



The 2010 Decennial Census: Background and Issues

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May 24, 2010

Congressional Research Service

7-5700

www.crs.gov

R40551

Summary

The 23rd decennial census of the U.S. population began on January 25, 2010, in Noorvik, AK, where the Bureau of the Census director, among others, traveled by snowmobile and dogsled to enumerate the residents. Most U.S. households—about 120 million—received their census forms by mail in March, ahead of the official April 1 Census Day. By late April, 72% of the households that received forms had mailed them back, and on May 1, the Census Bureau began contacting nonrespondents.

The bureau's constitutional mandate to enumerate the U.S. population every 10 years has been summarized with deceptive simplicity: count each person whose usual residence is in the United States; count the person only once; and count him or her at the right location. In reality, the attempt to find all U.S. residents and correctly enumerate them is increasingly complicated and expensive, and has attracted congressional scrutiny. This report discusses the major innovations planned for 2010; problems encountered; issues of census accuracy, coverage, and fairness; and the progress of the enumeration to date.

For 2010, the bureau devised a short-form questionnaire that asks for the age, sex, race, and ethnicity (Hispanic or non-Hispanic) of each household resident, his or her relationship to the person filling out the form, and whether the housing unit is rented or owned by a member of the household. The census long form, which for decades collected detailed socioeconomic and housing data from a sample of the population, has been replaced by the American Community Survey, an ongoing survey of about 250,000 households per month that gathers largely the same data as its predecessor.

Another innovation for 2010 was to have been the development of highly specialized handheld computers to automate two essential census field operations: address canvassing and nonresponse follow-up (NRFU). The goal of pre-census address canvassing was to verify and correct census maps and addresses for mailing census forms and sending enumerators. During NRFU, census workers try repeatedly to visit or telephone persons who have not completed their questionnaires and obtain information from them. Testing eventually revealed such serious problems with the handheld devices that although the bureau used them for address canvassing, it resorted to the traditional paper-based approach for NRFU. The change required the bureau to hire and train more NRFU staff, at increased expense. The total life-cycle cost of the 2010 census currently is projected at \$14.7 billion, instead of the previously estimated \$11.5 billion. The problems with the handhelds have fueled concerns that the success of the 2010 census could be at risk. Some fear, in particular, that the late-date changes to NRFU could impair census accuracy, reduce coverage, and exacerbate the recurrent likelihood of differential undercount—the greater tendency for minorities and less affluent members of society than for whites and wealthier persons to be undercounted.

Part of the bureau's effort to maximize census accuracy and coverage was a communications strategy built on paid advertising, Bureau partnerships with local governments and other organizations, and the Census in Schools program. In addition, the bureau made questionnaires accessible to persons lacking English proficiency or having visual or hearing limitations.

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Introduction

The U.S. Constitution—Article 1, Section 2, clause 3, as modified by Section 2 of the Fourteenth Amendment—requires a population census every 10 years, to serve as the basis for reapportioning seats in the House of Representatives. Decennial census data also are used for within-state redistricting and in certain formulas that determine the annual distribution of more than \$400 billion dollars in federal and state funds.¹ Census numbers, moreover, are the foundation for constructing national and state estimates of current population size and projections of future size.² The Constitution stipulates that the enumeration is to be conducted “in such Manner as they [Congress] shall by Law direct.” Congress, through Title 13 of the *United States Code*, has delegated this responsibility to the Secretary of Commerce and, within the Department of Commerce (DOC), the Bureau of the Census. Both the Commerce Secretary and the Census Bureau director are appointed by the President, by and with the advice and consent of the Senate.

The Census Bureau’s task in conducting the once-a-decade enumeration has been summarized very simply: count each person whose usual residence is in the United States; count that person only once; and count him or her at the right location, where the person lives all or most of the time.³ Far from being simple, however, the attempt to find and correctly enumerate 100% of U.S. residents is increasingly complicated and expensive, even though Title 13 U.S.C., Section 221, requires compliance with the census and provides for a fine of up to \$100 for nonresponse. In accordance with provisions of the Sentencing Reform Act of 1984, Title 18 U.S.C., Sections 3559 and 3571, the possible fine has been adjusted to not more than \$5,000. This report discusses the major innovations that were planned for the 2010 census, problems encountered with the attempt to automate certain census field operations, the persistent differential census undercount of less advantaged groups in the population, and efforts to ensure an equitable census.

As **Table 1** shows, some key census activities already have occurred, and others will follow in the rest of 2010 and in 2011. The 23rd census began north of the Arctic Circle on January 25, 2010, in Noorvik, AK, where the bureau director, among others, traveled by snowmobile and dogsled to enumerate the residents.⁴ Most U.S. households—about 120 million—received their census forms by mail in March,⁵ ahead of the official April 1 Census Day. By the end of April, 72% of the

¹ U.S. Bureau of the Census, “How It Affects the Nation,” at <http://2010.census.gov/2010census/why/index.php>; and testimony of then-Acting Census Bureau Director Thomas Mesenbourg in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *Census Data and Their Use in Federal Formula Funding*, 111th Cong., 1st sess., July 9, 2009 (Washington: 2009), p. 2.

² U.S. Bureau of the Census, “Methodology for the United States Resident Population Estimates by Age, Sex, Race, and Hispanic Origin (Vintage 2008): April 1, 2000 to July 1, 2008,” at <http://www.census.gov/popest/topics/methodology/2008-nat-meth.html>; and U.S. Bureau of the Census, “2008 National Population Projections Methodology Summary Document” and “Methodology Summary for the Interim Population Projections for States by Age and Sex: 2004-2030,” both at <http://www.census.gov/population/www/projections/methodology.html>.

³ See, for example, the testimony of then-Census Bureau Director Steve Murdock in U.S. Congress, House Committee on Appropriations, Subcommittee on Commerce, Justice, Science, and Related Agencies, *The Fiscal Year 2009 Budget*, hearing, 110th Cong., 2nd sess., April 3, 2008 (Washington: 2008), p. 4.

⁴ Testimony of Associate Census Bureau Director Arnold Jackson in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *2010 Census: A Status Update of Key Decennial Operations*, March 25, 2010, pp. 2-3, at http://www.census.gov/Press-Release/www/releases/pdf/AAJ_Testimony_3-25-10.pdf.

⁵ U.S. Government Accountability Office, *2010 Census: Cooperation with Enumerators Is Critical to a Successful Headcount*, GAO-10-665T, April 30, 2010, p. 3.

households that received forms had mailed them back,⁶ and on May 1 about 635,000 census takers started contacting an estimated 48 million households that either did not receive a questionnaire or did not answer and return it.⁷

Table I. Timeline for the 2010 Census

Date	Action
January 2008	The bureau opened regional 2010 census offices.
Fall 2008	Recruitment began for workers to staff “early” local census offices.
Spring through Mid-Summer 2009	Census field workers completed address canvassing nationwide to update census maps and verify addresses for delivering census questionnaires and contacting nonrespondents.
Fall 2009	The bureau opened the remaining local census offices and began recruiting enumerators needed for the peak census workload in 2010.
March 2010	Most U.S. households received their census forms by mail.
April 1, 2010	Census Day arrived.
May through July 2010	Census enumerators are conducting nonresponse follow-up.
September through December 2010	Regional and local census offices are to close.
December 31, 2010	The bureau must deliver to the President the official state population counts for House reapportionment.
March 31, 2011	The bureau must finish delivering redistricting data to the states.
April through December 2011	The bureau is to produce and deliver other 2010 census data products.

Sources: Adapted from U.S. Bureau of the Census, “Key Dates: The 2010 Census at a Glance,” at <http://2010.census.gov/2010census/how/key-dates.php>, and unpublished information from the Bureau.

⁶U.S. Bureau of the Census, “2010 Census Participation Rates,” at <http://2010.census.gov/2010census/take10map/>. This percentage is the same as on the eve of nonresponse follow-up for the 2000 census. The Bureau termed 72% the national “mail participation rate” and called it a “fairer measure” of census compliance thus far than the “mail response rate.” The reason is that the denominator for the participation rate excludes housing units from which the U.S. Postal Service returned forms as “undeliverable” (an indication that these units were vacant), but the response rate includes these units in the denominator. Ibid. The national mail response rate as of April 19, 2010 was 63.2%; the Bureau had predicted that it would be between 59% and 65%. U.S. Government Accountability Office, *2010 Census: Cooperation with Enumerators Is Critical to a Successful Headcount*, GAO-10-665T, April 30, 2010, highlights page.

⁷ U.S. Bureau of the Census, “Door-to-Door Visits Begin for 2010 Census,” press release CB10-CN.59, April 30, 2010, p. 2.

The Short-Form-Only Census and the American Community Survey

A brief overview of modern census-taking shows how the bureau has collected the decennial data from 1940 onward. In that year, for the first time, the census questionnaire contained 16 supplementary questions asked of a 5% sample of the population.⁸ Sampling continued to be done in conjunction with the 1950 through 2000 censuses, and in 1970 the census became primarily a mail-out, mail-back operation.⁹ In 2000, for example, the bureau sent a set of basic questions on a short form to most housing units; a sample of units—about 17%—received a long form containing these questions and others designed to gather socioeconomic and housing data for various legislative and program purposes. The forms were delivered to housing units on the bureau’s address list, with instructions that respondents were to complete and return them.¹⁰

Departing from recent enumerations, the 2010 census questionnaire is a short form only. It asks for the age, sex, race, and ethnicity (Hispanic or non-Hispanic) of each person in a household, as well as the individual’s relationship to the person filling out the form. The form also includes a question about tenure, that is, whether the housing unit is rented or owned by a member of the household.¹¹

The long form has been replaced by the American Community Survey (ACS), an ongoing survey of about 250,000 households per month that, with few exceptions, gathers the same data as its predecessor. The bureau highlights the more timely availability of information as a key benefit of the ACS.¹² It provides annual data for areas with populations of at least 65,000 persons, including the total United States, all states and the District of Columbia, all congressional districts, about 800 counties, and 500 metropolitan and micropolitan statistical areas. For less populous areas, the bureau is producing multi-year averages based on ACS data collected over several years. In 2008, the bureau released the first three-year averages for areas with 20,000 or more persons, and later in 2010 five-year averages will be available for areas with fewer than 20,000 persons.¹³

⁸ The Bureau’s earlier use of sampling was not in the decennial census, but in a 1937 survey to gauge the extent of unemployment in the nation during the Great Depression. U.S. Bureau of the Census, “History: 1930 Overview,” at http://www.census.gov/history/www/through_the_decades/overview/1930.html, and “History: 1940 (Population),” at http://www.census.gov/history/www/through_the_decades/index_of_questions/1940_population.html.

⁹ U.S. Bureau of the Census, “History: 1970 (Population),” at http://www.census.gov/history/www/through_the_decades/index_of_questions/1970_population.html.

¹⁰ U.S. Bureau of the Census, *Measuring America: The Decennial Censuses from 1790 to 2000* (Washington: GPO, 2002), p. 98.

¹¹ U.S. Bureau of the Census, “Questions Planned for the 2010 Census and American Community Survey,” p. 7, at http://www.census.gov/acs/www/Downloads/Questions_Planned_for_the_2010_Census_and_American_Community_Survey.pdf. The short form also asks certain questions for administrative purposes, such as the number of persons living in the housing unit on April 1, 2010, their names, and the telephone number of the person completing the form. The Bureau cites the following uses for this information: “ensuring response accuracy and completeness, contacting respondents with incomplete or missing information, and assigning cases to census operations designed to improve accuracy.” *Ibid.*, p. 7a.

¹² U.S. Bureau of the Census, “About the ACS: What Is the Survey?” at <http://www.census.gov/acs/www/SBasics/What/What1.htm>.

¹³ *Ibid.*

Automated Field Operations

Another innovation for 2010 was to have been the automation of two major census field operations: address canvassing and nonresponse follow-up (NRFU). The goal of pre-census address canvassing was for temporary Bureau field staff to verify and correct census addresses and maps, technically called the “Master Address File” (MAF) and “Topologically Integrated Geographic Encoding and Referencing” (TIGER) system. An accurate MAF/TIGER was essential for directing the census forms to the right housing units and is vital for successfully conducting nonresponse follow-up. Indeed, as the bureau has noted, “MAF/TIGER is the foundation of the Census—it creates the universe for all other operations that collect information from the public.”¹⁴ NRFU requires that enumerators try repeatedly to visit or telephone persons who have not completed their census questionnaires and convince them to respond. Because of the problems discussed below, only address canvassing was automated; NRFU is not.

Problems Encountered

As part of its 2010 census preparations, the bureau contracted with the Harris Corporation for Field Data Collection Automation (FDCA). The objective was the development of highly specialized handheld computers to automate address canvassing and update maps with global positioning software, as well as conduct nonresponse follow-up. Testing eventually revealed significant flaws in the handhelds, such as slow operation, memory problems, and a tendency to lock up when users entered large quantities of data.¹⁵ In April 3, 2008, congressional testimony, then-Bureau Director Steve Murdock acknowledged that the bureau had abandoned the plan to use the handhelds for NRFU, would resort to the traditional paper-based approach, and would rely on the handhelds only for address canvassing.¹⁶ The change required the bureau to hire and train more NRFU staff, at increased expense.¹⁷ The Government Accountability Office (GAO) testified to Congress in mid-2008 that the bureau had reestimated the total life-cycle cost of the 2010 census at between \$13.7 billion and \$14.5 billion, instead of the previously estimated \$11.5 billion.¹⁸ A 2009 House Committee on Appropriations report raised the estimate to \$14.7 billion,¹⁹

¹⁴ U.S. Bureau of the Census, *United States Census 2010, High Risk Improvement Plan*, version 7-2, November 4, 2008, p. 2.

¹⁵ U.S. Government Accountability Office, *Information Technology: Census Bureau Testing of 2010 Decennial Systems Can Be Strengthened*, GAO-09-262, March 2009.

¹⁶ Testimony of then-Census Bureau Director Steve Murdock in U.S. Congress, House Committee on Appropriations, Subcommittee on Commerce, Justice, Science, and Related Agencies, *The Fiscal Year 2009 Budget*, hearing, 110th Cong., 2nd sess., April 3, 2008 (Washington: 2008).

¹⁷ U.S. Department of Commerce, Office of Inspector General, *Top Management Challenges Facing the Department of Commerce*, Final Report no. OIG-19384 (Washington: U.S. Department of Commerce, 2008), p. 1.

¹⁸ U.S. Government Accountability Office, *2010 Census: Plans for Decennial Census Operations and Technology Have Progressed, but Much Uncertainty Remains*, GAO-08-886T, June 11, 2008.

¹⁹ U.S. Congress, House Committee on Appropriations, *Commerce, Justice, Science, and Related Agencies Appropriations Bill, 2010*, report to accompany H.R. 2847, 111th Cong., 1st sess., H.Rept. 111-149 (Washington: GPO, 2009), p. 18. For information about the Bureau’s FY2010 appropriations, see CRS Report R40644, *Commerce, Justice, Science, and Related Agencies: FY2010 Appropriations*, coordinated by Nathan James, Oscar R. Gonzales, and Jennifer D. Williams. See also CRS Report R41161, *Commerce, Justice, Science, and Related Agencies: FY2011 Appropriations*, coordinated by Nathan James, Oscar R. Gonzales, and Jennifer D. Williams.

where it remained in March 2010. NRFU is expected to account for about \$2.3 billion of the \$14.7 billion.²⁰

Early Assessments by the DOC Inspector General and GAO

On November 18, 2008, the Commerce Department's Office of Inspector General (OIG) issued a report that identified the top management challenges the Department faced as it prepared for the transition to a new President and new DOC Secretary. Heading the list was the need to "overcome the setbacks experienced in reengineering decennial processes and conduct a successful 2010 Census." The failure of the handhelds was prominent among the setbacks noted. According to the report, the bureau "originally intended to develop the handhelds in-house and tested prototypes in ... 2004 and 2006. The devices had serious problems in both tests," which, in the OIG's view, "should have better informed the bureau's efforts to define requirements."²¹ The decision to contract for FDCA came "too late in the decade ... to meet ambitious fixed deadlines for the dress rehearsal tests starting in 2007 and decennial operations starting in 2009." Not until January 2008, almost two years after awarding the contract, did the bureau deliver "a first draft of a complete, user-validated set of requirements for the handhelds and supporting infrastructure."²² By then, the MITRE Corporation, which periodically advised the bureau about its information technology (IT) programs for the 2010 census, had found that

FDCA is in serious trouble. It is not clear the system will meet Census' operational needs and quality goals. The final cost is unpredictable. Immediate, significant changes are required to rescue the program. However, the risks are so large considering the available time that we recommend immediate development of contingency plans to revert to paper operations.²³

The OIG report acknowledged that the bureau had taken important actions, such as management changes and better oversight, to address these problems, but stated that "significant risks remain for the 2010 decennial."²⁴

Similarly, the Government Accountability Office pointed out vulnerabilities in the bureau's management of its information technology systems, including the handheld computers.²⁵ In a November 6, 2008, press release to announce its presidential transition website, GAO included

²⁰ U.S. Government Accountability Office, *2010 Census: Cooperation with Enumerators Is Critical to a Successful Headcount*, GAO-10-665T, April 30, 2010, p. 3.

²¹ U.S. Department of Commerce, Office of Inspector General, *Top Management Challenges Facing the Department of Commerce*, Final Report no. OIG-19384 (Washington: U.S. Department of Commerce, 2008), p. 2.

²² *Ibid.*

²³ *Ibid.*, pp. 3-4. The MITRE quotation appeared earlier in Allan Holmes, "Census program to use handheld computers said to be in 'serious trouble'," *GovernmentExecutive.com*, January 2, 2008, at http://www.govexec.com/story_page.cfm?filepath=/dailyfed/0108/010208h1.htm. This article contained a link to the source of the quotation, MITRE's November 29, 2007, "Talking Points for Meeting with [then-Census Bureau Deputy Director] Jay Waite."

²⁴ U.S. Department of Commerce, Office of Inspector General, *Top Management Challenges Facing the Department of Commerce*, Final Report no. OIG-19384 (Washington: U.S. Department of Commerce, 2008), p. 2.

²⁵ See, for example, U.S. Government Accountability Office, *Information Technology: Census Bureau Needs to Improve Its Risk Management of Decennial Systems*, GAO-08-79, October 5, 2007.

the upcoming census among its 13 “urgent issues ... needing the attention of [then-] President-Elect Obama and the 111th Congress during the transition and the first year of the new administration and Congress.”²⁶ The 2010 census, in large part because of IT problems and a yet-to-be-determined, but substantial, total cost, remained one of the areas GAO designated as “high risk” in a January 2009 update of its high-risk series.²⁷ Among the concerns GAO noted in a March 2009 report were the following:

The Dress Rehearsal²⁸ was originally conceived to provide a comprehensive end-to-end test of key 2010 census operations; however ... because of the problems encountered with the handheld devices, among other things, testing was curtailed. As a result, although several critical operations underwent end-to-end testing in the Dress Rehearsal, others did not. According to the Associate Director for the 2010 census, the Bureau tested approximately 23 of 44 key operations during the Dress Rehearsal. Examples of key operations that underwent end-to-end testing ... are address canvassing and group quarters validation.²⁹ An example of a key operation that was not tested is the largest field operation—nonresponse follow-up....

In December 2008, after additional development and improvements to the handheld computers, the Bureau conducted a limited field test for address canvassing, intended to assess software functionality in an operational environment. We observed this test and determined that users were generally satisfied with the performance of the handhelds.... However, the test ... included only a limited subset of functionality to be used during the 2009 address canvassing operations.³⁰

GAO further observed that although nonresponse follow-up was paper based in previous censuses, the paper-based NRFU in 2010 would rely on “newly developed systems” that had “not yet been fully tested in a census-like environment.... Any significant change to an existing IT system introduces the risk that the system may not work as intended; therefore, testing all systems after changes have been made ... is critical to the success of the 2010 census.”³¹ GAO noted that testing had “only recently started” for the 2010 NRFU,³² including the IT systems and infrastructure necessary to support this operation and certain other activities, such as group-quarters enumeration.³³

²⁶ U.S. Government Accountability Office, Office of the Comptroller General, “GAO Lists Top ‘Urgent Issues’ for Next President and Congress; Unveils New Transition Web Site,” press release, November 6, 2008, p. 1.

²⁷ U.S. Government Accountability Office, *High-Risk Series: An Update*, GAO-09-271, January 22, 2009.

²⁸ GAO wrote that the Dress Rehearsal period spanned February 2006 through June 2009. During it, the Bureau developed and tested “systems and operations, and it held a mock Census Day on May 1, 2008.” U.S. Government Accountability Office, *Information Technology: Census Bureau Testing of 2010 Decennial Systems Can Be Strengthened*, GAO-09-262, March 2009, p. 9. Beyond the Dress Rehearsal tests, the Bureau did “supplementary testing to prepare for the 2010 Decennial Census.” *Ibid.*, p. 10.

²⁹ Group quarters, the addresses of which had to be validated, cover a wide variety of group housing, including college residence halls, military barracks, nursing homes, and prisons. U.S. Government Accountability Office, *Information Technology: Census Bureau Testing of 2010 Decennial Systems Can Be Strengthened*, GAO-09-262, March 2009, p. 3.

³⁰ *Ibid.*, pp. 21-22.

³¹ *Ibid.*, p. 28.

³² *Ibid.*, p. 17.

³³ *Ibid.*, p. 4.

Their Assessments in March and April 2010

As nonresponse follow-up was about to begin, the Commerce Department's OIG again identified "serious issues" facing the bureau.³⁴

Much of the ... plan is on track, but the success of NRFU—which is critical—hinges on how effectively Census controls the enormous NRFU workload and workforce.... [I]t must do so using a Paper-Based Operations Control System (PBOCS) with less functionality than planned and currently experiencing significant performance problems. PBOCS is essential for efficiently making assignments to enumerators, tracking enumeration forms, and reporting on the status of operations. And Census must recruit, hire, and pay its massive temporary workforce with a Decennial Applicant, Personnel, and Payroll System (DAPPS) also experiencing persistent performance limitations.³⁵

In late March 2010, GAO, too, expressed reservations about the bureau's IT systems, especially DAPPS and PBOCS. GAO called them "the most significant risk jeopardizing the cost and quality of the enumeration. ... Indeed, neither system has yet demonstrated the ability to function reliably under full operational loads."³⁶ Since December 2009, GAO noted, the bureau had "completed many steps to improve DAPPS performance," and more were planned. The system still, however, was "experiencing capacity limitations and slow response ... even though approximately 100,000 temporary employees were ... being paid using the system versus the more than 600,000" who would require payment "at the peak of field operations."³⁷ With respect to PBOCS, continued GAO, early releases in January and February 2010 had "known defects, such as limited functionality, slow performance, and problems generating certain progress and performance reports."³⁸ Moreover, testing for "the component of the second release that will be used to manage NRFU" was incomplete as of mid-March. The third PBOCS release has to be developed and tested before being "ready for later field operations," among them "the final check of housing unit status (known as field verification), scheduled to begin in August 2010."³⁹

At the end of April, GAO reiterated that "the reliability of the Bureau's automated systems, and in particular an information technology ... system used for managing the Bureau's field operations, is an open question.... The Bureau has taken steps to mitigate the risks posed by the unreliable IT systems, including upgrading hardware and software, but time will tell whether they will be able to perform as needed under full operational loads."⁴⁰

³⁴ Testimony of Commerce Department Associate Deputy Inspector General Judith Gordon in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *The 2010 Census: An Assessment of the Bureau's Preparedness*, March 25, 2010, p. 2, at http://oversight.house.gov/images/stories/Hearings/Information_Policy/032510_Census/032410_111th_IP_Judith_J._Gordon_032510.pdf.

³⁵ *Ibid.*

³⁶ U.S. Government Accountability Office, *2010 Census: Data Collection Is Under Way, but Reliability of Key Information Technology Systems Remains a Risk*, GAO-10-567T, March 25, 2010, p. 3.

³⁷ *Ibid.*, pp. 7-8.

³⁸ *Ibid.*, p. 8.

³⁹ *Ibid.*, pp. 8-9.

⁴⁰ U.S. Government Accountability Office, *2010 Census: Cooperation with Enumerators Is Critical to a Successful Headcount*, GAO-10-665T, April 30, 2010, p. 8.

Census Accuracy and Coverage

As noted at the beginning of this report, the idealized expectation that the decennial census should count every person once, only once, and in the right place is deceptively simple. In reality, the task is immense and a perfect count elusive. The failure of the handhelds for nonresponse follow-up fueled concerns, like those of the Commerce Department OIG and GAO cited above, that the late-date alterations to NRFU could threaten the success of the 2010 census.

The attempt to achieve complete, accurate population coverage is challenging not only because the U.S. population includes about 309 million persons who tend to be mobile and are distributed over a wide geographic area, but also because the population is increasingly heterogeneous. Many households consist of racial and ethnic minorities; multiple families; low-income persons; inner-city residents; those whose living circumstances are atypical; international migrants to the United States who may lack English language proficiency, lack legal status in this country, or distrust all governmental activities; or various combinations of these attributes. Any of them can make enumeration difficult, and some of them contribute markedly to the recurrent undercount of racial and ethnic minorities.

An overcount of some groups within the population can occur to the extent that the bureau receives multiple census forms from the same persons or households, then does not capture and eliminate the duplications. A husband and wife, for example, might own a vacation home and fill out a questionnaire there as well as at their usual residence. Another example would be parents who erroneously list a child on the form for their household, when the child actually is away at college and, in accordance with census residence rules, has been correctly enumerated there.

The greater tendency for minorities and less affluent members of society than for whites and wealthier persons to be undercounted leads to differential undercounts of the former. Differential undercounts are a recurrent problem in the decennial census and can diminish the perception that the count is equitable to the entire population.

Estimates of Census Coverage from Demographic Analysis

Following the 1940 census, “Census Bureau statisticians and academic researchers refined a statistical technique known as Demographic Analysis” (DA)⁴¹ that was used to evaluate coverage and estimate net undercount⁴² in the 1940 through 2000 censuses. DA takes the population count from one decennial census and uses administrative records, including birth and death records, together with estimates of net international migration to the United States during the decade, to estimate the population size at the next census date. This figure is compared with the population count from the next census to arrive at estimates of coverage and net undercount. The bureau has described the process as follows:

⁴¹ U.S. Bureau of the Census, *Accuracy and Coverage Evaluation, Statement on the Feasibility of Using Statistical Methods to Improve the Accuracy of Census 2000*, June 2000 (unpublished document), p. 4.

⁴² “The difference between the true, but unknown, population count and an original census count is called the net undercount.” Kirk M. Wolter, “Accounting for America’s Uncounted and Miscounted,” *Science*, vol. 253 (July 1991), p. 12.

The traditional DA population benchmarks are developed for the census date by analyzing various types of demographic data essentially independent of the census, such as administrative statistics on births, deaths, authorized international migration, and Medicare enrollments, as well as estimates of legal emigration and net unauthorized immigration. The difference between the Demographic Analysis benchmarks and the census count provides an estimate of the census net undercount. Dividing the net undercount by the DA benchmark[s] provides an estimate of the net undercount rate.⁴³

Despite its utility, demographic analysis has limitations. Among them are the feasibility of producing estimates only at the national level, not at lower geographic levels, and only for broad racial categories (black and non-black).⁴⁴ Uncertainty in estimating the components of net international migration to the United States, particularly emigration, temporary migration, and unauthorized migration, is another concern with DA.⁴⁵ According to the bureau, “the research effect on immigration, births, and deaths led to Revised DA estimates” for 1990 and 2000. “The Revised DA lowered the estimated net undercount rates from 1.85% to 1.65% in 1990, and from 0.32% to 0.12% in 2000, but did not alter the DA finding that the estimated net undercount rate in 2000 was substantially lower than in 1990.”⁴⁶

Table 2 shows net percentage undercount estimates for the past seven censuses, as derived by demographic analysis. The last two columns of the table, for 1990 and 2000, reflect the revised DA estimates discussed above. The table indicates a decrease in the estimated net undercount rates for the total population, blacks, and non-blacks in every census year except 1990, when the rates increased for the overall population and the two groups within it. In each of the seven censuses, the differential undercount persisted: the estimated net rate for blacks was higher than for non-blacks.

Table 2. Percentage Net Decennial Census Undercount by Race, as Estimated by Demographic Analysis, 1940 through 2000

	1940	1950	1960	1970	1980	1990	2000
Total population	5.4%	4.1%	3.1%	2.7%	1.2%	1.65%	0.12%
Black	8.4%	7.5%	6.6%	6.5%	4.5%	5.52%	2.78%
Non-black	5.0%	3.8%	2.7%	2.2%	0.8%	1.08%	-0.29%

Sources: Estimates for 1940 through 1980 are from J.G. Robinson, et al., “Estimates of Population Coverage in the 1990 United States Census Based on Demographic Analysis,” *Journal of the American Statistical Association*, vol. 88 (September 1993), p. 1065, reprinted in U.S. Bureau of the Census, *Accuracy and Coverage Evaluation, Statement on the Feasibility of Using Statistical Methods to Improve the Accuracy of Census 2000*, June 2000 (unpublished document). Estimates for 1990 and 2000 are from U.S. Bureau of the Census, *Coverage Measurement from the Perspective of March 2001 Accuracy and Coverage Evaluation*, Census 2000 Topic Report no. 4 (Washington: U.S. Bureau of the Census, February 2004), p. 9.

Note: All numbers except one indicate net percentage undercounts of the total population or groups within the population. The exception, -0.29% for non-blacks in 2000, indicates a net overcount of this group.

⁴³ U.S. Bureau of the Census, *Coverage Measurement from the Perspective of March 2001 Accuracy and Coverage Evaluation*, Census 2000 Topic Report no. 4 (Washington: U.S. Bureau of the Census, February 2004), p. 7.

⁴⁴ *Ibid.*, p. 9.

⁴⁵ *Ibid.*, p. 7.

⁴⁶ *Ibid.*

Survey Estimates of Census Coverage

To evaluate coverage in the three most recent enumerations, the bureau used not only demographic analysis, but other means as well: in 1980, the Post Enumeration Program (PEP); in 1990, the Post Enumeration Survey; and in 2000, Accuracy and Coverage Evaluation (ACE). Each evaluation involved taking a post-census survey, designed to be statistically independent of the census, and comparing the survey with the census results to estimate omissions from the census and erroneous enumerations. As with all surveys, these were subject to sampling and other errors.

- The 1980 census Post Enumeration Program yielded informative studies of the estimation methods and results, rather than specific coverage estimates.⁴⁷
- The 1990 census Post Enumeration Survey estimates indicated a net percentage undercount of 1.61% for the total population, 0.68% for non-Hispanic whites, 4.57% for blacks, 2.36% for Asians or Pacific Islanders, 12.22% for American Indians on reservations, and 4.99% for Hispanics.⁴⁸
- The presentation of data by race and ethnicity changed somewhat between the 1990 and 2000 censuses, making certain categories (for example, blacks in 1990 versus non-Hispanic blacks in 2000) not perfectly comparable. The final 2000 census Accuracy and Coverage Evaluation estimates indicated a net percentage overcount of -0.49% for the total population, -1.13% for non-Hispanic whites, -0.75% for non-Hispanic Asians, and -0.88% for American Indians on reservations (with each minus sign signifying an overcount). The estimated net percentage undercount for non-Hispanic blacks was 1.84%; for native Hawaiians or other Pacific Islanders, 2.12%; for American Indians off reservations, 0.62%; and for Hispanics, 0.71%.⁴⁹

Reporting in April 2010 on the status of the bureau's coverage evaluation for the current census, the Census Coverage Measurement (CCM) program, GAO explained that

Statistical measurements of census coverage are obtained by comparing and matching the housing units and people counted by the independent coverage measurement sample to those counted by the census in and around the sample areas. The Bureau has developed separate address lists—one for the entire nation of over 134 million housing units that it will use to conduct the census and one for coverage measurement sample areas—and will collect each set of data through independent operations. For the 2010 Census, census operations began collecting population data from households in January 2010 and will continue through the end of July, while CCM operations will collect data by visiting each of the housing units in the coverage measurement sample during an operation called Person Interviewing from August through October.⁵⁰

⁴⁷ U.S. Bureau of the Census, *Accuracy and Coverage Evaluation, Statement on the Feasibility of Using Statistical Methods to Improve the Accuracy of Census 2000*, June 2000 (unpublished document), p. 20.

⁴⁸ U.S. Bureau of the Census, *A.C.E. Revision II, Summary of Estimated Net Coverage*, Memorandum Series PP-54, December 31, 2002, p. 3, at <http://www.census.gov/dmd/www/ace2.html>.

⁴⁹ *Ibid.*

⁵⁰ U.S. Government Accountability Office, *2010 Census: Plans for Census Coverage Measurement Are on Track, but Additional Steps Will Improve Its Usefulness*, GAO-10-324, p. 4.

The statistical methodology the Bureau uses to estimate net coverage errors relies on an assumption that the chance that a person is counted by the census is not affected by whether he or she is counted in the independent coverage measurement sample, or vice versa. Because violating this “independence” assumption can bias coverage estimates, the Bureau takes special measures to maintain CCM’s separation from the census, such as developing a separate address list for the coverage measurement sample discussed above.⁵¹

GAO noted that in December 2009 the bureau director approved several changes in CCM, including higher “reinterview rates for CCM field work to improve quality assurance”; additional training of workers for person interviewing, to help them deal with “special situations due to current economic conditions,” such as increased homelessness; higher “supervisor-to-employee field staffing ratios to improve quality ... of field work”; and a new “telephone-based study” of “how well respondents recall information about their residence and possible movement since Census Day.”⁵² To offset the expense of these extra measures, the bureau authorized an almost 45% reduction in CCM sample size.⁵³ The cut, in GAO’s assessment, would “reduce precision of the estimates, yet the proposed changes should reduce nonsampling errors and thus provide users with more reliable estimates.”⁵⁴ Perhaps because of what the 2010 census is already likely to cost, the option of making changes to improve CCM data quality without decreasing sample size was not addressed.

The report critiqued certain aspects of the CCM program. One observation was that even though the bureau had “stated the importance of using 2010 evaluation data ... for 2020 Census design,” it had “not yet taken steps to link CCM data” to improvements for 2020.⁵⁵ Another point, particularly relevant for future census evaluations, was that the bureau should ascertain the “optimal time” to start person interviewing for CCM. If this operation begins too early, it can overlap “with census data collection, possibly compromising the independence of the two different operations and introducing a ‘contamination bias’ error into CCM data.” Starting person interviewing too late “increases the chance that respondents will not accurately remember household information from Census Day ... introducing error (known as ‘recall bias’) in the CCM count.” Either error “could affect the Bureau’s conclusions about the accuracy of the census.”⁵⁶

Coverage Evaluation Surveys and the Census Adjustment Issue

Although conducting surveys to evaluate census coverage is an established practice, the survey results never have been used to correct or “adjust” miscounts in the decennial numbers that constitute the official state population counts for House reapportionment. The Supreme Court ruled in 1999 (525 U.S. 316 (1999)) that adjustment of the reapportionment numbers would be illegal under Title 13 U.S.C., Section 195, but was silent about whether it would be

⁵¹ Ibid.

⁵² Ibid., p. 6.

⁵³ Ibid. A year earlier, the Bureau had estimated that the sample size would be about 300,000 housing units. See testimony of then-Acting Census Bureau Director Thomas Mesenbourg in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *Critical Operations of the 2010 Census—Status Update*, hearing, 111th Cong., 1st sess., March 5, 2009 (Washington: 2009).

⁵⁴ U.S. Government Accountability Office, *2010 Census: Plans for Census Coverage Measurement Are on Track, but Additional Steps Will Improve Its Usefulness*, GAO-10-324, p. 6.

⁵⁵ Ibid., p. 10.

⁵⁶ Ibid., p. 8.

unconstitutional. The issue was contentious for at least two decades before the 1999 Court ruling and, despite it, continues to generate controversy. Whereas supporters of adjustment argue that it is necessary to rectify the undercount problem, opponents maintain that use of the procedure would make the census vulnerable to political manipulation.

Then-Acting Bureau Director Thomas Mesenbourg, asked by the ranking member of the House Subcommittee on Information Policy, Census, and National Archives in a March 5, 2009, census oversight hearing if the bureau would conduct a 2010 census coverage evaluation survey, replied that it would and that the sample size would be “about 300,000 housing units,” as in the 2000 census Accuracy and Coverage Evaluation.⁵⁷ “The focus of the 2010 coverage measurement program,” according to Mesenbourg, would be “to provide better information about the components of error. So we’ll be providing data not only on the net error, but also components of error such as duplicates, omissions, and so on.”⁵⁸ The coverage measurement program would serve both to evaluate the 2010 census and to indicate how the 2020 enumeration could be improved. The then-acting director, questioned about whether the bureau intended to use the program for adjustment, answered that it did not.⁵⁹

Nevertheless, the Obama Administration’s nominations of Gary Locke, the former governor of Washington, to be Commerce Secretary and Robert M. Groves, a survey research expert and demographer, for Census Bureau director provided occasions for some Members of Congress to seek further assurance that sampling for adjustment would not play a role in the 2010 census.

Locke told the Senate Committee on Commerce, Science, and Transportation at his March 18, 2009, confirmation hearing, “The Supreme Court has made it very clear that statistical sampling is not permissible for apportionment purposes. That is the law. We will enforce the law.”⁶⁰ The committee’s ranking member then noted that “the Supreme Court did not specifically mention ... intrastate redistricting” and asked whether sampling would be used to adjust the data for this purpose.⁶¹ The nominee replied, “It is my understanding that there are no plans in the Department of Commerce or the Census Bureau to use any type of statistical sampling with respect to [the] population count.”⁶² On March 24, 2009, the Senate confirmed Locke’s nomination.⁶³

The Senate approved Groves’s nomination on July 13, 2009.⁶⁴ The new director previously headed the University of Michigan’s Survey Research Center. From 1990 to 1992, he was an

⁵⁷ Testimony of then-Acting Census Bureau Director Thomas Mesenbourg in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *Critical Operations of the 2010 Census—Status Update*, hearing, 111th Cong., 1st sess., March 5, 2009 (Washington: 2009).

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*

⁶⁰ U.S. Congress, Senate Committee on Commerce, Science, and Transportation, “Senator Hutchison Presses Commerce Nominee Locke to Ensure a Fair and Open Census Process,” press release, March 18, 2009, p. 2.

⁶¹ *Ibid.*

⁶² *Ibid.*

⁶³ “Department of Commerce, Gary Locke, of Washington, to Be Secretary of Commerce,” *Congressional Record*, daily edition, vol. 155 (March 24, 2009), p. S3734.

⁶⁴ “Nomination of Robert M. Groves to Be Director of the Census,” *Congressional Record*, daily edition, vol. 155 (July 13, 2009), p. S7402.

associate director of the Census Bureau,⁶⁵ where, according to press reports, he differed with George H. W. Bush Administration officials over his support for 1990 census adjustment.⁶⁶

Groves's written opening remarks at his May 15, 2009, confirmation hearing before the Senate Committee on Homeland Security and Governmental Affairs stated, however, "I agree fully with Secretary Locke's testimony that statistical adjustment of the census is eliminated as an option for reapportionment and further that statistical adjustment will not be used for redistricting. The 2003 decision of [then-Census Bureau] director Kincannon, consistent with this, assured that no implementation infrastructure for adjustment was put in place for 2010."⁶⁷

The committee's ranking member observed that although sampling could not be used to adjust the census reapportionment numbers, "There is ... some question over whether sampling could be used for redistricting and for the allocation of federal funds." She then asked Groves, "Will you advocate for the statistical adjustment or use of sampling during the 2010 Census?" He answered, "No, Senator," and added in response to the same query about the 2020 census, "I have no plans to do that for 2020."⁶⁸

In April 2010, as previously discussed, GAO issued its observations to date about the 2010 Census Coverage Measurement program. The report, requested by the ranking members of the House Oversight and Government Reform Committee and the Information Policy, Census, and National Archives Subcommittee, repeated others' earlier assurances that the "Bureau is not planning to use CCM to adjust the 2010 Census. Instead, CCM will be used to evaluate coverage error to improve the 2020 and future censuses."⁶⁹

Efforts toward an Equitable Census

Communications Outreach

Because census accuracy and coverage are likely to persist as issues during and after the decennial count, the bureau addressed the need to publicize the census, then convince as many persons as possible to complete and return their 2010 census questionnaires, or to respond if contacted by an enumerator. The various components of the bureau's integrated communications

⁶⁵ The White House, Office of the Press Secretary, "President Obama Announces More Key Administration Posts," press release, April 2, 2009.

⁶⁶ See Carrie Dann, "Census Nomination Renews 'Statistical Adjustment' Debate," *Congress Daily AM*, NationalJournal.com, April 3, 2009, at http://www.nationaljournal.com/congressdaily/cda_20090403_1388.php; Randy James, "Robert M. Groves: Obama's Pick for Census Chief," *Time.com*, April 7, 2009, at <http://www.time.com/time/nation/article/0,8599,1889793,00.html>; and "Obama Taps Robert Groves to Be Census Director," *Fox News.com*, April 2, 2009, at <http://www.foxnews.com/politics/first100days/2009/04/02/obama-taps-robert-groves-census-director/>.

⁶⁷ Testimony of Robert M. Groves in U.S. Congress, Senate Committee on Homeland Security and Governmental Affairs, *Nomination of Robert M. Groves to Be Director of the Census*, hearing, 111th Cong., 1st sess., May 15, 2009 (Washington: 2009). The full text of his opening remarks is at http://hsgac.senate.gov/public/_files/051509Groves.pdf.

⁶⁸ Questions by Sen. Susan M. Collins in U.S. Congress, Senate Committee on Homeland Security and Governmental Affairs, *Nomination of Robert M. Groves to Be Director of the Census*, hearing, 111th Cong., 1st sess., May 15, 2009 (Washington: 2009).

⁶⁹ U.S. Government Accountability Office, *2010 Census: Plans for Census Coverage Measurement Are on Track, but Additional Steps Will Improve Its Usefulness*, GAO-10-324, p. 3.

strategy were designed to meet this two-part goal. As GAO observed, however, motivating the public to respond to the census is “a far thornier task” than raising awareness about it.⁷⁰

On September 6, 2007, the bureau announced that it had awarded the 2010 census communications contract to Draftfcb of New York City. Draftfcb headed a team of communications firms that specialize in reaching minority groups: Global Hue, for blacks and Hispanics; IW Group, for Asians, Native Hawaiians, and other Pacific Islanders; G&G, for American Indians and Alaska Natives; and Allied Media, for “emerging” groups, such as Arabic-speaking persons and Eastern Europeans.⁷¹ The integrated communications strategy was built on the partnership and Census in Schools programs, as well as on paid advertising via network and cable television, radio, the Internet, newspapers, and magazines.⁷²

For the 2010 census, as for that in 2000, the bureau partnered with local governments, businesses, community organizations, neighborhood groups, and the media to help inform the public about the census and encourage participation in it, including cooperation with enumerators during nonresponse follow-up. The bureau’s website presents partnership information, including the criteria used to select partners.⁷³

Among the activities the bureau suggested for local governments, businesses, organizations, and groups were distributing census promotional materials, sponsoring events to raise awareness about the census, and disseminating information about it through newsletters. Partnership staff, working with elected officials, formed Complete Count Committees to reach traditionally undercounted groups. Early in 2009, the bureau mailed Complete Count Committee guides to the highest elected officials in 39,000 state, local, and tribal governments.⁷⁴

Partners also could identify possible candidates for temporary census work, such as enumerators to conduct NRFU, and provide space for testing job applicants and training new hires.⁷⁵ The bureau’s website gives information about 2010 census employment, including local pay rates.⁷⁶ As of April 11, 2010, the bureau had slightly exceeded its goal of recruiting 3.7 million applicants for more than 600,000 census-taker and other positions related to NRFU.⁷⁷ The weak economy may have given the bureau a recruitment advantage even for short-term, often part-time, jobs.

⁷⁰ U.S. Government Accountability Office, *2010 Census: Communications Campaign Has Potential to Boost Participation*, GAO-09-525T, March 23, 2009.

⁷¹ U.S. Bureau of the Census, “Census Bureau Announces Award of 2010 Census Communications Contract,” press release, September 7, 2007.

⁷² U.S. Bureau of the Census, *2010 Census Integrated Communications Campaign Synopsis*, March 2009, at http://2010.census.gov/partners/pdf/Census_Plan_Synopsis_5-9-09.pdf.

⁷³ U.S. Bureau of the Census, “Welcome 2010 Census Partners,” at <http://2010.census.gov/partners/>. For partnership selection criteria, see <http://2010.census.gov/partners/partners/>.

⁷⁴ Testimony of then-Acting Census Bureau Director Thomas Mesenbourg in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *Census 2010: Assessing the Bureau’s Strategies for Reducing the Undercount of Hard-to-Count Populations*, hearing, 111th Cong., 1st sess., March 23, 2009 (Washington: 2009), p. 5.

⁷⁵ U.S. Bureau of the Census, “Welcome 2010 Census Partners,” at <http://2010.census.gov/partners/>.

⁷⁶ U.S. Bureau of the Census, “Job Opportunities,” at <http://2010.census.gov/2010census/involved/job-opportunities.php>.

⁷⁷ U.S. Government Accountability Office, *2010 Census: Cooperation with Enumerators Is Critical to a Successful Headcount*, GAO-10-665T, April 30, 2010, p. 6.

The bureau invited local-government partners to participate, as they did for the 2000 census, in the Local Update of Census Addresses (LUCA) campaign. LUCA was made possible by P.L. 103-430 (108 Stat. 4394) to assist the bureau in improving the Master Address File. Under the program, local, state, and tribal governments could review MAF and document any mistakes they found in it. LUCA for the 2010 census began in January 2007. According to the bureau, it received the LUCA data and entered them into MAF.⁷⁸ LUCA participants could review the changes made and appeal requested changes that were not accepted.⁷⁹

The Census in Schools initiative for 2010 focused on educating children in kindergarten through 12th grade about the importance of census participation, so that they could convey this message to their parents.⁸⁰ Scholastic, Inc., joined with the bureau to produce English and Spanish teaching guides, lesson plans, maps, brochures, and take-home materials for students, all of which were posted on the Census-in-Schools website⁸¹ and on Scholastic.com. Printed materials were distributed to public and private schools nationwide.⁸²

Questionnaire Outreach

The conventional mail-out of 2010 census questionnaires to about 120 million U.S. households was discussed earlier in this report. Noted below are other operations, which focused on the hard-to-count.

Approximately 13 million bilingual census forms, in English and Spanish, were mailed to neighborhoods with high concentrations of Spanish-speaking residents.⁸³ Questionnaires in Spanish, Chinese, Korean, Vietnamese, and Russian, along with guides in 59 languages other than English, were made available upon request.⁸⁴ In addition, for persons who did not receive census forms at their homes, “Be Counted” forms in English and the five other languages listed above were placed in various public locations, such as libraries, community centers, and places of

⁷⁸ Information obtained at a December 18, 2008 meeting between the author and officials from the Census Bureau’s Decennial Management Division, Office of the Associate Director for Communications, and Congressional Affairs Office.

⁷⁹ U.S. Bureau of the Census, “2010 Decennial Census Local Update of Census Addresses (LUCA),” at <http://www.census.gov/geo/www/luca2010/luca.html>. For appeals procedures, see U.S. Office of Management and Budget, U.S. Department of Commerce, Bureau of the Census, “Procedures for Participating in the Appeals Process for the 2010 Decennial Census Local Update of Census Addresses (LUCA) Program; Notice,” 74 *Federal Register* 47424-47429, September 15, 2009.

⁸⁰ Testimony of then-Census Bureau Director Steve Murdock in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *The 2010 Census Communications Campaign*, hearing, 110th Cong., 2nd sess., July 10, 2008 (Washington: 2008), pp. 4-5.

⁸¹ U.S. Bureau of the Census, “Census in Schools,” at <http://www.census.gov/schools/>.

⁸² Testimony of then-Acting Census Bureau Director Thomas Mesenbourg in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *Census 2010: Assessing the Bureau’s Strategies for Reducing the Undercount of Hard-to-Count Populations*, hearing, 111th Cong., 1st sess., March 23, 2009 (Washington: 2009), pp. 3-4.

⁸³ U.S. Government Accountability Office, *2010 Census: Data Collection Is Under Way, but Reliability of Key Information Technology Systems Remains a Risk*, GAO-10-567T, March 25, 2010, p. 18.

⁸⁴ Testimony of Associate Census Bureau Director Arnold Jackson in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *2010 Census: A Status Update of Key Decennial Operations*, March 25, 2010, p. 5, at http://www.census.gov/Press-Release/www/releases/pdf/AAJ_Testimony_3-25-10.pdf.

worship. The bureau also provided telephone assistance, including assistance for the hearing impaired, as well as Braille and large-print questionnaire guides.⁸⁵

In March and April 2010, the bureau undertook the enumeration of residents in what GAO has termed “diverse dwellings,” including migrant-worker housing, boats, college dormitories, nursing homes, and prisons.⁸⁶ Service-based enumeration, which took place at the end of March, was designed to count the homeless at places where they receive assistance, such as soup kitchens and mobile food vans. A count of persons living outdoors occurred at the same time.⁸⁷

The bureau also implemented procedures whereby address listers, during address canvassing, could identify possibly inhabitable housing units in areas of Louisiana, Mississippi, and Texas that were damaged by Gulf Coast hurricanes Katrina and Rita in 2005 and Ike in 2008. Then, in a March 2010 update-leave operation, field workers hand delivered about 1.2 million census forms to these units, some of which were not on the bureau’s address list. Besides leaving questionnaires to be completed and returned by mail, the workers made any necessary updates to addresses and maps.⁸⁸

Update leave was used as well in places throughout the United States “where the ‘address’ may not reflect the actual location of the housing unit,” and in areas “that do not receive either regular or at-home mail delivery.”⁸⁹ About 12 million questionnaires were hand delivered, including the previously mentioned 1.2 million in certain Gulf Coast areas.

Protecting Data Confidentiality and Quality, Public Safety, and Census Objectivity

The Census Bureau is staffed by federal career civilians, many of whom are trained as statisticians, demographers, and IT professionals. Title 13 U.S.C. provides for a series of penalties against any Bureau officer or employee found to have committed certain offenses. These penalties have been adjusted in accordance with provisions of the Sentencing Reform Act of 1984, Title 18 U.S.C., Sections 3559 and 3571. Whoever neglects or refuses to perform his or her duties (Title 13, Section 212) can be fined not more than \$5,000. A Bureau officer or employee can be fined not more than \$250,000 or imprisoned not more than five years, or both, if the person “willfully and knowingly swears or affirms falsely as to the truth of any statement required” of him or her; “willfully and knowingly makes a false certificate or fictitious return”; or “knowingly or willfully” supplies or supplied “any false statement or false information with reference to any

⁸⁵ Ibid. See also testimony of then-Census Bureau Director Steve Murdock in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *The 2010 Census Communications Campaign*, hearing, 110th Cong., 2nd sess., July 10, 2008 (Washington: 2008), p. 5.

⁸⁶ College dormitories, nursing homes, and prisons, along with military barracks, are examples of group quarters noted previously in this report. U.S. Government Accountability Office, *2010 Census: Cooperation with Enumerators Is Critical to a Successful Headcount*, GAO-10-665T, April 30, 2010, p. 3.

⁸⁷ U.S. Government Accountability Office, *2010 Census: Data Collection Is Under Way, but Reliability of Key Information Technology Systems Remains a Risk*, GAO-10-567T, March 25, 2010, p. 19.

⁸⁸ Ibid., pp. 22-23.

⁸⁹ Testimony of Associate Census Bureau Director Arnold Jackson in U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Information Policy, Census, and National Archives, *2010 Census: A Status Update of Key Decennial Operations*, March 25, 2010, p. 4, at http://www.census.gov/Press-Release/www/releases/pdf/AAJ_Testimony_3-25-10.pdf.

inquiry” for which the person “was authorized and required to collect information” (Title 13, Section 213). Wrongful disclosure of confidential information (Title 13, Section 214) can result in a fine of not more than \$250,000 or not more than five years’ imprisonment, or both.

Besides operating under these constraints, 2010 census workers were to undergo Federal Bureau of Investigation (FBI) background checks of their names and fingerprints, at an estimated cost of \$450 million for fingerprinting.⁹⁰ About 22% of those hired for address canvassing had unclassifiable prints, generally due to errors that occurred when the prints were taken at local census offices.⁹¹ The Census Bureau tried to obtain clearer prints of nonresponse follow-up hires through improved training of the local census office workers who took the prints for submission to the FBI and by supplying each office with at least one digital fingerprint scanner. The bureau estimated that about 10% to 12% of workers, instead of 22%, would have unclassifiable prints when the scanners were used.⁹² GAO reported that if the fingerprint check during address canvassing revealed “a criminal record that made an employee unsuitable for employment, the bureau either terminated the person immediately or placed the individual in a nonworking status until the matter was resolved.”⁹³ Address-canvassing hires whose prints were unclassifiable “were allowed to continue working if their name background check was acceptable.” GAO “did not receive a response from the Bureau” about whether it would “allow ... workers with unclassifiable prints to continue” NRFU work.⁹⁴ Congress could opt to review the problems encountered in the fingerprinting operation, their implications for public safety, the delayed decision to use digital scanners, and the operation’s final cost.

The bureau director, in contrast to other bureau officers and employees, is a presidential appointee. News articles,⁹⁵ early in the Obama Administration, stating that the director might report to the White House, instead of, as Title 13 U.S.C. stipulates, the Commerce Secretary,⁹⁶ raised concern among some Members of Congress that the 2010 count could be subject to political manipulation. Subsequent articles⁹⁷ about Administration assurances that the director

⁹⁰ U.S. Government Accountability Office, *2010 Census: Census Bureau Should Take Action to Improve the Credibility and Accuracy of Its Cost Estimate for the Decennial Census*, GAO-08-554, June 2008, p. 16.

⁹¹ U.S. Government Accountability Office, *2010 Census: Data Collection Is Under Way, but Reliability of Key Information Technology Systems Remains a Risk*, GAO-10-567T, March 25, 2010, p. 11.

⁹² *Ibid.*, pp. 11-12.

⁹³ *Ibid.*, p. 11.

⁹⁴ *Ibid.*, p. 12.

⁹⁵ See, for example, Jonathan Allen, “White House to Bypass Commerce—and Gregg—on Census,” *CQ Today Online News*, CQ.com, February 5, 2009, 5:54 a.m., at <http://www.cq.com/document/display.do?dockey=/cqonline/prod/data/docs/html/news/111/news111-000003024858.html@allnews&metapub=CQ-NEWS&binderName=latest-news-binder&seqNum=13>.

⁹⁶ H.R. 1254, 111th Congress, introduced on February 3, 2009 by Rep. Maloney and referred to the House Oversight and Government Reform Committee, Information Policy, Census, and National Archives Subcommittee, would remove the Census Bureau from the Commerce Department and make it an independent establishment. The Director would be a presidential appointee with a five-year term of office. Two other proposals would keep the Bureau in Commerce, but give the Director a five-year term and somewhat greater autonomy within Commerce than is now the case. The measures are H.R. 4945, which Rep. Maloney introduced on March 25, 2010, and S. 3167, a companion bill introduced the same day by Sen. Carper. The House bill was referred to the Oversight and Government Reform Committee. S. 3167, referred to the Homeland Security and Governmental Affairs Committee, Federal Financial Management, Government Information, Federal Services, and International Security Subcommittee, was ordered to be reported favorably, as amended, on April 28, 2010.

⁹⁷ See, as examples, Jonathan Allen, “White House: Census Director to ‘Work Closely’ with West Wing,” *CQ Today Online News*, CQ.com, February 5, 2009, 6:34 p.m., at <http://www.cq.com/document/display.do?dockey=/cqonline/prod/data/docs/html/news/111/news111-000003025792.html@allnews&metapub=CQ-NEWS&binderName=latest-> (continued...)

would continue reporting to the Secretary did not entirely allay this concern. Gary Locke, speaking to the Senate Commerce, Science, and Transportation Committee on March 18, 2009, before his confirmation as Commerce Secretary, emphasized that the decennial census “will be run out of the Department of Commerce and by a Director who will work with the Congress, the Administration, and our state and local leaders ... in making this a successful count.”⁹⁸ Robert M. Groves’s written opening remarks to the Senate Homeland Security and Governmental Affairs Committee at the May 15, 2009, hearing on his nomination to be bureau director stated that “government statistical agencies must be independent of partisan politics” and that “this country needs an objective, nonpartisan, professional Census Bureau.”⁹⁹

The bureau, in all matters related to the decennial enumeration and the rest of its activities under Title 13 U.S.C., is subject to oversight. In the 111th Congress, the House Oversight and Government Reform Committee, Information Policy, Census, and National Archives Subcommittee, and the Senate Homeland Security and Governmental Affairs Committee, Federal Financial Management, Government Information, Federal Services, and International Security Subcommittee, have conducted decennial census oversight hearings. The bureau’s operations and funding requests receive further attention from the House and Senate Appropriations Committees. The relevant Appropriations Subcommittees in the 111th Congress are those on Commerce, Justice, Science, and Related Agencies. The Government Accountability Office also has evaluated various aspects of the 2010 census and has issued many reports, some of which this CRS report has cited. Beyond Congress, the MITRE Corporation has advised the bureau periodically about its IT programs for the 2010 census and, as previously mentioned, noted serious problems with the plans the bureau once had for Field Data Collection Automation.¹⁰⁰ The National Academy of Sciences’ Committee on National Statistics (CNSTAT), established in 1972 “to improve the statistical methods and information on which public policy decisions are based,”¹⁰¹ has evaluated the 2010 census research program, especially in relation to 2020 census planning.¹⁰²

A decade ago, the bipartisan Census Monitoring Board, established under Section 210 of P.L. 105-119 (111 Stat. 2440), scrutinized the objectivity of the 2000 census. Section 210 provided for an eight-member board, with two members appointed by the Senate majority leader; two by the Speaker of the House; and four by the President, one at the recommendation of the Senate minority leader and one as recommended by the House minority leader.

(...continued)

news-binder&seqNum=12; and Keith Koffler, “Census Control Clarified,” *Roll Call*, March 11, 2009, pp. 1, 22.

⁹⁸ Testimony of Gary Locke in U.S. Congress, Senate Committee on Commerce, Science, and Transportation, *Nomination of Gary Locke to Be U.S. Secretary of Commerce*, hearing, 111th Cong., 1st sess., March 18, 2009 (Washington: 2009), p. 2.

⁹⁹ Testimony of Robert M. Groves in U.S. Congress, Senate Committee on Homeland Security and Governmental Affairs, *Nomination of Robert M. Groves to Be Director of the Census*, hearing, 111th Cong., 1st sess., May 15, 2009 (Washington: 2009). The full text of his opening remarks is at http://hsgac.senate.gov/public/_files/051509Groves.pdf.

¹⁰⁰ See Allan Holmes, “Census program to use handheld computers said to be in ‘serious trouble,’” *GovernmentExecutive.com*, January 2, 2008, at http://www.govexec.com/story_page.cfm?filepath=/dailyfed/0108/010208h1.htm. This article contained a link to MITRE’s November 29, 2007 “Talking Points for Meeting with [then-Census Bureau Deputy Director] Jay Waite.”

¹⁰¹ See Committee on National Statistics, “About CNSTAT,” at http://www7.nationalacademies.org/cnstat/About_CNSTAT.html.

¹⁰² See, as examples, Lawrence D. Brown, Michael L. Cohen, et al., *Experimentation and Evaluation Plans for the 2010 Census* (Washington: National Academies Press, 2008); and Robert M. Bell and Michael L. Cohen, eds., *Coverage Measurement in the 2010 Census* (Washington: National Academies Press, 2009).

The function of the board was “to observe and monitor all aspects of the preparation and implementation of the 2000 decennial census.” Each co-chairman of the board, along with any staff designated by the co-chairs, was to have “access to any data, files, information, or other matters maintained by the Bureau of the Census (or received by it in the course of conducting a decennial census of population) which they may request.”

The board was to prepare interim and final reports for Congress. The final report, due by September 1, 2001,¹⁰³ was to “contain a detailed statement of the findings and conclusions of the Board.” All reports were to address, among other matters, the degree to which the Census Bureau’s preparations for Census 2000 “shall achieve maximum possible accuracy at every level of geography”; “shall be taken by means of an enumeration process designed to count every individual possible”; and “shall be free from political bias and arbitrary decisions.”

The law authorized \$4 million in appropriations for the board in each fiscal year from FY1998 through FY2001. The board went out of existence on September 30, 2001.

Concluding Observations

The Census Bureau’s mandate to conduct the 2010 decennial census, which would be demanding and costly under the best circumstances, faces additional challenges because the bureau’s contract with the Harris Corporation to produce handheld computers for Field Data Collection Automation yielded only partial success. The bureau’s decision not to use the handhelds for nonresponse follow-up has called into question whether a paper-based NRFU, with attendant IT problems, will account adequately for historically under-enumerated population groups. Also yet to be fully determined is the extent to which the bureau’s ambitious communications strategy is continuing to motivate the hard-to-count to comply with the census and thus reducing the scope of NRFU. Concerns about possible bias in the enumeration, and about whom the census counts, miscounts, or omits, likely will persist throughout 2010 and beyond because the census numbers serve such important national, state, and local purposes.

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¹⁰³ The Board’s presidential members and congressional members prepared separate final reports, both dated September 1, 2001.