51] In response to this regional variation, the Bureau examined the number of existing partners in tracts adjacent to those hardest-to-count tracts, noting that such nearby partners could still provide outreach services to those areas. By this measure, the Bureau reported coverage for 93 percent of the Philadelphia region's hardest-to-count tracts by March 2020.

Additionally, we reported in June 2021 that the Bureau achieved higher-than-expected productivity in its address canvassing and NRFU operations across the country, a feat the Bureau attributed in part to its use of optimized case assignment and routing capability known as the optimizer.[52] As we noted in that report, however, the national metrics underlying the Bureau's conclusion may obscure subnational variations and patterns. We recommended that the Bureau identify and report on additional measures on the effectiveness of the optimizer to help inform

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[49]GAO-21-365.

[50]We previously reported on national and sub-national measures the Bureau tracked for its partnership and outreach efforts. See: GAO, *2020 Census: Update on the Census Bureau's Implementation of Partnership and Outreach Activities*, GAO-20-496 (Washington, D.C.: May 13, 2020).

[51]The Bureau defines census tracts as small, relatively permanent statistical subdivisions of a county that range in population from 1,200 to 8,000.

[52]GAO-21-478. The Bureau's optimizer assigns and routes cases algorithmically to determine the most efficient order in which to enumerate households and is part of the Bureau's automated case assignment approach.

refinements to how work is allocated in future censuses. As of November 2021, the Bureau was still developing its action plan to address this recommendation.

Local conditions create the need for flexibility in training and communication. The Bureau sometimes has to create special procedures for certain populations in order to mitigate linguistic barriers, enumerate residents of tribal lands with appropriate sensitivity, and navigate neighborhood housing arrangements culturally unique to certain geographic areas, as we have reported going back to the 2000 Census.[53] Moreover, the Bureau may encounter unexpected challenges at the local level, requiring procedural changes.

Yet during our 2018 review of the Bureau's 2018 Census Test peak operations in Providence County, Rhode Island, we found that the Bureau had not developed training on mid-operation procedural changes for local staff as they proceeded to the late stages of NRFU. Instead, some enumerators we interviewed told us that field supervisors and managers informally communicated these changes, which led to inconsistent awareness of the procedures. We recommended that the Bureau enable area census offices to prepare mid-operation training or guidance so that the Bureau could position itself to address commonly observed issues at the local level.[54] The Bureau agreed with the recommendation but did not implement it for the 2020 Census, with officials adding that they would revisit the issue after operations had concluded.

Local census managers have observations that can inform 2030 planning. During 2020, we repeatedly surveyed managers of the 248 area census offices and reported on the range of views they shared in July 2021.[55] As figure 4 shows, area census office managers serve as

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[53]During prior census fieldwork, we reported on the Bureau's use of "cultural facilitators" to ease the Bureau's access to colônias (small, rural, unincorporated communities along the U.S.-Mexico border). See GAO, *Decennial Census: Lessons Learned for Locating and Counting Migrant and Seasonal Farm Workers*, GAO-03-605 (Washington, D.C.: July 3, 2003).

[54]GAO-19-140. In that report, we noted that by developing brief, targeted mid-operation training, either as formal modules, guidance, or other standardized job aids, such as "frequently asked questions" worksheets, the Bureau could better position itself to react nimbly to enumerator feedback.

[55]GAO-21-104071. In that report we described the role that the Bureau created for area census office managers to oversee operations at the local level.

important links between the hundreds of thousands of temporary census staff and the Bureau's regional management.

Figure 4: Area Census Office Managers Worked at Nexus of Two Groups of Staff

Source: GAO review of U.S. Census Bureau documents. | GAO-22-104357

Survey respondents gave feedback on topics ranging from work environment to automation to the Bureau's communications on its COVID-19 response, all of which could be relevant to the initial design decisions for the next census. For the 2030 Census, the Bureau noted that it plans to consult with advisory committees, the National Academy of Sciences, GAO, and the Department of Commerce Office of Inspector General as it proceeds during its planning stages through fiscal year 2024.

We recommended in July 2021 that as part of that outreach, the Bureau should collect and consider views from selected former area census office managers on future design options because the Bureau did not at the time have other mechanisms to systematically capture the uniquely local interests and expectations embodied in these managers' experiences. The Bureau agreed with our recommendation and, as of November 2021, was developing its action plan to address it.

Conclusions

Continuing to build upon the successes of this decennial census while implementing best practices earlier in the decade will position the Bureau to undertake 2030 planning on stronger footing. These five lessons learned provide an opportunity for the Bureau to leverage knowledge from the 2020 Census as it continues to plan for the 2030 Census. For example:

- without adequate planning, budgetary uncertainty can disrupt key research and testing;

- delayed IT-related decisions can impact schedules, costs, and scope;

- continued attention to privacy and cybersecurity controls can mitigate risk;

- program-management improvements provide a foundation for 2030 Census planning; and

- local-level data and perspectives can aid planning and implementation.

Overall, the Bureau improved its management of the decennial census late in the decade across multiple areas. It also successfully implemented several IT innovations, but had to accept cybersecurity risk and halt its plans for enterprise IT systems in order to do so.

The Bureau canceled or reduced the scope of a series of planned tests and research activities citing budgetary issues such as sequestration and continuing resolutions. These decisions had consequences for the Bureau in carrying out the census. For example, suspending a key portion of in-office address canvassing led to increased fieldwork for the Bureau, while reducing the number of sites for the 2018 Census Test meant less testing for a new Group Quarters response option. The Bureau later implemented this option, with some difficulties reported by responding facilities. While challenging budgetary conditions necessitate difficult choices, the Bureau had not already determined which activities would be preserved under different scenarios. Developing a plan in anticipation of budget uncertainty that ensures resiliency of tests and projects that are most important to conduct as part of the Bureau's research and testing phase will help ensure adequate testing going into 2030. Doing so will also thus reduce overall risk to the 2030 Census.

Recommendation for Executive Action

The Secretary of Commerce and the Director of the U.S. Census Bureau should develop a plan to improve resiliency of its 2030 Census research and testing activity in response to Bureau-identified budget uncertainty, including but not limited to specifying the tests and projects that are most important to conduct.

Agency Comments and Our Evaluation

We provided a draft of this report to the Department of Commerce. In its written comments, reproduced in appendix I, the Department of Commerce agreed with our findings and recommendation. The U.S. Census Bureau also provided technical comments, which we incorporated as appropriate.
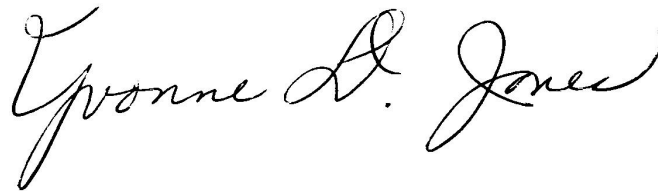
Specifically, within technical comments the Bureau expressed concern that budget uncertainty it encountered in fiscal year 2017 and earlier was separate from later funding that met or exceeded funding requests, which led to the leftover contingency funds we refer to in the report. We thus clarified that the Bureau encountered budget uncertainty earlier in the decade than when it reported receiving full funding of its requests later in the decade.

The Bureau also expressed concern that we did not more fully discuss the Bureau's design of how it locally managed its operations, partnerships, and unexpected situations. Since we discussed these more fully in prior reports, we clarified and strengthened references in this report to those prior products.

We are sending copies of this report to the Secretary of Commerce, the Undersecretary of Economic Affairs, the 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 Yvonne D. Jones at (202) 512-6806 or by email at jonesy@gao.gov or Kevin Walsh at (202) 512-6151 or by email at walshk@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 II.

Yvonne D. Jones
Director
Strategic Issues

Kevin Walsh
Director
Information Technology and Cybersecurity

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

The Honorable Jeanne Shaheen
Chairman
The Honorable Jerry Moran
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Subcommittee on Commerce, Justice, Science, and Related Agencies
Committee on Appropriations
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The Honorable Ron Johnson
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The Honorable Jody Hice
Ranking Member
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House of Representatives

The Honorable Judy Chu
House of Representatives

The Honorable Raul Ruiz
House of Representatives

Appendix I: Comments from the Department of Commerce

UNITED STATES DEPARTMENT OF COMMERCE
Office of the Acting Chief Financial Officer and
Assistant Secretary for Administration
Washington, D.C. 20230

Ms. Yvonne D. Jones
Director, Strategic Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Jones:

The U.S. Census Bureau appreciates the opportunity to comment on the U.S. Government
Accountability Office (GAO) draft report entitled, "2020 Census: Lessons Learned from
Planning and Implementing the 2020 Census Offer Insights to Support 2030 Preparations"
(GAO-22-104357).

The Census Bureau agrees with the descriptions in the draft report of what lessons
learned from the 2020 Census related to budgetary costs, Information Technology development
and privacy controls, program management and local-level data, can be applied to 2030
planning. The Census Bureau concurs with the recommendation in the draft report to improve
the resiliency of the 2030 Census research and testing activity. The Census Bureau will prepare
a formal action plan addressing this recommendation upon GAO's issuance of the final report.

Thank you for your continued interest in and efforts towards increasing the benefits from
the 2020 Census and improving future census planning for 2030.

Sincerely,

WYNN COGGINS Digitally signed by WYNN
COGGINS
Date: 2022.01.11 08:14:06 -05'00'

Wynn W. Coggins
Acting Chief Financial Officer
and Assistant Secretary for Administration

Agency Comment Letter

Text of Appendix I: Comments from the Department of Commerce

Page 1

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

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The Census Bureau agrees with the descriptions in the draft report of what lessons learned from the 2020 Census related to budgetary costs, Information Technology development and privacy controls, program management and local-level data, can be applied to 2030 planning. The Census Bureau concurs with the recommendation in the draft report to improve the resiliency of the 2030 Census research and testing activity. The Census Bureau will prepare a formal action plan addressing this recommendation upon GAO's issuance of the final report.

Thank you for your continued interest in and efforts towards increasing the benefits from the 2020 Census and improving future census planning for 2030.

Sincerely,
Wynn W. Coggins
Acting Chief Financial Officer
and Assistant Secretary for Administration

Appendix II: GAO Contact and Staff Acknowledgments

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In addition to the contact named above, Ty Mitchell, Kate Sharkey, (Assistant Directors), Devin Braun, Lisa Hardman, Shawn Ward (Analysts-in-Charge), Mark Abraham, Jennifer Beddor, Christopher Businsky, Ann L. Czapiewski, Alan Daigle, Ahmad Ferguson, Rob Gebhart, Ceara Lance, Jason T. Lee, Carlton Maynard, Lisa Pearson, Farrah Stone, and Peter Verchinski made key contributions to this report.

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