



MEMORANDUM

March 27, 2009

To: Honorable Carolyn B. Maloney
Attention: Kristina Spiegel

From: Jennifer D. Williams, Specialist in American National Government, 7-8640

Subject: **Undercount of Racial and Ethnic Minorities in the Decennial Census**

According to your March 25, 2009 e-mail and our March 26, 2009 telephone conversation, Representative Maloney's chief of staff has requested that CRS write a memorandum providing, for office use, information about the undercount of racial and ethnic minorities in the decennial census. This memorandum gives coverage estimates (percentage undercount estimates and, in some instances, overcount estimates) from two sources: demographic analysis for the censuses of 1940 through 2000, and coverage evaluation surveys for the 1990 and 2000 censuses, with mention of such a survey after the 1980 census.

Background

The undercount issue is an aspect of accuracy in census coverage: who is counted; who misses being counted; and who is counted incorrectly (more than once, for example, or at the wrong location). Complete, accurate coverage in the census is an important goal because the decennial data serve many purposes. Besides being the constitutional basis for reapportioning the House of Representatives every 10 years,¹ census data are used for within-state redistricting, the annual allocation of several billion dollars in federal funds, the administration of various federal programs, and the work of a diverse data user community.

Coverage Estimates from Demographic Analysis

Beginning with the 1940 census and continuing through Census 2000, the Bureau of the Census has used a technique called "demographic analysis" (DA) to evaluate census coverage² and estimate net

¹ The U.S. Constitution, Article 1, Section 2, clause 3, as modified by Section 2 of the 14th Amendment, states that "Representatives shall be apportioned among the several States according to their respective numbers The actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and within every subsequent Term of ten Years"

² 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Statement on the Feasibility of Using Statistical Methods to Improve the Accuracy of Census 2000*, June 2000 (unpublished document), p. 4.

undercount.³ DA takes the population count from one decennial census and uses administrative records, together with estimates of net international migration to the United States during the decade, to estimate the population size at the next census. This figure then is compared with the actual population count at the next census to arrive at an estimate of net census undercount. The Census Bureau has described the process as follows:

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 provides an estimate of the net undercount rate.⁴

Despite its utility, demographic analysis has its limitations. Among them are the availability of estimates only at the national level, not at lower geographic levels, and only for broad racial categories (black and non-black).⁵ Also, uncertainty in estimating the components of net international migration to the United States, particularly emigration, temporary migration, and unauthorized migration, is a concern in demographic analysis.⁶ 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 percent in 1990, and from 0.32 to 0.12 percent in 2000, but did not alter the DA finding that the estimated net undercount rate in 2000 was substantially lower than in 1990.”⁷

Table 1 of this memorandum 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 subgroups. In each of the seven censuses, moreover, the differential undercount persisted: the estimated net rate for blacks was higher than for non-blacks.

³ “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.

⁴ 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.

⁵ *Ibid.*, p. 9.

⁶ *Ibid.*, p. 7.

⁷ *Ibid.*, p. 8.

Table I. 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, as 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 of population subgroups. The exception, -0.29% for non-blacks in 2000, indicates a net overcount of this subgroup.

Survey Estimates of Census Coverage

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

- The 1980 Census PEP yielded informative studies of the estimation methods and results, rather than specific coverage estimates.⁸
- Estimates from the 1990 Census PES 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.⁹
- The presentation of data by race and ethnicity changed somewhat between the 1990 and 2000 censuses, making some categories (for example, “blacks” in 1990 versus “non-Hispanic blacks” in 2000) not perfectly comparable. The final ACE estimates for Census 2000 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%.¹⁰

⁸ 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*, p. 20.

⁹ U.S. Bureau of the Census, *A.C.E. Revision II, Summary of Estimated Net Coverage*, December 31, 2002, p. 3, at [<http://www.census.gov/dmd/www/ace2.html>].

¹⁰ Ibid.

I hope that this information will be helpful to your office. If I may be of further assistance, please contact me, at 7-8640 or jwilliams@crs.loc.gov.
