The Development and Sensitivity Analysis of the 2010 Demographic Analysis Estimates

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INTRODUCTION

In the United States, a collection of methods have historically been used to develop estimates of the population for comparison with decennial census counts. These estimates are developed from various types of demographic data in order to build a historical accounting of population change. The term Demographic Analysis (DA) has been used to refer to this approach for assessing the quality of the census. For the 2010 Census, the U.S. Census Bureau is again using the DA estimates along with results from operational indicators and a post-enumeration survey to assess the quality of the decennial census.[1]

In past decades, the Census Bureau has produced the DA estimates at the national level for single-year birth cohorts by sex and two broad race categories, Black and non-Black. Reflecting the contributions of many demographers, two distinct methodologies have evolved over time for separately estimating the population under 65 years of age and the population 65 years and over. Administrative records on births, deaths, and estimates of international migration are used to estimate the population under 65. Estimates of the population 65 and over are developed from data on Medicare enrollment and estimates of the number of those not enrolled. The DA estimates have been limited to the national level and the Black and non-Black race categories because of the limitations of the available historical data.[2, 3]

This paper describes the development of the 2010 DA population estimates. In order to show the sensitivity of the DA estimates to the use of different but plausible input values, alternative estimates for each component of the DA methodology were developed. Specific combinations of alternative inputs were then used to produce five series of DA estimates by single year of age, sex,

[1] In addition to various operational indicators, the Census Bureau has historically relied on two principal methods to provide measures of the quality of each census. One method is Demographic Analysis, which is the topic of this paper. The other method is based on a post-enumeration survey and dual-system estimation.

[2] Internal migration is a major component of change for geography below the national level. While various strategies could have been used to estimate internal migration, to do so would necessitate making considerable assumptions, thus reducing the value of the resulting estimates for comparison with the decennial census counts.

[3] Because of the limited race detail available from historical vital statistics data, the DA estimates have traditionally been developed by single year of age and sex for only two race categories, Black and non-Black. Black is used throughout this report to refer to the Black or African American alone race category. Because of the uncertainty that "classification" error would introduce into estimates for race categories other than Black and White, all races other than Black alone are combined to form a non-Black category.

and the DA race categories for use in the demographic analysis of the 2010 Census counts.[4] The specific combinations of alternative estimates were selected to communicate the uncertainty around the DA estimates and include a low series, three middle series, and a high series. All series were considered to be plausible. These estimates were produced without knowledge of the 2010 Census results and will provide an essentially independent basis for assessing the accuracy of the 2010 Census counts.[5]

Overview of the DA Methodology

DA represents a macro-level approach for analyzing census counts that relies on comparisons with national-level estimates to provide information on the quality of the census. Historically, it was assumed that differences represented error in the census: a lower census count was assumed to reflect a net undercount, and a higher census count indicated a net overcount. The DA estimates were used to provide a measure of net coverage error and did not provide information on the separate effects of the different types of coverage error (omissions, erroneous inclusions, or duplicates) or content error. For DA in 2010, differences between the DA estimate and the census count are not assumed to represent error in the census, but are referred to as differences.

Separate methods are used in DA to obtain estimates for two segments of the total population: the population under age 65, and the population aged 65 and over:

(1) Ages Under 65.

The DA estimates for the population aged 0 to 64 ($P_{0\text{-}64}$) are derived by the basic demographic accounting equation applied to each birth cohort:

$$P_{0\text{-}64} = B - D + I - E \qquad (1)$$

[4] Each set of DA estimates by single year of age, sex, and the DA race and ethnicity categories is referred to here as a "series" of estimates.

[5] An earlier version of this paper was made available prior to the release of the DA estimates on December 6, 2011. The earlier version included the estimates for each of the components of the DA estimates but not the actual estimates. This version includes the DA estimates that were provided during the December 6 conference as tables in Appendix B.

DA estimates for the population below age 65 are developed from a compilation of historical estimates of the components of population change (the cohort-component approach): births corrected for underregistration, beginning with April 1, 1945 (B); deaths to persons born since April 1, 1945 (D); immigrants below age 65 (I); and emigrants below age 65 (E).

For DA in 2000, the cohort-component approach was not used for populations born prior to 1935 because the birth registration system did not include all states until 1933. For DA in 2010, while the cohort-component approach is used as the primary estimate of the population below age 65, data from 1935 to 1944 were carried forward to produce an estimate of the population aged 65 to 74. This results in an overlap between the estimates developed using the component approach and the Medicare-based estimates. The differences between these two series for ages 65 to 74 have been examined, and the results are discussed later in this paper.

In 2000, births (234.9 million) represented by far the largest component in equation 1. The immigration component (32.6 million) was second largest, followed by deaths (14.8 million) and emigrants (5.5 million) (Robinson, 2010). The number of deaths is small relative to births because of the lower rate of mortality for the population under 65. For DA in 2010, births (249.9 million) continue to be the largest component of the DA estimates. As in 2000, the immigration component is the second largest, followed by deaths and emigration.[6] The DA estimates produced in 2000 represent the starting point for the development of the 2010 DA estimates for the population under age 65. To obtain the DA estimates for April 1, 2010, births and immigration were added, and deaths and emigration were subtracted. Key assumptions for the use of the vital statistics data and the estimates of international migration from DA in 2000 were also either revisited or altered for the DA 2010 estimates.

The actual calculations used to develop the DA estimates are carried out for single-year birth cohorts by sex and race (Black and non-Black), and ethnicity (Hispanic and non-Hispanic). For example, the estimate of the population aged 58 on April 1, 2010 was based on births from April of 1951 through March of 1952 (corrected for underregistration), reduced by deaths to the cohort in

[6] The value for births for 2010 was taken from the DA Middle Series estimate.

each year between 1951 and 2010, with additions and subtractions for estimated immigration and emigration of the cohort between 1951 and 2010.

(2) Ages 65 and Over.
Administrative data on aggregate Medicare enrollments are used to develop an estimate of the population aged 65 and over (P_{65+}):

$$P_{65+} = M + m \qquad (2)$$

where M is the aggregate Medicare enrollment and m is the estimate of the number not enrolled in Medicare.[7] Although Medicare enrollment is generally presumed to be quite complete, underenrollment factors are applied to account for individuals who are not enrolled. Some groups are not eligible to enroll, such as federal employees who are covered under a specific retirement program; some may delay enrollment until a date later than when they became eligible; and some may never enroll. In 2000, an allowance was made for an estimated 1.3 million not enrolled, or 3.8 percent of the estimated population aged 65 and over. For 2010, an estimated 1.5 million people were not enrolled, or 3.9 percent of the estimated population aged 65 and over. Underenrollment factors are based on estimates of Medicare coverage developed from the Current Population Survey (CPS) and data on age at enrollment in the Medicare file.

The estimates for the population under 65 developed using the cohort-component approach are combined with the Medicare-based estimates for the population 65 and over to produce the total DA population estimate.

Demographic Analysis in 2010

The DA program for 2010 continued the practice of producing estimates by age, sex, and Black and non-Black using the methodology just described, but also included the production of estimates by Hispanic origin for ages under 20. The estimates by Hispanic origin were limited to ages under 20 due to the limitation of the historical estimates of international migration and vital statistics data. These limitations will be discussed in more detail later in this paper. There was also an effort

[7] Medicare is a federal health insurance program that covers most people aged 65 and over.

that focused on assessing and clearly communicating the uncertainty in the DA estimates through the production of five series of estimates that incorporated alternative assumptions for each component. In addition to the five series of estimates, estimates were produced for each component to further assess the degree of uncertainty around the DA estimates.

While the quality of the vital statistics that serve as the primary component of the DA estimates has improved to virtually complete coverage, there remains uncertainty in the historical birth data. Increases in international migration and changes in the racial makeup of the population have also presented new challenges to the DA methodology over the last two decades. The Census Bureau has responded to the increase in international migration by developing new methods for estimating this component using the latest data sources, including the American Community Survey (ACS).

The increase in the diversity of the U.S. population—specifically, the increase in multiracial births—and changes in how information on race is collected in the census posed a substantial challenge for the DA estimates by Black and non-Black both in 2000 and in 2010. Census 2000 was the first census to include the option to mark more than one race based on the 1997 U.S. Office of Management and Budget (OMB) revisions to the federal standards on collecting information on race and ethnicity (OMB, 1997). The 2010 Census also includes this option. Jones and Smith (2003) researched the use of Census 2000 responses for recognizing patterns of how interracial/interethnic parents identify their children with regard to race and ethnicity. The approach used for DA in 2010 to classify births as Black or non-Black and Hispanic or non-Hispanic based on the reported race and Hispanic origin of the parents on the birth certificate represents a continuation of this work.

SENSITIVITY ANALYSIS OF THE DA ESTIMATES

The lack of an explicit probability model for the assessment of the accuracy of the DA estimates has been consistently identified as a shortcoming of the DA methodology by statisticians. Demographers have struggled with the development of these measures mainly because the uncertainty in DA derives from judgment about the choice of data sets rather than statistical

variation within a given set. The errors in these data are generally not subject to sampling error; therefore, a statistically-based confidence interval is difficult to develop using conventional statistical techniques. When formal uncertainty models have been developed, they have done little to help place the uncertainty around the DA estimates into a meaningful context. For DA in 2010, the reliance on survey-based estimates of international migration means that a major component of the DA methodology will now include uncertainty due to being based on a sample. This uncertainty can be quantified through the use of probability theory. While a statistician might rely on mathematical models and probability theory to quantify uncertainty, the demographer would tend to rely on implicit models, and treat uncertainty informally, if at all (Hogan et al., 2003). For 2010, a systematic analysis of the DA estimates was conducted that incorporated both statistical measures of uncertainty where applicable (e.g., estimates of international migration), and results from alternative assumptions about each component. Once incorporated, these assumptions were used to develop five series of estimates to more clearly communicate the uncertainty around each DA estimate by single year of age, sex, and the DA race categories.

Uncertainty in each component of DA contributes to the overall uncertainty in the DA estimates in different ways. For example, while the level of uncertainty for each year of births was limited to a specific birth cohort, uncertainty around the estimates of international migration had a greater impact on the uncertainty around the DA estimates for the ages in which international migration is concentrated (e.g., ages 20-39).

In 2000, efforts to assess the uncertainty in the DA estimates focused mainly on reassessing the DA estimates of international migration and the uncertainty around this component. This shift was due to a large initial difference between the DA estimate and the Census 2000 count and may also have been partly due to the acceptance of recent vital statistics data as complete. However, because of the large size of the birth component relative to the other components, uncertainty around the historical birth records also continues to contribute to the overall uncertainty in the DA estimates. Inaccuracies in the estimated completeness of birth registration and the assumption that birth registration was complete starting in 1985 can lead to errors in the estimate of the size of the native-born population.[8] For DA in 2010, the work from the previous efforts was combined with

[8] The native-born population includes those born in the United States and those born abroad to U.S. citizen parents.

more recent work to provide a more complete assessment of the uncertainty in the DA estimates. While the range of estimates provided as part of the 2010 DA program does not result in a measure of the accuracy of the DA estimate based on an explicit probability model, it should allow for a meaningful assessment of the possible range of the DA estimates due to both sampling and nonsampling error.

Development of a range of DA estimates

The main data sources for understanding the size of the U.S. population on April 1, 2000 include Census 2000 counts, estimates of coverage from the 2000 Accuracy and Coverage Evaluation (A.C.E.) Revision II, the 2000 DA estimates, and counts from previous censuses.[9] This information combined with basic assumptions about natural increase (births minus deaths) and international migration can be used to start to establish a plausible range of estimates of the size of the population in 2010. The generally-accepted quality of recent vital-statistics data makes births and deaths well documented components of change in the size of the U.S. population. Gains from natural increase alone would result in a net increase in the total population of approximately 17 million people since 2000. This, combined with a low but plausible estimate of net international migration, would provide an estimate that could serve as a plausible low estimate of the April 1, 2010 population. Similarly, the use of what would generally be considered a high but plausible estimate of international migration combined with natural increase could serve as a plausible high estimate of the 2010 population.

The five series of DA estimates developed for April 1, 2010 described in this paper represent a more rigorous version of the simple exercise just described. Various approaches could be used for each component of the DA estimates, each resulting in a different estimate. However, many possible variants of the DA methodology have little impact on the DA estimates. Census Bureau analysts, in consultation with external experts, determined which variants had a large enough impact to be included in the DA estimates.

[9] A.C.E. refers to the Census 2000 post-enumeration surveys. Post-enumeration surveys rely on case-by-case matching of persons in an independent survey and the dual system estimation methodology to estimate coverage error. The survey-based coverage measurement program associated with the 1980 Census was called the Post-Enumeration Program (PEP); in the 1990 Census, it was called the Post-Enumeration Survey (PES).

Expert input was obtained through a conference held on January 8, 2010. This paper was prepared for a second conference that was held on December 6, 2010 during which five series of DA estimates by single year of age, sex, and the DA race and ethnicity categories were disseminated. The range of estimates is intended to inform the public of the uncertainty around the DA estimates. The five series of DA estimates and additional tables distributed during the December 6 conference have been included in Appendix B. Table 1 provides historical DA estimates and Census counts from 1940 to 2000 by Black and non-Black. The following sections provide an overview of each component of the DA estimates, the major factors contributing to the uncertainty in each component, and the variants used to develop the DA estimates. Table 2 is a matrix of the five DA estimates and the components that were used for each of the five series.

Uncertainty in the vital statistics component

The birth and death data used in DA come from a combination of historical tabulations and micro-level files. The micro-level birth file includes basic information for each birth that occurred from 1980 to 2007. The greatest uncertainty in the vital statistics occurs in the birth records from earlier years which must be combined with estimates of birth underregistration to obtain a complete accounting of births. The use of a separate methodology based on Medicare enrollment for estimating the population 65 and over makes it possible to rely only on births that have occurred from 1945 to 2010. While we must rely on death records for infants and children from all years since 1945, the largest portion of deaths to those under 65 will have occurred in more recent years, and is therefore expected to be of higher quality.

Births

Several issues may lead to errors in the number of registered births. Births might not be reported for a variety of reasons: registration may be delayed and not included in what is provided to the National Center for Health Statistics (NCHS); likewise, processing or administrative errors may

lead to the incorrect number being reported to NCHS. Births may also be included by NCHS for a child that should not be included in the census universe.[10]

Three national birth registration tests (BRT) provide the basis for adjusting the reported births for under-registration for use in DA and the assessment of the uncertainty around the registered births. The births used in DA for each year prior to April 1, 1985 are the result of applying registration completeness "correction" factors to each census year of births. Corrections are largest in the years before 1950. For DA in 2000, a total of 3.3 million births were added for the period from 1935 through 1984 based on the correction factors, increasing the total estimated births during this period from 172.4 million to 175.7 million. The 2010 DA estimates only include births starting in April of 1945, which reduces the estimated number of births added due to underregistration from the 3.3 million added to the 2000 DA estimates to 1.5 million.

Based on a review of the DA components during the evaluation of the 2000 DA estimates, birth registration is now assumed to be complete starting in 1985 (which coincides with the first year that birth statistics were reported electronically from all states) and to have remained at 100 percent through 2000 (McDevitt, O'Connell, and Joyce, 2001). For 2010, it was again assumed that birth registration became complete in 1985.

The BRTs were conducted for 1940, 1950, and 1964-1968 (U.S. Census Bureau, 1973). The 1940 and 1950 tests involved matching birth records from children born during a 3-month (1940) and 4-month (1950) period preceding the census with special infant registration cards filled out during the census. The 1964-1968 test included 14,632 cases from the 1969-1970 CPS and Health Interview Survey. The birth registration correction factors for non-test years were derived through interpolation between test dates by in and out of hospital births. A linear interpolation was also used for the years between 1966 and 1985 (first year complete coverage was assumed). The estimated level of completeness was 92.5 percent in 1940 (81.9 percent for Black births) and improved to 97.9 percent in 1950 (93.7 for Black births). By 1964-68, it was estimated that over

[10] From 1980 to 2006, just under 131 thousand births occurred to mothers who recorded on the birth certificate that they were not residents of the United States. While these children would be considered native born, in some cases they may not be considered part of the resident population for the 2010 Census. While estimates could have been produced both with and without these births, because of the relatively minor impact on the overall DA estimate, each of the alternative birth series excludes the births to non-residents.

99 percent of all births were registered. The proportion of births occurring in and out of hospitals was a large factor in the overall completeness of registration by race and across time. Even in the 1940 test, which showed a large overall difference in registration completeness for the White (94.0 percent) and Black and other races (82.0 percent) categories, there was a much smaller difference between these categories when the birth occurred in a hospital: 98.6 percent compared to 96.3 percent. Out-of-hospital births are estimated to have declined from 44 percent in 1940 to 1 percent in 1969, and to have remained at about 1 percent (MacDorman et al., 2010).

Each decade, the methods for interpolating and extrapolating the BRT factors have been modified, but the initial factors have been altered only once. Research conducted during the 1980s revealed a "distinct and anomalous cohort effect" in the differences between the DA estimates and census counts for the Black population born between 1935 and 1945. The conclusion was that the 1940 Black BRT factors were overestimating the number of Black births that were not registered. Passel (1992) used regression methods to revise the series of registration completeness factors for Black births from 1935 to 1950. The corrected births based on these factors were incorporated into the 1990 DA estimates, and led to a downward revision to the number of Black births (1935 to 1950). This revision is also supported by an analysis conducted by Preston, Elo, Foster, and Fu (1998) and is included in the 2010 DA estimates. Additional information on the revisions to the extrapolations and interpolations is available from Robinson (2010).

To begin to understand the uncertainty around the estimated number of births used in DA, a high and low series were developed from an analysis prepared for DA in 1991 (Robinson, 1991). In 2010, the results of the 1991 work are considered still applicable because the birth registration tests that the correction factors were based on for 1945 through 1985 remained the same. The 1991 work examined four sources of uncertainty in the BRT factors (matching bias, correlation bias, interpolation/extrapolation error, and sampling variance) to develop an overall estimate of the possible uncertainty in the estimates of the completeness of birth registration. Results from each of these models were then grouped to develop lower and upper bound combined error factors. The lower bound factors primarily reflect the possible error due to matching bias, while the upper bound factors primarily reflect the possible error due to correlation bias. The ranges established in this report were carried forward and used to develop a low and high estimate of

births occurring from 1945 through 1984. The low and high series of births were then compared with Census 2000 counts of the native-born population and the Medicare-based DA estimates for ages 65 to 74.

Without direct measures of the size of each source of error, professional judgment played a large role in specifying the models that were used to establish a range of uncertainty around the corrected births in the 1991 analysis. The intent was to establish a basis for understanding the range around the estimates of birth registration completeness from the BRTs under clearly-specified scenarios, leaving researchers with the ability to incorporate their own assumptions and possibly arrive at a different result. A detailed description of these models is available in the full 1991 analysis.

The application of the lower bound factors from the 1991 analysis results in an estimated 249.0 million births between 1945 and 2010. The application of the higher bound factors from the 1991 analysis results in an estimated 252.4 million births between 1945 and 2010. These estimates can be compared with the estimated 249.9 million births that result from using the measures from the BRT factors alone, and 248.3 million when no corrections are made for completeness. The use of registered births with no correction factors applied as a lower bound estimate was ruled out because it was deemed demographically implausible. Because the range of uncertainty is developed around the number of births added based on the correction for completeness, the range is larger in earlier years where larger corrections are made, and zero in the years after 1984 when births registration is assumed to be complete.

Two comparisons were made to determine if the high and low series of births based on the 1991 work were plausible: comparisons were made between the estimated births and the Census 2000 counts of the native-born population by birth year, and births occurring between 1935 and 1945 were compared to the Medicare-based estimates for the corresponding estimate by age. The comparison suggested that the high series of births was implausible. It also showed that the corrected births currently being used were more consistent with both the Census 2000 native-born counts and the Medicare-based estimates than the high and low estimated births based on the factors from the 1991 report. However, there is still uncertainty around the number of births

used in the DA estimates, and it remains likely that the actual number of births could be higher or lower than corrected births. In order to determine the number of high and low births to use in the range of DA estimates, several series of estimated births were developed using various levels of corrected births. The different series were obtained by multiplying the estimated number of unregistered births by age, sex, and race by 0.25, 0.30, 0.50, and 0.75. The results, along with the initial high and low values, were then also examined relative to the Census 2000 count of the native born and the Medicare-based estimates for ages 65 to 74. Using the 0.3 factor to increase and decrease the number of births added due to completeness results in a range of DA estimates that comes closest to encompassing the Medicare-based estimates for each age 65 to 74. This adjustment also created a range of estimated births that was plausible when compared to the Census 2000 count of the native born. The DA plausible low series includes births that are based on the 0.3 downward alteration, and the plausible high series includes the 0.3 upward alteration. The result is three estimates of births that occurred between April 1, 1945 and April 1, 2010; a low estimate of 249.4 million births, a middle estimate of 249.9 million births, and a high estimate of 250.4 million births. These alterations were included mainly to demonstrate the impact of varying the level of the births added to account for underregistration. Different assumptions about the completeness of birth registration after 1985, when registration is assumed to be complete, were not used to develop alternative birth series. However, it is fairly easy to consider the impact of assuming different levels of completeness for these births after 1985 in that any assumption about completeness would have a corresponding increase in the size of that birth cohort. Table 2 identifies the series of births that was used in each of the five DA estimate series. Total births for 1935 to 2010 for each of the DA birth series and the registered births used in DA are provided in Table 3.

Deaths

Uncertainty in the DA estimates due to the completeness of death registration has received little attention because it is not thought to be a large factor in the uncertainty surrounding the DA estimates. For use in DA, it is assumed that non-infant death registration has been complete since 1935. The use of Medicare data to estimate the population 65 and over minimizes the impact of potential inaccuracies in the recording of deaths or the recorded age at time of death on the DA

estimates because the majority of deaths in the historical death data will have occurred to people who would have been older than age 65 on April 1, 2010.

Infant deaths are assumed to have been registered at half the race-specific level of the incompleteness of births up to and including 1959, and to have been completely registered beginning in 1960. An analysis of alternative assumptions about infant deaths showed that the impact is small overall. If it is assumed that infant deaths are under-reported at the same rate as births rather than half, the number of deaths in 1935, the year when the impact would be expected to be the largest, is increased by less than 8,000. However, aside from potential inclusion in the birth registration completeness factors, if a birth was not registered and the corresponding infant death was also not registered, there would be no impact on the accuracy of the DA estimate.

Because of the lack of support for alternative assumptions about the number of deaths, only one series of deaths was used in the five DA series of estimates. All of the DA estimates include an estimated 14.8 million deaths to those who were born on or after April 1, 1945.

Projected values

At the time of the development of the DA estimates for this paper, final data from NCHS were not available for the period from January of 2008 through March of 2010. Therefore, a combination of projections, provisional data, and preliminary data from NCHS were used.[11] First, in order to estimate 2008 births, preliminary NCHS totals for 2008 are parsed out by month based on 2008 provisional monthly totals. Characteristics of the 2007 final births by month are then imposed on the 2008 monthly totals. Provisional 2009 NCHS monthly totals were used to estimate 2009 births, and again, the distribution of the characteristics of the 2007 births were imposed. Finally, for January 2010 through March 2010, values for the corresponding months in 2009 were used.

[11] Birth and death data are released in three stages by NCHS: provisional, preliminary, and final. Data in each successive stage are more complete than in the previous stage. Provisional data are based on counts of events and may have incomplete medical and demographic information. Current plans include the production of revised DA estimates when final NCHS data are available.

Missing values

To make full use of the NCHS vital statistics data, missing values for key variables needed to be assigned. The procedures used to obtain a value for a missing race of mother, race of father, or age at death are described below.

Race of Mother

Prior to 1988, NCHS did not impute the race of the mother if it was missing. For the years 1980 to 1988 when micro-level birth records were used, if the race of the mother was missing, the last known value after a sort on county of residence and year was used to impute the missing value. Between 1980 and 1988, about 88 thousand records out of over 30 million were missing race of mother and father.

Race of Father

From 1980 through 2007, the race of the father is missing on about 16 million records, or about 15 percent of almost 111 million records. When the father's race was missing, the mother's race was used for the race of the father.

Month and Year of Birth for Deaths

For each death, the month and year of birth are needed so that they can be subtracted from the correct birth cohort. If both month and year of birth are missing, it is possible to use the age at death and the month and year of death to determine the year of birth between two years. This is the case for 0.04 percent of the deaths from 2000 through 2007. For the same period, only 0.01 percent of deaths were missing both year of birth and age at death. This value is higher for earlier years. For the period between 1990 and 1999, 0.02 percent of deaths were missing both year of birth and age at death. This value for the period between 1980 and 1989 was 0.03 percent. To obtain the month and year of birth for the 1990 through 2007 records, if the month of birth is missing, we first set it to equal the month of death. If year of birth is missing, it is obtained by using the age at death, month of death, and either the reported or assigned month of birth. If both the age at death and year of birth are unknown, then month and year of birth are imputed from the last known value. For the 1980 through 1989 records, because of the large

number of records that had a month and year of death but were missing the year and month of birth (89.6 percent), deaths were distributed between the two possible birth cohorts.

Uncertainty in the international migration component

International migration is the second largest component of population change in the DA estimates. Over the past decade, the Census Bureau has undertaken a major initiative to improve its measures of net international migration. This has occurred primarily through the use of data from the ACS, which was not available in previous decades. To assess the degree of uncertainty in the estimates of international migration this decade, a range of estimates was developed that incorporated both results from different approaches for estimating each of the components of international migration and statistical measures of uncertainty where applicable. The DA estimate of net international migration reflects post-2000 estimates for several distinct components of international migration that are developed individually using different techniques. These components include: foreign-born immigration, foreign-born emigration, net migration between the United States and Puerto Rico, and the net migration of the native born. The estimated post-2000 net migration is then added to the pre-2000 estimate to obtain an estimate for the entire period. Each of the following sections focuses on a specific component, providing a description of how it was estimated as well as the process of accounting for the uncertainty around the component.

Foreign-born immigration

Estimates of foreign-born immigration (the number of those who were foreign born who entered the United States) were based on two questions asked in the ACS. First, estimates of foreign-born immigration were developed using the residence one year ago (ROYA) question. The foreign born who reported in the ACS that their residence one year ago was "abroad" are considered immigrants. Because this question is asked only to those aged one and higher, an additional assumption was made to account for immigrants under the age of one. It was assumed that the number of immigrants under the age of one was half the number of those aged one whose residence one year ago was abroad.

As an alternative to the ROYA-based estimate, data collected in the ACS on year of entry (YOE) were used. With this approach, the foreign born whose year of entry is the year prior to the survey year are considered immigrants. The YOE method resulted in higher estimates of foreign-born immigration than the ROYA method.[12] The ACS-based estimates are developed for the period from July 1 to June 1. This estimate is divided by twelve to get monthly estimates that can be used to obtain estimates by census year.

When using the ROYA method to estimate foreign-born immigration, total immigration for all ages from April 1, 2000 to April 1, 2010 was estimated to be 11.9 million. When the estimate is based on YOE, the estimate rises to 13.5 million. Both the ROYA and YOE methods are developed from a sample of the population and are subject to sampling error. The 90-percent confidence interval around the ROYA and YOE estimates was used to develop additional estimates of foreign-born immigration. When the lower bound of the 90-percent confidence interval from the ROYA estimate is used, the estimated foreign-born immigration is 11.4 million; when the upper bound of the 90-percent confidence interval YOE estimate is used; the estimated foreign-born immigration is 13.9 million.

Both the ROYA and YOE estimates used in the 2010 DA were developed using single-year data from the 2000 to 2009 ACS. For these time series, the 2010 value was calculated by holding the 2009 estimates constant. Since 2007, the annual estimates of foreign-born immigration have declined, and so by holding the 2009 estimate constant, foreign-born immigration for 2010 may be overstated. However, the impact of holding the 2009 ACS estimates constant to obtain the estimated total foreign-born immigration for the remainder of the decade is thought to be relatively small.

Foreign-born emigration

Estimates of foreign-born emigration were developed using a residual method to estimate rates of emigration which were then applied to estimates of the foreign-born population from the

[12] No distinction is made between immigrants based on their legal status when using the ROYA and YOE questions on the ACS to estimate migration of the foreign born. The ACS does not include questions on the legal status of the foreign born.

ACS. The foreign-born household population in Census 2000 is aged forward using NCHS life tables to obtain the expected population in 2005, 2006, 2007, 2008, and 2009. The expected foreign-born population estimates for those years are then compared to the foreign-born population estimated by the ACS. Subtracting the estimated from the expected population produces a residual, which serves as the basis for emigration rates. This calculation is performed for two period-of-entry groups: the foreign born who entered the United States between 1990 and 1999; and the foreign born who entered before 1990. An average of the rates for each period-of-entry group is then applied to the population at risk of emigrating each year (i.e., the foreign-born population in the ACS who indicated that they lived in the United States one year ago) to obtain an annual estimate of emigration for 2000 to 2009. Using this method, we estimate 2.3 million foreign-born emigrants for the April 1, 2000 to April 1, 2010 time period.

In order to evaluate the uncertainty around this estimate due to sampling error, the 90-percent confidence intervals around the ACS estimates were used to develop high and low estimates of emigration. To develop a low estimate of foreign-born emigration, the upper bound of the ACS estimate in the residual calculation is used to develop an estimated low rate of emigration. These rates are then applied to the lower bound estimates of the foreign-born population in each year of the ACS to determine the low annual estimate of foreign-born emigration. Similarly, to develop a high estimate of foreign-born emigration, the lower bound of the ACS estimate in the residual calculation is used to develop a high rate of emigration. This high rate is then applied to the upper bound estimates from the ACS to develop a high estimate of foreign-born emigration. These calculations result in a high emigration estimate of 2.6 million and a low emigration estimate of 2.0 million.

Net native-born migration

Estimates of net native-born migration were based primarily on work by Schachter (2008) that examined census data from other countries. The estimates were developed using a residual method. The number of people native to the United States was ascertained from a census from each country, aged forward, and then compared to the number of people native to the United

States in a later census from the same country. The results of that work indicated an annual net loss due to native-born migration of just over 45 thousand people.

One issue identified with the approach used by Schachter is that what countries measure in their census varies. Some countries (e.g., Germany) define nativity as citizenship in their census. This means that even those who are born in Germany may not be considered German citizens if their parents are not citizens. In other countries, only data by place of birth were available; therefore, children born in these countries of U.S. citizen parents would not be identified as a U.S. citizen. This difference poses problems for the coverage of the population that is born abroad of U.S. citizen parents in Schachter's net native-born migration measure.

Three different assumptions were made about the role of those born abroad of U.S. citizen parents in net native-born migration. First, it was assumed that all those born abroad of U.S. citizen parents are included in the measure of net native-born migration, resulting in the annual estimate of negative 45 thousand. Second, it was assumed that none of the population born abroad of U.S. citizen parents were included in the net native-born migration measure. To estimate this population, the Census 2000 born abroad of U.S. citizen parent enumeration was survived forward using NCHS death rates and compared to the born abroad population enumeration in the ACS 2009. The difference, after projecting to April 1, 2010, results in an estimate of the net inflow of this population over the decade of approximately 624 thousand. Third, it was assumed that those born abroad to U.S. citizen parents in countries that only measure citizenship in their census would be included in Schachter's estimate (and therefore included in the estimate of net native-born migration) while those born in other countries would not. If those countries who only measure citizenship are not included, the result is an estimated net inflow of this population of approximately 397 thousand over the decade.

Data collected and provided by the Defense Manpower Data Center are used to estimate the stock of the Armed Forces population living overseas as of April 1, 2010. The stock of the AFO population is subtracted from the estimate of the resident population.

Net Migration between the United States and Puerto Rico

Net migration between the United States and Puerto Rico is estimated using data from the ACS, and also includes data from the Puerto Rico Community Survey (PRCS) for 2005 and later. People who indicated in the ACS that they lived in Puerto Rico one year ago are considered immigrants (i.e., they moved from Puerto Rico to one of the 50 states or the District of Columbia). People who indicated on the PRCS that they lived in the United States one year ago are considered emigrants (i.e., they moved from one of the 50 states or the District of Columbia to Puerto Rico). We assume the number of immigrants and emigrants under the age of one is equal to half of the number of one-year-old immigrants and emigrants, respectively. This calculation results in an estimate of approximately 205 thousand net migrants from Puerto Rico to the United States over the decade.

Modification of the 2000 DA estimate of the foreign-born population

The 2000 DA estimate of net international migration utilized a residual method to estimate undocumented migration. This approach included the assumption that the Census 2000 count of the "residual" component of the foreign born was only 85 percent complete. For the DA plausible low series, this assumption was replaced with a coverage profile based on information from the A.C.E. Revision II and CPS coverage rates. Specifically, we compared the Dual System Estimates (DSE) from the A.C.E. Revision II to estimates from Census 2000 to identify patterns in coverage by age, sex, and Hispanic origin. We also evaluated coverage patterns in the CPS by age, sex, and Hispanic origin (U.S. Census Bureau, 2009). The values used in the coverage profile are provided in Table 4. This modification resulted in a reduction to the 2000 DA foreign-born population of just over 1 million people. More information on the development of the 2000 DA estimate of net international migration is available in Appendix A of the ESCAP II: Demographic Analysis Results report (U.S. Census Bureau, 2001).

Accounting for representation of the foreign born in the ACS

Foreign-born immigration from 2000 to 2010 is estimated primarily using data from the ACS. The representation of recent foreign-born immigrants in the ACS is unknown, and underrepresentation may result in an underestimate of foreign-born immigration. Currently, with both the ROYA- and YOE-based immigration estimates, we assume that underrepresentation of

foreign-born immigrants in the ACS is accounted for through the application of survey weights and population controls. However, the ACS is controlled by age, sex, race, and Hispanic origin, but not nativity, and so these controls might not account entirely for the underrepresentation of the foreign-born population. To assess the potential impact of underrepresentation of the foreign-born population in the ACS, a series of representation factors were developed and applied to single-year ACS data to produce a new series of foreign-born immigration estimates.

The representation factors were developed by comparing pre-population controlled data from the Census 2000 Supplementary Survey (C2SS) to data from Census 2000 by broad demographic characteristics, including nativity. Specifically, we divided estimates of the foreign-born population by broad age group, sex, and Hispanic origin from Census 2000 by estimates of the foreign-born population in the C2SS. The resulting representation factors were then applied to single year data from the 2000 to 2009 ACS to provide estimates of foreign-born immigration.[13] In addition, we developed a series of factors that attempt to account for potential sampling error in the C2SS by subtracting the margin of error from the population estimate in each cell and then calculating the coverage factors using the same methodology discussed above. Applying these factors to YOE-based estimates produces a high estimate of foreign-born immigration of 14.2 million over the decade.

The accuracy of the representation factors relies on multiple assumptions: 1) coverage of Census 2000 was 100 percent; 2) representation factors developed using data from the 2000 C2SS are applicable to later years of the ACS; 3) representation of the total foreign-born population is the same as the representation of recent immigrants; and 4) there is no variation in coverage within each cell used to calculate the representation factors.

Alternative estimates of international migration

In addition to the above methods which were included in the DA estimates, we evaluated results developed using alternative approaches to further assess the estimates.

[13] The 2000 C2SS is different than the 2000 ACS. The C2SS was an expansion of the ACS and is more comparable to later years of the ACS than the 2000 ACS.

As one set of alternative estimates, two "change in stock" measures were calculated to estimate net foreign-born migration during the decade. The first change in stock measure was calculated beginning with the foreign-born stock in Census 2000. This population was survived forward to July 1, 2009 using the cohort-component method, resulting in an estimated 2.3 million deaths or an estimated foreign-born population of 28.9 million. This number was compared to the foreign-born population from the single-year 2009 ACS file of 38.5 million. This results in an implied growth in the foreign-born population from April 1, 2000 to July 1, 2009 of 9.7 million. This population growth was then projected forward to April 1, 2010, resulting in an estimated growth of the foreign-born population over the decade of 10.5 million.

A second estimate involved using administrative, Census 2000, and ACS data to first develop an estimate of the foreign-born stock in 2010, and then perform a similar calculation to that described above to estimate net foreign-born migration from 2000 to 2010. This estimate started with the native-born population in Census 2000, which was then survived forward to April 1, 2010 using the cohort-component method with birth and death rates from NCHS.[14] The same assumptions about net native migration used in the ROYA and YOE estimates were also used in these calculations, resulting in a yearly decrease of approximately 45 thousand in the native-born population (Schachter, 2008). This results in an estimate of 269.0 million native born on April 1, 2010. A ratio of the foreign-born population to the native-born population by single year of age and sex from the controlled three-year ACS file (2006-2008) is then applied to the April 1, 2010 native-born estimate. The resulting estimate of the foreign born is 38.3 million. The foreign-born population in Census 2000 survived forward using NCHS death rates is then used to ascertain the implied increase between Census 2000 and April 1, 2010. The Census 2000 count of foreign born was 31.1 million with an estimated 2.5 million deaths occurring over the decade, resulting in an implied increase in the foreign-born population of 9.7 million. The same calculations can be carried out using ratios from the ACS data without the population controls applied. Using three-year ACS data (2006-2008) without the population controls applied to calculate the foreign born to native-born ratio, the implied increase in the foreign-born population over the decade is 10.0 million (an increase of 0.3 million compared to using the final weighted ACS data).

[14] NCHS life tables were available for years up to 2006. After 2006, death rates are held constant.

Range of estimated net international migration

The range of estimates of net international migration from Apri1 1, 2000 to April 1, 2010 used in the DA estimates for all ages included five estimates that ranged from a low of 8.6 million to a high of 12.6 million. The lowest estimate of international migration, which was used in the plausible low series for the population under age 65, used the lower 90-percent confidence interval ROYA estimate and the high estimate of foreign-born emigration. The plausible low series also includes a reduction to the 2000 DA foreign-born population of just over one million people, but this does not impact the estimates of net international migration for this period. The highest estimate, which was used in the plausible high series, uses the YOE estimate with the ACS coverage factors applied, and the low estimate of foreign-born emigration. The plausible high series does not include the reduction to the 2000 DA foreign-born population. Annual estimates for 2000 through 2010 for each component of international migration are provided in Table 5. Table 2 lists which estimate of each component was used in the each of the five DA estimate series.

Uncertainty in the Medicare-based estimates of the population 65 and over

The DA estimates for the population aged 65 and over were developed from tabulations of those enrolled in Medicare in 2009 and estimates of those not enrolled.[15] The estimates of those not enrolled were developed by combining information on the timing of enrollment included on the Medicare file with data from the CPS question on health care coverage. The accuracy of the Medicare-based estimates depends on the ability to define the proper universe of Medicare enrollees, the ability to accurately identify and remove duplicate and inaccurate records from the Medicare enrollment database (MEDB), and the accuracy of the estimate of the number of those not enrolled.

In general, U.S. citizens or permanent residents are eligible for Medicare benefits if they have worked for at least ten years in a job that has paid money into the Medicare system. The eligibility rule also applies to spouses. If either spouse paid money into the Medicare system,

[15] Enrollees are aged forward one year to estimate those enrolled in 2010. Current plans include the production of revised DA estimates using the 2010 Medicare enrollment file.

then they are both eligible. Those who have worked less than the ten years may also be eligible but will have additional costs. Legal immigrants must have had continuous residency in the United States for at least five years to be eligible to enroll.

Because of questions about the completeness of the historical vital statistics data for years prior to 1935, past DA efforts have relied primarily on the Medicare data to estimate the population 65 and over. For the first time, there will be an overlap between the Medicare-based estimates and the estimates developed using the 1935 through 1944 vital statistics data and estimates of net international migration. The overlap includes the population 65 to 74 years of age. This overlap, along with a comparison between estimates of those not enrolled from the CPS and estimates based on the recently-added question on health care coverage in the ACS, forms the basis for understanding the uncertainty in the Medicare-based estimates.

Removal of records from the MEDB

The MEDB is maintained by the Centers for Medicare and Medicaid Services. Several types of records were excluded from the MEDB to obtain a dataset of records believed to best match the population 65 and older on April 1, 2010 who met the 2010 Census residency rules. Records were excluded when the enrollee: did not reside in the United States; was not aged 65 or older as of April 1; had no date of birth; or had a date of death before April 1, 2010.[16] In addition, records for those with an implied age of 115 or older were removed and attempts were made to remove duplicate records.

In order to assign race to the records without a race classification including records classified as only Hispanic, the Medicare file was merged to the Census Bureau's Person Characteristics File (PCF). After the merge, records that were not unique (i.e., they were duplicates of other records) were removed. Overall, approximately 38 thousand records (about 0.10 percent of the original universe) were removed. The female population lost more records than the male population.

[16] Some individuals under age 65 may be eligible for Medicare if diagnosed with permanent disability or permanent kidney failure that requires dialysis or a kidney transplant.

About 32 thousand records, or 0.17 percent, were removed from the non-Black females and close to 2,700, or 0.14 percent, from the Black females.[17]

Many records show an age of 115 or older. More than likely, the presence of this high number of extreme ages represents erroneous inclusions on the file of deceased individuals. Age is calculated from information about date of birth, and proof of age is necessary to enroll in Medicare. It is therefore unlikely that there would be intentional age misreporting. Instead, date of birth (year) may have been entered into the database incorrectly. After the unduplication process, about 41 thousand records with an implied age of 115 or older were removed from the file.

Ultimately, about 79 thousand (or 0.21 percent) of the total records were removed from the Medicare universe because they were thought to represent either duplicate or erroneous records.

Estimates of the number of people not enrolled

Measures from different sources indicate that Medicare enrollment is a nearly complete source of information on the size of the population aged 65 and older. In the late 1990s, the Social Security Administration estimated the Medicare coverage of the population to be about 96 percent (U.S. House Committee on Ways and Means, 1998).

The accuracy of population estimates produced from the MEDB depends on the accuracy of the estimated completeness of the database. Some groups are not eligible to enroll, some may delay enrollment until a date later than when they became eligible; and some may never enroll. Groups not eligible to enroll include federal workers covered under a former federal employee retirement program, the Civil Service Retirement System (CSRS), annuitants without the required quarters of Social Security coverage, and noncitizens who have been residents for less than five years.[18]

[17] Through further inspection of the file, an additional 1,607 pairs of records were identified that had identical protected identification codes (PIKs), age (identical date of birth), and sex, but had different race codes. These records also appeared to be duplicates. However, in the absence of knowing which record in a pair to keep, these records were not removed from the file.

[18] The Civil Service Retirement System was a previous federal employee retirement program that stopped adding new participants during the 1980s.

The DA methodology has traditionally developed and combined two factors to correct the database for those not enrolled: an estimate of those who delay enrolling past their initial age of eligibility, and an estimate of those who will never enroll. The two factors are combined to form a total underenrollment correction, which is then applied to the database by single year of age, sex, and race (Black and non-Black).

The calculation of the delayed enrollment factor was based on information on age at time of enrollment in the MEDB for those aged 72 to 84. To get a sufficient number of years of "exposure" to delayed enrollment, ages 65 to 72 were excluded from the derivation. It was assumed that no one delays enrollment beyond age 85. The validity of these assumptions was based on a cohort analysis of Medicare enrollment in the 1980s (Passel and Robinson, 1988). Since the estimates of delayed enrollment are based on information from those currently enrolled within a specified age range, the estimates are sensitive to the actual changes in enrollment patterns that may have occurred.

The delayed enrollment adjustments relate to the population that will eventually enroll in Medicare at some age. In order to estimate the total population not enrolled, we also need an estimate of those who will never enroll. Previous research has assumed that individuals who delay enrollment will have enrolled by age 85. Thus, the percent of the population aged 85 and over that is not enrolled in Medicare forms the basis for the estimate of the population aged 65 and over who will never enroll in Medicare. The CPS Annual Social and Economic Supplement (ASEC) question on health insurance serves as the source for the development of the never-enrolled factor.[19] The CPS ASEC includes a specific question about enrollment in Medicare.

The percentages for both the delayed and the never-enrolled factors are added to derive the total percent not enrolled specific to each combination of single year of age, sex, and race (Black and non-Black). The factor is then applied to the MEDB enrollment number (by age, sex, and race) to produce the DA estimates for ages 65 and over.

[19] The Current Population Survey (CPS) is a monthly survey of about 50 thousand households conducted by the Census Bureau for the Bureau of Labor Statistics. The survey has been conducted for more than 60 years. The data are collected through a combination of telephone and in-person modes using computer-assisted instruments.

Two basic approaches were used to estimate the number of those not enrolled in Medicare. The first approach (series 1) uses factors for those who will delay enrollment developed from the 2009 MEDB and factors for those who will never enroll developed from estimates of enrollment from the CPS for 2002-2008 for the retired population aged 75 and older. The second approach (series 2) uses estimates of enrollment from the CPS for the total population in key age groups to estimate the number of those who are either delaying enrollment or who will never enroll. From these two approaches, alternative enrollment factors were also developed to show the potential impact of sampling error. While not used in the five series of DA estimates, underenrollment factors were also developed using data from the ACS. Lastly, as a check on both the Medicare- and component-based estimates, underenrollment factors were developed from the differences between the number of records in the MEDB and the component-based estimates for those aged 65 to 74 (the Medicare-component overlap).

In 2000 DA, the CPS estimates of underenrollment for the population aged 85 and older were used to determine the percent that will never enroll in Medicare beyond age 85. The number of those who will never enroll must also be calculated for those aged 65 to 84. For non-Black males and non-Black females, the percentages for the 85 and over population in 2000 were kept constant across all age groups 65 to 84 (2.0 and 1.5 percent, respectively).

However, it was assumed that the enrollment levels for Black males and females aged 65 to 69 had become more complete than for those over 85 years of age, unlike their non-Black counterparts. For the Black male population, the percentages for those who will never enroll were assumed to decline from 3.5 percent for those aged 85 and over to 2.5 percent for those aged 65 to 69. For the Black female population, the percentages were assumed to decline from 2.5 percent to 2.0 percent. The factors for those who will never enroll for the 70 to 84 age group were obtained through interpolation.

Medicare Series 1

For the first Medicare series, the methodology for the delayed enrollment factors remained the same as in 2000, but was updated using the 2009 MEDB file.

The CPS enrollment estimates for ages 75 and older were used to set the percent that will never enroll in Medicare at ages 85 and older. Because they were thought to better represent the population 85 and older where almost all persons are retired, the Medicare enrollment estimates for the retired population were used instead of the estimates for the total population (including the retired and those in the labor force). The never-enrolled factors are then held at the age 75 and older level for younger ages for both the Black and non-Black population. The first series of Medicare-based estimates were used as the middle DA estimates for the population aged 65 and over.

Because the CPS estimates are based on sample surveys, additional estimates were developed to show the potential impact of sampling error. As with the estimates of international migration, a 90-percent confidence interval was used. The estimates based on the lower bound of the 90-percent confidence interval were used for the low estimate of the population aged 65 and over.

Medicare Series 2

For DA in 2000, and for the first Medicare series, the measurement of those who delay enrollment and those who will never enroll were treated as two different measurements; one factor is perceived to be capturing those who will *eventually* enroll while the other factor is perceived to compensate for those who will *never* enroll. Though conceptually distinct, it is possible that there is an overlap in what is being measured. It is also possible that neither factor captures the entire population.

For the second series of Medicare-based estimates, it was assumed that the correction factor derived directly from the CPS captures the pace of enrollment as well as the proportion of the population who will never enroll. The factors are calculated by sex, race, and 5-year age groups for ages 65 to 69 and 70 to 74. It is assumed that the enrollment pattern is constant after age 75. The factors for the second series include all respondents in each age group, rather than just the retired population. The second series of Medicare-based estimates was used for the high DA estimate. Table 2 identifies which Medicare-based estimate was used in the each of the five DA estimate series.

Table 6 shows the estimates produced using the different approaches as well as the upper and lower bounds from the margins of error. The total population 65 and over ranges from a low of just under 40.0 million from the estimate developed using separate estimates of those who delay enrollment and those who will never enroll to a high of just over 40.7 million from the estimate developed using only the CPS underenrollment factors. When considering sampling variability in the correction factors, the lower value of the range decreases to 39.8 million and the upper value of the range increases to 40.9 million.

The CPS universe (civilian noninstitutionalized population only)

The CPS is only administered to the civilian noninstitutionalized population, i.e., the military and the institutionalized populations are not included in the universe. This might affect the estimate of persons not enrolled in Medicare. However, we consider the impact to be small. The implicit assumption is that the institutionalized population is not enrolled in Medicare at the same rate as the noninstitutionalized population. Overall, according to Census 2000 data, 1.6 million persons were institutionalized at ages 65 and older. Calculations based on the estimates of the resident population and estimates of the noninstitutionalized population by age and sex show that the institutionalized population does not become a significant portion of the population until it reaches age 85.[20] In this age category (ages 85 and older), around 21 percent of females and about 19 percent of males are in institutions. Furthermore, a large portion of the institutionalized population is likely enrolled in Medicare.

Comparison with the component-based estimates (the age 65 to 74 overlap)

For DA in 2010, the primary estimate for the population aged 65 and older was developed from aggregated Medicare data corrected for underenrollment. Estimates were also developed for the population aged 65 to 74 using the component approach. The availability of the second estimate—the ages 65 to 74 overlap—allows us to assess the consistency between the Medicare- and component-based estimates for these ages by sex and Black and non-Black.

The 2000 DA population aged 56 to 64 in 2000 reached ages 65 to 73 in 2009. We carried forward the 2000 DA estimates through the cohort-component approach to form a 2009 DA

[20] Special tabulations produced by the Population Division's Estimates and Projections Program.

estimate. This estimate was compared to the Medicare 2009 enrollment universe (before corrections for underenrollment and projections to 2010). The difference was interpreted to represent an indirect demographic estimate of the MEDB completeness on April 1, 2009.

The patterns of difference in the implied underenrollment vary by race more than by sex. For the non-Black population aged 70 to 73 in 2009, the implied underenrollment percents based on the component DA estimates (4.0 for males, 2.7 for females) are reasonably similar to the Medicare/CPS-based percentages for ages 70 to 74 (3.2 to 4.4 for males, 3.1 to 4.0 for females). Given the different estimation methods, this agreement is notable. The DA estimates are based on births from 1935 to 1939, corrected for underregistration—these birth cohorts are then carried forward 70 or more years by subtracting deaths and adding estimates of net international migration. The Medicare-based estimates are derived from factors from the 2009 Medicare file and CPS estimates of Medicare underenrollment for 2002-2008.

However, for the non-Black population aged 65 to 69, the component-based estimates of underenrollment (4.5 percent for males, 3.4 percent for females) are lower than the Medicare/CPS-based estimates, especially the series that was based directly on the CPS estimates of Medicare coverage, which imply relatively high levels of underenrollment (11.2 percent for males, 9.6 percent for females). We need to investigate reasons for the difference, and see if these reasons can also explain why the two sets are so similar for ages 70 to 73.

For the Black population, the age pattern of agreement is different. This time, the component-based estimates of implied underenrollment at ages 65 to 69 (12.0 for males, 8.2 for females) are broadly similar to the Medicare/CPS-based estimates, in that all show high percentages of Medicare underenrollment. The estimates based entirely on the CPS again tend to be on the high side, especially for Black females aged 65 to 69 (12.1 percent). For Black females aged 70 to 73 in 2009, the component-based implied percent (5.8) also falls within the range of the Medicare/CPS-based estimates (5.1 to 6.8). The distinct exception is for Black males aged 70 to 73, where the Medicare underenrollment of 11.0 percent implied by the component DA estimate is appreciably higher than every Medicare/CPS-based set (5.4 to 7.6). The availability of the 65 to 74 "overlap" provides a new opportunity to systematically evaluate both the Medicare-based

estimates and the component-based estimates. The factors that were used to develop each series of Medicare-based estimates and the implied underenrollment based on the 65 to 74 overlap are provided in Table 7.

Estimates of underenrollment from the ACS

To provide additional support for the reasonableness of the CPS-based factors, we also examined Medicare enrollment data from the ACS. A question on health care coverage that asks specifically about enrollment in Medicare was added to the ACS in 2008, and the first estimates from this question were released in 2009. For the population aged 65 and older, the estimated percent enrolled from the ACS was 96.9, and 93.4 percent from the CPS.

Differences in the CPS and the ACS questionnaire wording and collection mode might lead to different responses about health care enrollment. The 2008 ACS asks the health insurance question about each person individually (does this person have coverage). The CPS asks the question at the household level (does anyone in the household have coverage) and then asks who in the household had coverage. The different approaches might generate different outcomes. The use of different data collection modes and edits for nonresponse may also lead to different results.

OBTAINING THE DA ESTIMATES BY RACE (BLACK AND NON-BLACK)

The previous sections discussed each component of the DA estimates with a focus on the estimates of the total population. The following section describes how the estimates by Black and non-Black are developed from each component.

Birth records

Births recorded through birth certificates serve as the primary source for determining the size of each native-born cohort. Birth certificates do not include information on the race and Hispanic origin of the child, and so they must be inferred from the race and ethnicity of the parents. The information recorded on the birth certificate on the race(s) and Hispanic origin of the mother and

father are used to assign a race and ethnicity to each birth. Decisions about how to use this information and how the decennial census responses are tabulated must be considered when comparisons are being made between the DA estimates and the 2010 Census counts.

Following guidance provided by OMB's 1997 revision to the federal standards on collecting information on race and ethnicity, NCHS implemented the new standards in 2003 to include the option of selecting more than one race on birth and death certificates, but not all states have adopted this standard. The OMB revision specified five minimum categories for data on race and two for data on ethnicity: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White for race, and "Hispanic or Latino" and "Not Hispanic or Latino" for ethnicity. NCHS was given the option, which they exercised, to also include the category "Other." By 2006, 23 states had implemented a revised birth certificate to allow for the reporting of more than one race. The 23 states that reported multiple races for births accounted for 55 percent of U.S. births in 2006. Of the births reported in these states, 1.6 percent were to mothers who identified as multiracial (National Center for Health Statistics, 2008). NCHS provides both the multiple races that are reported and the multiple race responses "bridged" to the pre-1997 OMB four single-race categories.[21] Even when the multiple race option was not available, having the race of the mother and father on the birth certificate makes it possible to identify some births to parents of different races. However, if either parent was multiracial, they may not have had the opportunity to indicate so when their child was born, but had the opportunity to identify themselves or their children as multiracial in the 2010 Census. An example would be a birth where the mother was Black (Black alone) and the father was Black and Asian (Black in combination). The birth may be recorded as being to two Black parents (Black alone) but reported as Black and Asian in the census (Black in combination). The value of the DA estimates by race as an indicator of the quality of the census depends largely on how effective we have been at obtaining consistency between the DA estimate and the census categories with which they are being compared.

[21] The OMB revisions separated the formerly combined Asian and Pacific Islander category to form five racial categories: 1) White; 2) Black or African American; 3) American Indian and Alaska Native; 4) Asian; and 5) Native Hawaiian and Other Pacific Islander.

For DA in 2000, race was assigned to births based on the race of the father because it produced an estimate of the Black population that had the closest agreement with the tabulated census responses from among other approaches based on the reported race of the parents (Adlahka et al., 2002). The Census 2000 value that compared to the DA estimate was an average of the count of the Black alone population and the Black alone or in combination population.

With the option of selecting multiple races in Census 2000 and in the 2010 Census, we need to consider how the race of each parent is recorded on the birth certificate and how this relates to the reporting of multiple races in the census. With regard to Hispanic origin, the issue is more similar to what was encountered in previous decades when only a single race was reported in the census but the race of both parents was available from the birth records: when information on Hispanic origin is available, the birth certificate will include the Hispanic origin of both parents, while in the census each respondent indicates if they are of Hispanic origin or not of Hispanic origin.

Since 2000, there has been an increase in both multiracial and ethnic births, as well as possible changes in how people self-identify in the census. Subsequently, for 2010 more effort has been directed toward researching how to best align the decennial census counts with the DA estimates for purposes of comparison. For DA in 2010, separate DA estimates are being developed for comparison with the Black alone population and the Black alone or in combination population. This should allow for a direct comparison with Census 2010 tabulations where the Black population is defined as only those who identified as Black alone, and tabulations where the Black population is defined as including those who identified as Black alone or Black in combination with another race.

The use of micro-level vital-statistics data in 2010 has allowed for greater flexibility in assigning race to births since 2000, while also making it possible to re-tabulate the birth data for earlier years. For years prior to 1980, the birth and death data used consist of annual tabulations provided by NCHS. For 1968 through 1979, we have estimates of births by race of father, race of mother, and race of child. For years before 1968, only tabulations by "race of child" as defined based on the

NCHS "Minority rule" are available (National Center for Health Statistics, 1992).[22] Because we only have tabulated data, there are limits to what we can do for births occurring in these years. However, because multiracial births were relatively rare prior to 1980, this does not have a large impact on the DA estimates by race. Also, this will not impact the estimates by Hispanic origin since those under age 20 in 2010 were born after 1980. The time series of births based on race of father was extended back to 1935 using the ratio of estimated births by race using the race of father and the Minority rule.

The basic strategy for assigning the race categories needed for DA (Black alone, Black in combination, and not Black alone or in combination) was to identify a birth as non-Black if both parents on the birth certificate were non-Black, and Black if both parents were Black. If the parents' races on the birth certificate reflected a Black and non-Black combination, proportions developed from Census 2000 responses were used. To identify patterns in how the race of children in interracial/ethnic households were reported, a dataset was developed based on individual-level Census 2000 records which linked children aged 0 to 17 and their parents. This "Kid Link File" consists of four sets of variables: characteristics of the child, characteristics of the mother, characteristics of the father, and characteristics of the household. This format allows the reported characteristics of the child—such as race and Hispanic origin—to be linked to parents' reporting.[23]

The Kid Link file was used to calculate the proportions of children identified in Census 2000 as Black alone, Black in combination, or not Black alone or in combination according to the combination of parents' races. The householder, spouse of the householder, or unmarried partner of the householder were considered the parents. Because we wanted to best match the relationship between parents' race on the birth certificate and race reported in the census, households where the spouse or partner was of the same sex as the householder were excluded, and only natural-born children of the householder were included. If the race of any member of

[22] The Minority Rule, as used by NCHS determines the race for each birth as follows: when of the same race, the race of the birth is the same as the race of the parents; when of different races and one parent is White, the birth is assigned the race of the minority parent; when the parents are of different races and neither parent is White, the birth is assigned the father's race, unless either parent is Hawaiian; then the birth is assigned Hawaiian.
If the race was missing from one parent, the birth is assigned the race of the other parent.
[23] Current plans include the production of revised DA estimates using proportions developed from the 2010 Census and ACS responses.

the household was imputed or identified as Some Other Race in the census, the household was excluded unless the Some Other Race response was in combination with another race category. Proportions were generated for every mother/father combination of White alone, Black alone, Asian alone, American Indian or Alaska Native alone, Native Hawaiian or Other Pacific Islander alone, and for a combined Asian/Native Hawaiian or Other Pacific Islander parent category. The parent category of Asian combined with Native Hawaiian or Other Pacific Islander was used because the majority of births between 1980 and 2007 were recorded using birth certificates with the combined category (Asian and Pacific Islander) rather than the separate Asian and Native Hawaiian or Other Pacific Islander categories. The resulting proportions were then applied to each birth based on the reported race of both parents on the birth certificate to obtain a race distribution consistent with the patterns of reporting in Census 2000.

This approach allowed us to address that when births occur to one Black parent and one non-Black parent, some are given the race of the mother and some the race of the father, but the majority are identified as multiracial rather than relying solely on the reported race of either parent. The proportion of births identified as Black in combination ranged from 56.5 percent for the combined Asian /Native Hawaiian or Other Pacific Islander Mother and Black Father category to 16.4 percent for the Black Mother and American Indian or Alaska Native Father category. The proportions for all of the parental race combinations are provided in Table 8. When both parents are of the same race (Black or non-Black), all of the births were assigned the race of their parents. The assignment of ethnicity will be discussed in more detail in the "Estimates by Hispanic Origin" section.

The DA estimates by race disseminated prior to the release of the 2010 Census counts included estimates intended to be compared with the census count of the Black alone population. Additional estimates intended for comparison with the census count of the Black alone or in combination population will be released at a later date.[24]

[24] The DA estimates for the Black population reflect the use of the Kid Link proportions for births occurring after April 1, 1980 and the use of the Father's race for prior years.

Characteristics of international migrants

To obtain estimates of the age, sex, racial, and ethnic characteristics for each component of international migration from 2000 to 2010, "proxy" populations that are thought to best represent the characteristics of each component are used. The characteristics of these proxy populations from Census 2000 and the 2005-2007 three-year ACS file are used to estimate the age, sex, racial, and ethnic characteristics for each component. The characteristics of the foreign-born population who entered the United States within 5 years of the Census/survey year are used to estimate the characteristics of foreign-born immigrants. Emigration rates were calculated for two period of entry groups: the foreign born who entered the United States between 1990 and 1999; and the foreign born who entered before 1990. The characteristics of the foreign born who entered the United States within ten years of the Census/survey year were used to estimate the characteristics of emigrants who entered within ten years of the estimate year. The characteristics of the foreign born who entered the United States more than ten years before the Census/survey year were used to estimate the characteristics of emigrants who entered the United States more than ten years before the estimate year. The characteristics of the population born in Puerto Rico who entered the United States within five/ten years of the Census/survey year are used to obtain the characteristics of the net migrants between the United States and Puerto Rico. The characteristics of the native population are used to obtain the characteristics of the net native migrants. Finally, the characteristics of the native population who were born abroad of U.S. citizen parents that entered the United States in the last 10 years were used to obtain the characteristics of those born abroad of U.S. citizen parents.

Within each component, the population that is Black alone was categorized as "Black" while the remaining population was categorized as "non-Black." Alternative classifications of race using the multiracial categories found in the 2000 Census and the ACS were also developed. For this alternative classification, the Black alone and all multiple race groups that include Black were categorized as "Black alone or in combination," and the remaining population was categorized as "not Black alone or in combination." The alternative classifications were not used in the five series of DA estimates which only include estimates of the Black alone population, but will be used in future DA estimates for the Black alone or in combination population.

Characteristics of Medicare enrollees and those not enrolled

The Centers for Medicare and Medicaid Services (CMS) handles enrollment in the Medicare program. However, when the Medicare program began in 1965, the Social Security Administration (SSA) was given managerial responsibility and is responsible for certifying that an individual is eligible for Medicare and for transmitting demographic information about that individual to CMS. Race is one such piece of demographic information. It was obtained at the time of application to the SSA for a Social Security Number (SSN).

From 1936 (the beginning of Social Security) to 1980, the race data were collected in only three categories: White, Black, and Other with an additional category of Unknown race. Since 1980, SSA has expanded their race categories. On the current SS-5 form (application for a Social Security card) the following race categories are listed: Native Hawaiian, Alaska Native, Asian, American Indian, Black/African American, Other Pacific Islander, and White. The current SS-5 form also includes Hispanic or Latino as a separate category. The Medicare file is limited by the time frame when the individual race information was collected. No attempts are made to recode race collected in the earlier categories into the revised categories. Race is a voluntary item on the Social Security card application. Unknown and Blank race classifications can also stem from enrollees who did not come in through the regular application route for Social Security, such as former railroad workers who enroll through the Railroad Retirement Board or individuals who enroll through the Medicare Health Plan. The Railroad Retirement Board does not collect information on race and ethnicity. Similarly, there is no requirement to report information regarding the race and ethnicity of plan members in the Medicare Health Plan. The file as obtained from CMS includes Hispanic as a race category, along with the following categories: Asian and Pacific Islander (non-Hispanic), American Indian (non-Hispanic), Black (non-Hispanic), White (non-Hispanic), Other, Unknown (don't know or not ascertained), and Blank (missing).

In past DA estimates production, the Medicare race categories were recoded to represent Black and non-Black. Records with a classification of Unknown on the Medicare file were prorated to

Black and non-Black.[25] For DA in 2010, we used the Census Bureau's Person Characteristics File (PCF) and a model-based race to supplement the race information from the MEDB. Over the last decade, the Census Bureau has built a person-level file from administrative records primarily for application to decennial census research and development. The SSA Numident file (a file of Social Security numbers) is processed to produce a file of unique SSNs which are then replaced by randomly assigned Protected Identity Keys (PIKS) to maintain confidentiality (Farber and Miller, 2002). This file (the 100-percent Census Numident file) is then enhanced with demographic data to create the PCF (see Miller, Judson, and Sater, 2000 for a more complete description).

The MEDB-universe was matched to the PCF. This allowed us to use race information from three different sources: Medicare, Census 2000, and a model-based approach (see Resnick, 2002 for a more detailed discussion of the use of administrative records to predict race and Hispanic origin).

When different options for using these three sources were examined, the outcomes were very similar. Each option used the race from each source in a different order. The option used for DA in 2010 gives precedence to the race maintained in the MEDB and is outlined in the steps below:

1. If the Medicare record is White, Black, Asian, American Indian, or Other, the Medicare race is used.[26]
2. If the Medicare record is Hispanic, Unknown, or Blank, the Census race is used if it is White, Black, Asian, Pacific Islander, or American Indian.
3. If the Census race in step 2 is Multiple race, Unknown or Blank, the modeled race is used.

[25] The Black population was obtained as Black + (Black/(Black + non-Black)*Unknown). Similarly, non-Black = non-Black + (non-Black/Black + non-Black)*Unknown.
[26] Medicare race is collected from the Social Security card application. When most of the Medicare enrollees in our universe applied for an SSN, the race categories were White, Black and Other, with Other representing primarily Asian. For DA in 2010, the Other category was combined with the non-Black population.

4. The records that end up being modeled as Multiple race or Blank as a result of step 3 are distributed proportionally among the race categories (White, Black, Asian, American Indian or Other.)
5. The White, Asian, American Indian, and Other categories are considered non-Black.

The factors for those not enrolled are developed for the Black and non-Black race categories using the race as reported in the CPS. Multiracial respondents in the CPS were considered non-Black. These adjustment factors are then applied to the race distribution obtained using the steps just described.

ESTIMATES BY HISPANIC ORIGIN

As described earlier, in previous decades the production of DA estimates was limited to two broad race categories, Black and non-Black, with no reference to ethnicity. As the racial and ethnic composition of the nation's population has changed, there has been an increased interest in expanding beyond the DA Black and non-Black race categories. The Hispanic population has grown substantially over the past several decades. In 2009, Hispanics comprised an estimated 15.8 percent of the population (U.S. Census Bureau, 2010), up from 12.5 percent in 2000 (U.S. Census Bureau, 2001b), 9.0 percent in 1990 (U.S. Census Bureau, 1991), and 6.4 percent in 1980 (Gibson and Jung, 2005). The growth in the Hispanic population has played an increasingly important role in shaping the size and age structure of the U.S. population. For 2010 DA, we have developed estimates of the population under 20 years of age by Hispanic origin, age, and sex for comparison with 2010 Census counts. The DA estimates are limited to these ages because of the available historical components of change (births, deaths, and estimates of international migration).

Historical availability of vital statistics data by Hispanic origin

NCHS began working with states to report vital statistics birth data by parental Hispanic origin in the 1970s. By 1988, 30 states and the District of Columbia reported births by Hispanic origin. In 1989, the U.S. Standard Birth Certificate was revised to formally incorporate questions on parental Hispanic origin. In 1990, the first year that a birth would be included in the DA estimates by Hispanic origin; all but two states reported this information. Oklahoma added the Hispanic origin

question to its birth certificate in 1991, and New Hampshire in 1993.

Death certificates also started to include a question on Hispanic origin in the 1970s. By 1980, 21 states had a Hispanic origin item on their death certificates. However, Florida (a state with a large Hispanic population) did not include this item until 1989, and California had more than 50 percent missing responses until 1983 (Arias et al., 2008). The Hispanic origin item became part of the U.S. Standard Death Certificate in the 1989 revision. In 1990, all states except Louisiana (1991), New Hampshire (1993), and Oklahoma (1997) reported deaths by Hispanic origin of the decedent.

Births by Hispanic origin

The Hispanic origin question on birth certificates provides information on mother's Hispanic origin and father's Hispanic origin. As with race, information is not recorded on the Hispanic origin of the child. To classify each birth as Hispanic or non-Hispanic, we first impute parental Hispanic origin for records where mother's and/or father's Hispanic origin is missing. We then classify children into one of the two categories, Hispanic or non-Hispanic, using information on reported parental Hispanic origin.

Imputing missing Hispanic origin of mother and/or father

Missing Hispanic origin of mother and/or father is proportionally imputed using state-level information from records where parental Hispanic origin is known. Two donor datasets are created. The first consists of vital statistics records from 1990-2000, and the second consists of records from 2000-2007. Both donor datasets are restricted to birth records where both mother and father's Hispanic origin are known. The 1990-2000 dataset serves as the donor for imputing Hispanic origin for births from April 1990 through March 2000, and the 2000-2007 dataset serves as the donor for imputing Hispanic origin from April 2000 through December 2007. Births for January 2008 through March 2010 are projections and therefore are not part of the imputation process. Missing Hispanic origin is imputed by state using proportions from the donor dataset. For example, in cases where mother is Hispanic and the Hispanic origin of father is unknown, fathers are imputed as Hispanic using the state-level proportion of fathers in the donor dataset who are Hispanic when mother is Hispanic. If the Hispanic origin of both mother and father is unknown, mother's Hispanic origin is imputed using the state-level proportion of all mothers who

are Hispanic, and then father's Hispanic origin is imputed through proportional imputation using the imputed mother's Hispanic origin classification.

In the data used to construct estimates by Hispanic origin (1990 to 2007), approximately 787 thousand births (1.1 percent) were missing Hispanic origin of mother and approximately 11 million births (15.2 percent) were missing Hispanic origin of father. Among births missing Hispanic origin of mother or father, 669 thousand (6.1 percent) were missing both Hispanic origin of mother and father. Overall, 16.1 percent of mothers with an unknown Hispanic origin were imputed as Hispanic, and 18.0 percent of fathers.

Classifying births as Hispanic or non-Hispanic

The next step is to classify each birth as Hispanic or non-Hispanic using information on the Hispanic origin of mother and father. We create a low, middle, and high estimate of Hispanic births using three separate classification rules. The total number of births is consistent under each assumption; the only difference is the distribution of births by Hispanic origin. Under the high assumption, children are classified as Hispanic if mother or father is reported as Hispanic on the birth certificate. This provides the maximum number of possible Hispanic births. Under the low assumption, Hispanic births are estimated as births where both parents are Hispanic plus 50 percent of births to one Hispanic and one non-Hispanic parent.

For the middle estimate, we use Census 2000 data on reported Hispanic origin of parents and children to proportionally classify children as Hispanic or non-Hispanic (similar to how race is assigned). Based on Census Bureau tabulations that included imputations when parental Hispanic origin was missing and projections from January 2008 through March 2010, 24.8 percent of births where at least one parent was Hispanic consisted of one Hispanic parent and one non-Hispanic parent. Previous research has found that the proportion of children with both a Hispanic and non-Hispanic parent who are reported as Hispanic is around 63 percent (Lee and Edmonston, 2005). The Census 2000 Kid Link file discussed earlier was also used to develop the proportions used in DA. The results were consistent with the findings from the previous research. As with the proportions developed for the assignment of Black and non-Black, cases where Hispanic origin of either parent or of child was edited were excluded. Overall, we found that 61.4 percent of children

were reported as Hispanic when the mother was Hispanic and the father was non-Hispanic, and 69.8 percent of children were reported as Hispanic when the mother was non-Hispanic and the father was Hispanic. These proportions were applied to impute Hispanic origin of children in the birth data when one-parent is Hispanic and the other is non-Hispanic. Overall, 65.6 percent of births with one-Hispanic parent were classified as Hispanic in the middle estimate. When both parents are of the same ethnicity (Hispanic or non-Hispanic) all of the births were assigned the ethnicity of their parents.

The DA estimate for Hispanics aged 0 to 19 includes 81.3 million births that occurred on or after April 1, 1990. About 20.4 percent of births are classified as Hispanic under the low assumption, 21.3 percent under the middle assumption, and 23.3 percent under the high assumption. The proportion of births that are classified as Hispanic is higher for the younger ages than among the older ages, which reflects an increase in births to Hispanic parents over time. For example, in the middle estimate 25.8 percent of births in the cohort aged 0 to 4 as of April 1, 2010 are classified as Hispanic, compared to 16.8 percent of births in the 15 to 19 year old cohort.

Deaths by Hispanic origin

Deaths are processed for the Hispanic origin series using similar methods and imputation procedures as those used to produce estimates by Black and non-Black. There are just over 12 thousand deaths missing information on Hispanic origin (1.8 percent of deaths). To impute Hispanic origin for deaths with missing values, the dataset is sorted by birth year, birth month, state of residence, race, and sex. Hispanic origin is then imputed using the reported Hispanic origin from a record with similar characteristics as indicated by the sort sequence. Overall, 10.9 percent of deaths with a missing Hispanic origin are imputed as Hispanic.

Only one series of estimated deaths by Hispanic origin was used. The estimate of deaths for the cohort that would be age 0 to 19 as of April 1, 2010 is approximately 780 thousand. Of these deaths, 14.0 percent are Hispanic.

Projecting births and deaths through March 31, 2010

The same method that is used to produce estimates of births and deaths by Black/non-Black (see page 15) for the period from January 2008 through March 2010 is used to estimate the births and deaths by Hispanic/non-Hispanic for this period.

International migration

Net international migration from April 1990 through March 2000 is estimated using the methods from 2000 DA. Although the Census Bureau did not produce 2000 Demographic Analysis Population Estimates (DAPE) by Hispanic origin, the international migration components were estimated by Hispanic origin.[27] For 2000 to 2010, net international migration components were developed by race and Hispanic origin using the methods described earlier.

OUTREACH TO EXTERNAL EXPERTS

The Census Bureau has a long history of collaborating with external experts on DA. Two sets of recommendations were considered in the development of the overall strategy for DA in 2010. The first set of recommendations came from the Census 2000 Monitoring Board (U.S. Census 2000 Monitoring Board, 2001). The second set of recommendations came from a 2008 report from the National Research Council of the National Academies, "Coverage Measurement in the 2010 Census" (National Research Council, 2008).

While most of the recommendations from the Census 2000 Monitoring Board pertain to how the DA estimates of coverage are to be used, they also include a call for the Census Bureau to increase its capacity to measure immigration and an evaluation of the DA program prepared by Passel (2001: 86).

Recommendations for DA from the National Research Council of the National Academies were provided by a panel on "Coverage Evaluation and Correlation Bias in the 2010 Census." The

[27] For more information on the methods used to estimate international migration from April 1990 through March 2000, please see the Population Division Working Papers (58 through 64) online at <http://www.census.gov/population/www/techpap.html>.

recommendations included working to improve the measurement of international migration and identifying ways to assess the uncertainty in the DA estimates (National Research Council, 2008).

In addition to carefully considering prior recommendations, we also sought to obtain input from external experts throughout the 2010 DA effort. This has involved presenting the plans for DA in 2010 to a wide range of audiences and inviting key experts from both inside and outside the federal statistical community to participate in a DA workshop on January 8, 2010. Several participants from this workshop have continued their collaboration with us through participating in panel sessions at professional conferences and by working with us at the Census Bureau as part of the Census Bureau's "Summer at Census" program.

SUMMARY

The goal of the 2010 DA program has been to provide the best national estimates possible by age, sex, and the DA race and ethnicity categories to serve as the foundation for the demographic analysis of the 2010 Census counts. We also considered it essential to communicate the uncertainty in these estimates due to the limitations of the available data. This paper has provided a description of the development of alternative estimates for each component of the DA methodology that were used in the five series of DA estimates. These five series of estimates were constructed to help communicate how the uncertainty in each of the components of DA translates into uncertainty in the estimates by age, sex, and in the DA race and ethnicity categories. The alternative estimates for each component have been provided in this paper to allow for a more informed interpretation of the range of DA estimates. We will continue to work on improving the DA estimates and will incorporate the final vital statistics and Medicare data. Revised estimates will be disseminated as they become available.

REFERENCES

Adlakha, Arjun L., J. Gregory Robinson, and Amy Symens Smith. 2002. "Alternative Rules for Assigning Race of Birth: Effect on Birth Totals, Implications for Vital Rates and Census Undercount Estimates by Race." Paper presented at the Annual Meeting of the Southern Demographic Association. Austin, Texas, October 10-12.

Arias, Elizabeth, William S. Schauman, Karl Eschbach, Paul D. Sorlie, and Eric Backlund. 2008. "The Validity of Race and Hispanic Origin Reporting on Death Certificates in the United States." *Vital Health Stat* 2(148). Hyattsville, M.D.: National Center for Health Statistics.

Coale, Ansley J. 1955. "The Population of the United States in 1950 Classified by Age, Sex and Color--A Revision of Census Figures." *Journal of the American Statistical Association* 50(269):16-54.

Das Gupta, Prithwis. 1991. "Models for Assessing Errors in Undercount Rates Based on Demographic Analysis." DA Evaluation Project D11. Preliminary Research and Evaluation Memorandum No. 84. Washington, D.C.: U.S. Census Bureau.

Farber, J. and E. Miller. 2002. "Matching Census 2000 to Administrative Records." Proceedings of the 2002 Joint Statistical Meeting, Alexandria, VA.

Gibson, Campbell and Kay Jung. 2005. "Historical Census Statistics on Population Totals by Race 1790 to 1990, and by Hispanic Origin, 1970 to 1990, for Large Cities and Other Urban Places in the United States." Population Division Working Paper Series No. 76. Washington, D.C.: U.S. Census Bureau.

Himes, C. L. And C.C. Clogg. 1992. "An Overview of Demographic Analysis as a Method for Evaluating Census Coverage in the United States." *Population Index* 58(4): 587-607.

Hogan, Howard, William Bell, Lynn Weidman, and Allen Schirm, 2003. "Integrating Survey, Demographic, and Modeling Methods." Joint Statistical Meetings, Section on Government Statistics.

Jones, Nicholas A. and Amy Symens Smith. 2003. "New Explorations of Race Reporting for Interracial Couples and Their Children: Census 2000." Paper presented at the Annual Meeting of the Population Association of America. Minneapolis, Minnesota, May 2, 2003.

Lee, Sharon M. and Barry Edmonston. 2005. "New Marriages, New Families: U.S. Racial and Hispanic Intermarriage." *Population Bulletin* 60(2): Washington, D.C.

MacDorman, Marian, Fay Menacker, and Eugene Declercq. 2010. "Trends and Characteristics of Home and Other Out-of-Hospital Births in the United States, 1990-2006." *National Vital Statistics Report* 58(11). Hyattsville, M.D.: National Center for Health Statistics.

McDevitt, Tom, Martin O'Connell, and Colleen Joyce. 2001. "Evaluating the Components of Births and Deaths used in Demographic Analysis." Washington, D.C.: Population Division, U.S. Census Bureau.

Miller, E.R., D.H. Judson, and D. Sater. 2000. "The 100% Census Numident: Demographic Analysis of Modeled Race and Hispanic Origin Estimates Based Exclusively on Administrative Records Data." Paper presented at the Annual Meeting of the Southern Demographic Association, New Orleans, Louisiana, October 26-28.

National Center for Health Statistics. 2008. *User Guide to the 2006 Natality Public Use File*. Hyattsville, M.D.: National Center for Health Statistics.

____. 1992. *Vital Statistics of the United States, 1989. Volume I, Natality*. Hyattsville, M.D.: National Center for Health Statistics.

National Research Council. 2008. *Coverage Measurement in the 2010 Census.* Panel on Coverage Evaluation and Correlation Bias in the 2010 Census, Robert M. Bell and Michael L. Cohen (Eds.), Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Washington, D.C.: The National Academies Press.

____. 1994. *Counting People in the Information Age*. Panel to Evaluate Alternative Census Methods, Duane L. Steffey and Norman M. Bradburn, eds., Committee on National Statistics. Washington, D.C.: National Academy Press.

____. 1985. The *Bicentennial Census: New Directions for Methodology in 1990*. Panel on Decennial Census Methodology, Constance F. Citro and Michael L. Cohen, eds., Committee on National Statistics. Washington, D.C.: National Academy Press.

The Office of Management and Budget. 1997. "Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, Notice of Decision." *Federal Register* 62:210 (October 30, 1997): 58782-58790.

Passel, Jeffrey S. 2001. "Demographic Analysis: An Evaluation." Section 4 in U.S. Census Monitoring Board, Final Report to Congress, 2001.

____. 1992. "Alternative Estimates of Black Births Corrected for Underregistration: 1935-1980." Washington, D.C.: The Urban Institute.

Passel, Jeffrey S. and J. Gregory Robinson. 1988. "Methodology for Developing Estimates of Coverage in the 1980 Census Based on Demographic Analysis: Population Aged 65 and Older in 1980." Preliminary Evaluation Results Memorandum No. 116.

Preston, Samuel H., Irma T. Elo, Andrew Foster, and Haishan Fu, 1998. "Reconstructing the Size of the African American Population by Age and Sex, 1930–1990." *Demography* 35(1): 1-21.

Resnick, D.M. 2002. "Improving the Accuracy of Race and Hispanic Origin in Administrative Records." Proceedings of the 2002 Joint Statistical Meeting, Alexandria, VA.

Robinson, J. Gregory. 2010. "Coverage of Population in Census 2000 Based on Demographic Analysis: The History Behind the Numbers." Paper prepared for the Demographic Analysis Technical Review Workshop, January.

____. 1991. "Demographic Analysis Evaluation Project D1: Error in the Birth Registration Completeness Estimates." Unpublished Census Bureau Report.

Robinson, J. Gregory, B. Ahmed, P. Das Gupta, and K. A. Woodrow. 1993. "Estimation of Population Coverage in the 1990 United States Census Based on Demographic Analysis." *Journal of the American Statistical Association* 88(423): 1061-1071.

Schachter, J. 2008. "Estimating Native Emigration from the United States," Memorandum dated December 24, developed during contract work for the U.S. Census Bureau.

Siegel, Jacob S. and Melvin Zelnik. 1966. "An Evaluation of Coverage in the 1960 Census of Population by Techniques of Demographic Analysis and by Composite Methods." Proceedings of the Social Statistics Section of the American Statistical Association.

U.S. Census Bureau. 2010. Table 3. Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin for the United States: April 1, 2000 to July 1, 2009 (NC-EST2009-03).

____. 2009. "Source and Accuracy Statement for the October 2008 CPS Microdata File on School Enrollment." Memorandum, August.

____. 2001. "ESCAP II: Demographic Analysis Results," by J. Gregory Robinson. Executive Steering Committee on Accuracy and Coverage Evaluation Policy II, October.

____.2001b. Census of Population and Housing, 2000: Summary File 1. Table P8: Hispanic or Latino by Race.

____.1991. Census of Population and Housing, 1990: Summary Tape File 1. Table P009: Hispanic Origin.
____. 1988. "The Coverage of Population in the 1980 Census," by Robert Fay, Jeffrey S. Passel, and J. Gregory Robinson. Evaluation and Research Reports, PHC80-E4.
____. 1974. "Estimates of Coverage of Population by Sex, Race, and Age: Demographic Analysis," by Jacob S. Siegel. Evaluation and Research Reports, PHC(E)-4.
____. 1973. "Test of Birth Registration Completeness, 1964 to 1968." Evaluation and Research Program, PHC(E)-2.
U.S. Census 2000 Monitoring Board. 2001. *Final Report to Congress*. http://www.cmbp.gov.
U. S. House of Representatives Committee on Ways and Means. 1998. *1998 Green Book - Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means.* Washington, DC: U.S. Government Printing Office.

Table 1. Difference of Demographic Analysis Estimate and Census Count of the Resident Population: April 1, 1940 to April 1, 2000

Population by race	(Numbers in thousands)						
	1940[1]	1950[1]	1960	1970	1980	1990	2000
Total							
DA estimate	139,678	157,863	185,024	208,955	229,347	252,876	281,760
Census count	132,165	151,326	179,323	203,302	226,546	248,710	281,422
Difference	-7,513	-6,537	-5,700	-5,653	-2,802	-4,166	-338
Percent difference	-5.38	-4.14	-3.08	-2.71	-1.22	-1.65	-0.12
Black							
DA estimate	14,052	16,271	20,199	24,154	27,940	32,265	37,443
Census count	12,866	15,046	18,872	22,581	26,683	30,483	36,404
Difference	-1,187	-1,225	-1,327	-1,573	-1,257	-1,782	-1,039
Percent difference	-8.44	-7.53	-6.57	-6.51	-4.50	-5.52	-2.78
Non-Black							
DA estimate	125,626	141,592	164,825	184,801	201,407	220,610	244,317
Census count	119,300	136,280	160,451	180,721	199,862	218,227	245,018
Difference	-6,326	-5,312	-4,374	-4,079	-1,545	-2,384	701
Percent difference	-5.04	-3.75	-2.65	-2.21	-0.77	-1.08	0.29

[1] Census counts for 1940 and 1950 include Alaska and Hawaii.

Sources: 1990 and 2000 DA estimates are published in *Census 2000 ESCAP II report on DA* , 1990-Appendix table B4; 2000-Appendix Table B3: http://www.census.gov/dmd/www/pdf/Report1.PDF. 1940 to 1980 DA estimates are consistent with estimates published in: Robinson, J. Gregory, B. Ahmed, P. Das Gupta, and K. A. Woodrow. 1993a. "Estimation of Population Coverage in the 1990 United States Census Based on Demographic Analysis." Journal of the American Statistical Association 88(423): 1061-1071.

Table 2. 2010 Demographic Analysis Estimates Matrix				
	Births	**Deaths**	**International Migration**	**Medicare Enrollment**
DA Estimate	**Cohorts born between 1945 and 2010**			**Cohorts born before 1945**
Low Series	**(A) Low Births Series**: Reduced correction factors for underregistration through 1984. 1980 to 2010 race based on Kid Link-Black alone proportions. Race for births between 1945 and 1980 are based on race of father.	**(A) Registered Deaths**: Infant deaths corrected for underregistration through 1959.	**(A-1) Low NIM Series**: *Foreign-Born Immigration* - Lower bound Residence One Year Ago *Foreign-Born Emigration* - High estimate using residual method *Net Native-Born Migration* - Schachter methodology *Net Migration from Puerto Rico* - Residence One Year Ago Method *Residual Foreign Born (2000)* - Low Coverage assumption	**(A) Low Medicare Series**: Lower bound confidence interval (90%) using delayed enrollment factors from the Medicare Enrollment file and never-enrolled factors from the CPS (2002-2008).
Low Middle Series	**(B) Middle Births Series**: Corrections for underregistration through 1984. 1980 to 2010 race based on Kid Link-Black alone proportions. Race for births between 1945 and 1980 are based on race of father.		**(A-2) Low NIM Series**: *Foreign-Born Immigration* - Lower bound Residence One Year Ago *Foreign-Born Emigration* - High estimate using residual method *Net Native-Born Migration* - Schachter methodology *Net Migration from Puerto Rico* - Residence One Year Ago Method *Residual Foreign Born (2000)* - 85% Coverage assumption	**(B) Middle Medicare Series**: Estimates developed using delayed enrollment factors from the Medicare Enrollment file and never-enrolled factors from the CPS (2002-2008).
Middle Series			**(B) Middle NIM Series**: *Foreign-Born Immigration* - Residence One Year Ago *Foreign-Born Emigration* - Residual method *Net Native-Born Migration* - Schachter methodology *Net Migration from Puerto Rico* - Residence One Year Ago Method *Residual Foreign Born (2000)* - 85% Coverage assumption *Born Abroad of American Citizen Parents* - Middle estimate	
High Middle Series			**(C) High Middle NIM Series**: *Foreign-Born Immigration* - Year of Entry *Foreign-Born Emigration* - Residual method *Net Native-Born Migration* - Schachter methodology *Net Migration from Puerto Rico* - Residence One Year Ago Method *Residual Foreign Born (2000)* - 85% Coverage assumption *Born Abroad of American Citizen Parents* - Middle estimate	
High Series	**(C) High Births Series**: Increased correction factors for underregistration through 1984. 1980 to 2010 race based on Kid Link-Black alone proportions. Race for births between 1945 and 1980 are based on race of father.		**(D) High NIM Series**: *Foreign-Born Immigration* - Year of Entry with coverage factors *Foreign-Born Emigration* - Low estimate using residual method *Net Native-Born Migration* - Schachter methodology *Net Migration from Puerto Rico* - Residence One Year Ago Method *Residual Foreign Born (2000)* - 85% Coverage assumption *Born Abroad of American Citizen Parents* - High estimate	**(C) High Medicare Series**: Upper bound confidence interval (90%) using enrollment factors from the CPS (2002-2008).

Table 3. Demographic Analysis and NCHS Birth Data for the United States, 1935-2010

Age on April 1, 2010	Census Year of Birth	DA 2010 Birth Series			Registered Births DA 2010
		Low	Middle	High	
Total 1935-2010		275,363,282	276,355,807	277,348,330	273,047,394
Total 1945-2010		249,419,990	249,890,731	250,361,470	248,321,595
0	2009-10	4,135,000	4,135,000	4,135,000	4,135,000
1	2008-09	4,210,089	4,210,089	4,210,089	4,210,089
2	2007-08	4,318,577	4,318,577	4,318,577	4,318,577
3	2006-07	4,291,898	4,291,898	4,291,898	4,291,898
4	2005-06	4,164,249	4,164,249	4,164,249	4,164,249
5	2004-05	4,107,394	4,107,394	4,107,394	4,107,394
6	2003-04	4,111,055	4,111,055	4,111,055	4,111,055
7	2002-03	4,029,542	4,029,542	4,029,542	4,029,542
8	2001-02	4,014,671	4,014,671	4,014,671	4,014,671
9	2000-01	4,048,193	4,048,193	4,048,193	4,048,193
10	1999-00	3,997,766	3,997,766	3,997,766	3,997,766
11	1998-99	3,943,755	3,943,755	3,943,755	3,943,755
12	1997-98	3,898,417	3,898,417	3,898,417	3,898,417
13	1996-97	3,882,831	3,882,831	3,882,831	3,882,831
14	1995-96	3,898,606	3,898,606	3,898,606	3,898,606
15	1994-95	3,930,609	3,930,609	3,930,609	3,930,609
16	1993-94	3,992,092	3,992,092	3,992,092	3,992,092
17	1992-93	4,045,919	4,045,919	4,045,919	4,045,919
18	1991-92	4,111,537	4,111,537	4,111,537	4,111,537
19	1990-91	4,148,094	4,148,094	4,148,094	4,148,094
20	1989-90	4,078,732	4,078,732	4,078,732	4,078,732
21	1988-89	3,939,637	3,939,637	3,939,637	3,939,637
22	1987-88	3,833,983	3,833,983	3,833,983	3,833,983
23	1986-87	3,761,451	3,761,451	3,761,451	3,761,451
24	1985-86[1]	3,765,652	3,765,652	3,765,652	3,765,652
25	1984-85	3,688,406	3,688,831	3,689,254	3,687,420
26	1983-84	3,632,959	3,633,796	3,634,630	3,631,008
27	1982-83	3,688,621	3,689,887	3,691,156	3,685,663
28	1981-82	3,644,100	3,645,766	3,647,431	3,640,214
29	1980-81	3,617,338	3,619,395	3,621,454	3,612,536
30	1979-80	3,535,137	3,537,447	3,539,756	3,529,749
31	1978-79	3,376,056	3,378,569	3,381,083	3,370,190
32	1977-78	3,324,881	3,327,844	3,330,805	3,317,972
33	1976-77	3,223,132	3,226,434	3,229,738	3,215,422
34	1975-76	3,151,715	3,155,250	3,158,785	3,143,466
35	1974-75	3,175,855	3,179,681	3,183,507	3,166,929
36	1973-74	3,122,766	3,126,845	3,130,922	3,113,252
37	1972-73	3,233,513	3,238,100	3,242,687	3,222,808
38	1971-72	3,476,509	3,481,912	3,487,317	3,463,900
39	1970-71	3,758,758	3,764,783	3,770,807	3,744,700
40	1969-70	3,643,575	3,649,838	3,656,102	3,628,961
41	1968-69	3,552,993	3,559,757	3,566,520	3,537,209
42	1967-68	3,504,884	3,512,132	3,519,383	3,487,969
43	1966-67	3,612,442	3,620,469	3,628,493	3,593,715
44	1965-66	3,735,965	3,745,707	3,755,448	3,713,236
45	1964-65	3,987,314	3,997,894	4,008,477	3,962,625
46	1963-64	4,116,374	4,127,405	4,138,435	4,090,637
47	1962-63	4,171,886	4,183,515	4,195,143	4,144,752
48	1961-62	4,269,408	4,281,846	4,294,283	4,240,389
49	1960-61	4,304,833	4,318,043	4,331,253	4,274,008
50	1959-60	4,284,717	4,298,559	4,312,401	4,252,417
51	1958-59	4,278,709	4,293,296	4,307,884	4,244,672
52	1957-58	4,314,818	4,330,259	4,345,701	4,278,789
53	1956-57	4,228,719	4,244,816	4,260,911	4,191,161
54	1955-56	4,152,235	4,169,201	4,186,170	4,112,645
55	1954-55	4,093,165	4,111,378	4,129,589	4,050,670
56	1953-54	3,993,169	4,012,228	4,031,289	3,948,695
57	1952-53	3,920,437	3,940,565	3,960,693	3,873,473
58	1951-52	3,851,979	3,873,865	3,895,748	3,800,917
59	1950-51	3,661,300	3,684,646	3,707,996	3,606,818
60	1949-50	3,628,625	3,654,383	3,680,141	3,568,523
61	1948-49	3,609,812	3,638,238	3,666,661	3,543,489
62	1947-48	3,704,510	3,736,154	3,767,796	3,630,675
63	1946-47	3,696,119	3,730,603	3,765,089	3,615,656
64	1945-46	2,792,507	2,821,645	2,850,783	2,724,516
65	1944-45	2,882,475	2,915,716	2,948,958	2,804,912
66	1943-44	2,968,195	3,005,526	3,042,856	2,881,091
67	1942-43	3,015,495	3,057,883	3,100,272	2,916,590
68	1941-42	2,682,503	2,727,555	2,772,607	2,577,379
69	1940-41	2,516,089	2,566,306	2,616,522	2,398,919
70	1939-40	2,423,559	2,480,000	2,536,441	2,291,863
71	1938-39	2,436,517	2,498,300	2,560,082	2,292,356
72	1937-38	2,391,951	2,456,162	2,520,373	2,242,128
73	1936-37	2,299,377	2,363,375	2,427,374	2,150,044
74	1935-36	2,327,131	2,394,253	2,461,375	2,170,517

[1] Registration is considered 100% complete from this year forth

Note: Low and High series come from a 30% decrease or increase in the underregistered births

Sources:

Vital Statistics of the United States, 1935-1996

National Vital Statistics Reports, 1997-2007

U.S. Census Bureau, Demographic Analysis Tabulations for Birth Data

Table 4. Census 2000 Residual Percent Coverage Profile by Hispanic Origin, Age, and Sex

Hispanic origin and age	Male	Female
Hispanic		
0-15	92.5	92.5
16-29	90.0	90.0
30-49	85.0	92.5
50+	95.0	95.0
Non-Hispanic		
0-15	95.0	95.0
16-29	92.5	92.5
30-49	90.0	95.0
50+	100.0	100.0

Note: This coverage profile was developed by the U.S. Census Bureau from ACE Revision II and CPS data.
Source: U.S. Census Bureau

Table 5. Net International Migration, All Ages: 2000 to 2010

Period	Foreign-Born Immigration					Foreign-Born Emigration			Net Native Migration	Born Abroad of U.S. Citizen Parents (Net)[3]		PR - US Migration
	ROYA[1]	YOE[2]	ROYA: Lower Bound	YOE: Upper Bound	YOE with Representation Factors Applied	Total	Total: High	Total: Low	Foreign Census Method	Change in Stock	Change in Stock: No Citizenship Countries	ROYA: Net
4/1/00 - 3/31/10	11,853,066	13,475,814	11,418,920	13,927,832	14,236,273	2,281,258	2,567,081	1,982,369	-452,280	624,240	397,052	204,871
4/1/00 - 6/30/00	357,731	402,642	341,873	420,352	431,623	52,146	58,970	45,100	-11,307	15,606	9,926	2,783
7/1/00 - 6/30/01	1,430,922	1,610,568	1,367,492	1,681,410	1,726,490	208,584	235,880	180,398	-45,228	62,424	39,705	11,385
7/1/01- 6/30/02	1,367,448	1,555,521	1,305,137	1,624,927	1,660,958	209,254	236,690	180,875	-45,228	62,424	39,705	11,637
7/1/02- 6/30/03	1,234,564	1,450,864	1,178,284	1,513,873	1,541,937	213,652	241,940	184,388	-45,228	62,424	39,705	11,889
7/1/03 - 6/30/04	1,135,595	1,308,038	1,082,769	1,367,382	1,381,272	219,244	248,404	189,033	-45,228	62,424	39,705	12,141
7/1/04- 6/30/05	1,196,231	1,332,728	1,163,339	1,365,606	1,448,445	226,646	257,048	195,082	-45,228	62,424	39,705	12,393
7/1/05 - 6/30/06	1,197,655	1,383,708	1,168,713	1,411,800	1,433,505	236,861	267,205	205,048	-45,228	62,424	39,705	33,685
7/1/06- 6/30/07	1,122,326	1,309,276	1,087,248	1,343,178	1,378,169	243,540	274,493	210,983	-45,228	62,424	39,705	27,579
7/1/07 - 6/30/08	1,077,000	1,196,610	1,046,576	1,226,644	1,250,778	243,273	274,495	210,399	-45,228	62,424	39,705	34,010
7/1/08 - 6/30/09	990,625	1,100,491	958,565	1,127,234	1,133,198	237,163	263,448	209,155	-45,228	62,424	39,705	27,068
7/1/09 - 3/31/10	742,969	825,368	718,924	845,426	849,899	190,895	208,508	171,908	-33,921	46,818	29,781	20,301

[1] ROYA = Residence One Year Ago

[2] YOE = Year of Entry

[3] The two categories under the Born Abroad of U.S. Citizen Parents (Net) heading reflect different assumptions about the inclusion of migration of the population born abroad of U.S. Citizen parents in the net native migration estimate. The Change in Stock column reflects the assumption that migration of the population born abroad of U.S. Citizen parents to and from the United States was not included in the native migration estimate. The Change in Stock: No Citizenship Country column assumes that migration of the population born abroad of U.S. Citizen parents in countries for which data was available by citizenship but not place of birth are included in the native migration estimate.

Source: U.S. Census Bureau

Table 6. Medicare-Based Population Estimates for the Population 65 and Over by Race and Sex

Series and Measure	Total	Black		Non-Black	
		Male	Female	Male	Female
Number of Medicare Enrollees[1]	37,450,874	1,243,634	1,925,162	14,876,114	19,405,964
Series 1[2]					
Upper Bound	40,101,276	1,409,808	2,111,738	16,002,784	20,576,946
Estimate	39,956,699	1,387,865	2,088,122	15,952,770	20,527,942
Lower Bound	39,813,849	1,366,595	2,065,030	15,903,059	20,479,165
Series 2[3]					
Upper Bound	40,876,432	1,438,783	2,151,468	16,379,473	20,906,708
Estimate	40,726,013	1,415,943	2,126,964	16,327,019	20,856,087
Lower Bound	40,577,431	1,393,816	2,103,008	16,274,901	20,805,706

[1] Number of Medicare Enrollees is for April 1, 2009 (before adjustments for underenrollment and projections to April 1, 2010)

[2] Series 1 = Medicare-Based Delayed Enrollment and CPS Never Enrolled Factors from the 2000s

[3] Series 2 = CPS Underenrollment Factors Only

Source: U.S. Census Bureau

Table 7. Component- and Series-Based Estimates of Implied Percent Underenrollment in Medicare by Race and Sex for Selected Ages: 2009

Race and age in 2009	Male			Female		
	DA Component	Series 1[1]	Series 2[2]	DA Component	Series 1[1]	Series 2[2]
Black						
65+	-	6.04	9.10	-	5.46	7.67
65-69	12.00	11.16	13.70	8.20	9.67	12.10
70-74[3]	11.04	5.43	7.60	5.84	5.06	6.80
75-79	-	4.24	5.20	-	3.95	5.00
80-84	-	3.80	5.20	-	3.55	5.00
85+	-	3.67	5.20	-	3.45	5.00
Non-Black						
65+	-	3.47	6.13	-	3.24	4.88
65-69	4.50	6.54	11.20	3.40	5.62	9.60
70-74[3]	4.04	3.19	4.40	2.69	3.10	4.00
75-79	-	2.39	2.90	-	2.39	2.50
80-84	-	2.05	2.90	-	2.10	2.50
85+	-	1.97	2.90	-	2.03	2.50

[1] Series 1 = Medicare-Based Delayed Enrollment and CPS Never Enrolled Factors from the 2000s

[2] Series 2 = CPS Underenrollment Factors Only

[3] Component-based estimates are for ages 70-73.

Source: U.S. Census Bureau

Table 8. Percent of Children in Selected Race Groups by Parental Race Combination

Race of parents			Race of child (percent of total children)			
Mother	Father	Total children	Black alone	Black in combination	Not Black alone or in combination	Total
Black	Black	3,581,015	99.53	0.17	0.30	100.00
Black	White	92,150	33.77	39.82	26.41	100.00
Black	AIAN	4,971	58.26	16.40	25.35	100.00
Black	Asian	5,128	34.91	40.87	24.22	100.00
Black	NHPI	994	43.86	34.91	21.23	100.00
Black	Asian and NHPI	6,294	36.19	40.32	23.48	100.00
Black	Black in Combination	17,927	62.07	36.36	1.57	100.00
White	Black	322,474	32.47	48.65	18.88	100.00
AIAN	Black	12,390	39.32	31.58	29.10	100.00
Asian	Black	27,017	31.59	56.79	11.62	100.00
NHPI	Black	3,814	33.67	51.34	15.00	100.00
Asian and NHPI	Black	31,640	31.56	56.46	11.98	100.00
Black in Combination	Black	34,994	53.73	44.33	1.95	100.00
White	White	34,641,749	0.05	0.05	99.89	100.00
AIAN	White	145,612	0.11	0.19	99.70	100.00
Asian	White	292,857	0.05	0.11	99.84	100.00
NHPI	White	15,231	0.22	0.24	99.55	100.00
Asian and NHPI	White	314,750	0.05	0.12	99.82	100.00
Black in Combination	White	24,414	2.27	57.14	40.60	100.00
White	AIAN	148,645	0.15	0.26	99.59	100.00
AIAN	AIAN	247,800	0.12	0.09	99.79	100.00
Asian	AIAN	3,061	0.75	0.26	98.99	100.00
NHPI	AIAN	502	0.80	0.40	98.80	100.00
Asian and NHPI	AIAN	3,702	0.73	0.27	99.00	100.00
Black in Combination	AIAN	916	8.95	50.11	40.94	100.00
White	Asian	138,472	0.09	0.18	99.73	100.00
AIAN	Asian	2,366	0.17	0.85	98.99	100.00
Asian	Asian	1,787,356	0.04	0.02	99.94	100.00
NHPI	Asian	3,026	0.07	0.23	99.70	100.00
Asian and NHPI	Asian	1,794,161	0.04	0.02	99.94	100.00
Black in Combination	Asian	1,685	2.55	52.11	45.34	100.00
White	NHPI	18,630	0.21	0.28	99.51	100.00
AIAN	NHPI	920	0.65	0.76	98.59	100.00
Asian	NHPI	4,048	0.02	0.10	99.88	100.00
NHPI	NHPI	53,804	0.14	0.08	99.77	100.00
Asian and NHPI	NHPI	59,329	0.13	0.09	99.78	100.00
Black in Combination	NHPI	264	8.33	62.12	29.55	100.00
White	Asian and NHPI	162,987	0.10	0.19	99.70	100.00
AIAN	Asian and NHPI	3,469	0.35	0.78	98.88	100.00
Asian	Asian and NHPI	1,796,080	0.04	0.02	99.94	100.00
NHPI	Asian and NHPI	57,970	0.14	0.10	99.76	100.00
Asian and NHPI	Asian and NHPI	1,869,652	0.04	0.02	99.94	100.00
Black in Combination	Asian and NHPI	2,052	3.17	54.34	42.50	100.00
White	Black in Combination	32,939	2.32	66.04	31.64	100.00
AIAN	Black in Combination	1,579	6.27	52.50	41.23	100.00
Asian	Black in Combination	4,105	2.53	53.69	43.78	100.00
NHPI	Black in Combination	464	6.68	66.81	26.51	100.00
Asian and NHPI	Black in Combination	4,804	2.83	56.27	40.90	100.00
Black in Combination	Black in Combination	32,995	7.04	88.08	4.88	100.00

AIAN = American Indian and Alaska Native Alone

NHPI = Native Hawaiian and Other Pacific Islander Alone

Notes: Race of parents refers to race alone unless otherwise noted. Populations for each race group include both Hispanics and non-Hispanics.

Source: U.S. Census Bureau

APPENDIX A. HISTORICAL DEVELOPMENT OF THE DA METHODOLOGY

Demographic Analysis is an analytic approach that has been used to develop estimates for comparison with the national population in every census since 1950 (see Coale, 1955: Siegel and Zelnik, 1966; U.S. Census Bureau, 1974, 1988; and Robinson, 2010 for the demographic evaluations of the 1950-2000 censuses). The current DA methodology has developed from the use of a collection of analytical and estimation techniques focused on different subgroups of the population. As various data sources became available, or were considered of reliable quality, the analytical techniques were replaced with comparisons with direct estimates of the population. The current DA methodology allows for the direct estimation of the national population for all ages by sex and race (Black and non-Black).

The DA methodology has continued to evolve as new data sources and later years of vital statistics data have become available. Changes in the census questionnaire and the demographics of the nation have also played a role in the evolution of the DA methodology. The inclusion of the option to mark multiple races in Census 2000 and the 2010 Census questionnaires and increases in multiracial births pose methodological challenges for DA. While the data used for DA are essentially independent from the census, each census does bring new opportunities to re-assess the DA estimates, such as with Census 2000. In 2000, the initial DA estimate of 279.6 million was revised upward to 281.8 million, reflecting in large part a change in the assumptions about international migration during the 1990s. This change was based in part on the count of the foreign-born population in the census (U.S. Census Bureau, 2001).

External reviews of the DA methodology have been conducted each decade and have helped guide the evolution of the DA methodology. The National Research Council (1985, 1994, 2008) has issued reviews and recommendations the last two decades regarding the DA program. Passel (1992) reviewed the DA program at the time of the 1990 Census. In 1990, explicit measures of uncertainty in the DA net undercount estimates were developed for the first time (Das Gupta, 1991; Robinson et al., 1993). Himes and Clogg (1992) also provided a statistically-based assessment of the DA estimates. The U.S. Census 2000 Monitoring Board (2001) provided a review of the 2000 DA estimates, with a recommendation to increase the capacity to measure immigration.

APPENDIX B: 2010 DEMOGRAPHIC ANALYSIS NEWS CONFERENCE TABLES

Tables

Figures

Table B1. 2010 Demographic Analysis Black/Non-Black Estimates
(In thousands)

Demographic Analysis Estimate	Births	Deaths	Net International Migration (NIM)	Medicare-based estimates of the population 65 and over
	Cohorts born between 1945 and 2010			Cohorts born before 1945
Low Series **Resident Population = 305,684**	**(A) Low Birth Series**: Reduced correction factors for underregistration through 1984. Race for births between 1980 and 2010 are based on the KidLink-Black alone proportions. Race for births between 1945 and 1980 are based on race of Father. **Births = 249,420**	**(A) Registered Deaths**: Infant deaths corrected for underregistration through 1959. **Deaths = 14,829**	**(A-1) Low NIM Series**: Foreign-born Immigration - Lower bound Residence One Year Ago Foreign-born Emigration - High estimate using residual method Net Native-born Migration - Analysis of census data from other countries Net Migration from Puerto Rico - Residence One Year Ago Method Residual Foreign Born (2000) - Low Coverage assumption **NIM = 31,711**	**(A) Low Medicare Series**: Lower bound confidence interval (90%) using delayed enrollment factors from the Medicare Enrollment file and never-enrolled factors from the CPS (2002-2008). **Population 65 and over = 39,814**
Low Middle Series **Resident Population = 307,415**	**(B) Middle Birth Series**: Corrections for underregistration through 1984. Race for births between 1980 and 2010 are based on the KidLink-Black alone proportions. Race for births between 1945 and 1980 are based on race of Father. **Births = 249,891**		**(A-2) Low NIM Series**: Foreign-born Immigration - Lower bound Residence One Year Ago Foreign-born Emigration - High estimate using residual method Net Native-born Migration - Analysis of census data from other countries Net Migration from Puerto Rico - Residence One Year Ago Method Residual Foreign Born (2000) - 85% Coverage assumption **NIM = 32,829**	**(B) Middle Medicare Series**: Estimates developed using delayed enrollment factors from the Medicare Enrollment file and never-enrolled factors from the CPS (2002-2008). **Population 65 and over = 39,957**
Middle Series **Resident Population = 308,475**			**(B) Middle NIM Series**: Foreign-born Immigration - Residence One Year Ago Foreign-born Emigration - Residual method Net Native-born Migration - Analysis of census data from other countries Net Migration from Puerto Rico - Residence One Year Ago Method Residual Foreign Born (2000) - 85% Coverage assumption Born Abroad of U.S. Citizen Parents - Middle estimate **NIM = 33,889**	
High Middle Series **Resident Population = 310,038**			**(C) High Middle NIM Series**: Foreign-born Immigration - Year of Entry Foreign-born Emigration - Residual method Net Native-born Migration - Analysis of census data from other countries Net Migration from Puerto Rico - Residence One Year Ago Method Residual Foreign Born (2000) - 85% Coverage assumption Born Abroad of U.S. Citizen Parents - Middle estimate **NIM = 35,452**	
High Series **Resident Population = 312,713**	**(C) High Birth Series**: Increased correction factors for underregistration through 1984. Race for births between 1980 and 2010 are based on the KidLink-Black alone proportions. Race for births between 1945 and 1980 are based on race of Father. **Births = 250,361**		**(D) High NIM Series**: Foreign-born Immigration - Year of Entry with coverage factors Foreign-born Emigration - Low estimate using residual method Net Native-born Migration - Analysis of census data from other countries Net Migration from Puerto Rico - Residence One Year Ago Method Residual Foreign Born (2000) - 85% Coverage assumption Born Abroad of U.S. Citizen Parents - High estimate **NIM = 36,737**	**(C) High Medicare Series**: Upper bound confidence interval (90%) using enrollment factors from the CPS (2002-2008). **Population 65 and over = 40,876**

Note: The Armed Forces overseas component is subtracted when calculating the resident population.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B2. Population Estimates and the Components Used to Construct the U.S. Resident Population by Race and Sex: April 1, 2010
(In thousands)

Series and component	Total population	Black			Non-Black		
		Both sexes	Male	Female	Both sexes	Male	Female
Low Series							
Total population	305,684	40,869	19,968	20,901	264,815	131,976	132,839
Births	249,420	37,815	19,163	18,652	211,605	108,616	102,989
Deaths	14,829	3,308	2,036	1,272	11,521	7,380	4,141
Net international migration	31,711	3,017	1,544	1,472	28,695	15,148	13,546
Armed Forces overseas	433	86	69	17	347	311	36
Medicare-based estimates of the population 65 and over	39,814	3,432	1,367	2,065	36,382	15,903	20,479
Low Middle Series							
Total population	307,415	41,163	20,113	21,050	266,251	132,708	133,543
Births	249,891	37,979	19,246	18,733	211,912	108,774	103,138
Deaths	14,829	3,308	2,036	1,272	11,521	7,380	4,141
Net international migration	32,829	3,103	1,586	1,517	29,726	15,673	14,053
Armed Forces overseas	433	86	69	17	347	311	36
Medicare-based estimates of the population 65 and over	39,957	3,476	1,388	2,088	36,481	15,953	20,528
Middle Series							
Total population	308,475	41,270	20,168	21,103	267,205	133,204	134,001
Births	249,891	37,979	19,246	18,733	211,912	108,774	103,138
Deaths	14,829	3,308	2,036	1,272	11,521	7,380	4,141
Net international migration	33,889	3,210	1,640	1,570	30,680	16,169	14,511
Armed Forces overseas	433	86	69	17	347	311	36
Medicare-based estimates of the population 65 and over	39,957	3,476	1,388	2,088	36,481	15,953	20,528
High Middle Series							
Total population	310,038	41,410	20,239	21,171	268,627	133,960	134,667
Births	249,891	37,979	19,246	18,733	211,912	108,774	103,138
Deaths	14,829	3,308	2,036	1,272	11,521	7,380	4,141
Net international migration	35,452	3,350	1,711	1,638	32,102	16,925	15,177
Armed Forces overseas	433	86	69	17	347	311	36
Medicare-based estimates of the population 65 and over	39,957	3,476	1,388	2,088	36,481	15,953	20,528
High Series							
Total population	312,713	41,741	20,387	21,353	270,972	135,136	135,836
Births	250,361	38,144	19,329	18,815	212,218	108,931	103,287
Deaths	14,829	3,308	2,036	1,272	11,521	7,380	4,141
Net international migration	36,737	3,401	1,726	1,675	33,336	17,517	15,819
Armed Forces overseas	433	86	69	17	347	311	36
Medicare-based estimates of the population 65 and over	40,876	3,590	1,439	2,151	37,286	16,379	20,907

Notes:
Estimates may not sum to totals shown because of rounding.
Black refers to Black alone. All others are classified as non-Black.
Births, deaths, and net international migration for the 2010 estimates refer to events occurring between April 1, 1945 and March 31, 2010. The Armed Forces overseas, population ages 65 and over, and the total population are estimates as of April 1, 2010.
Net international migration includes the international migration of both native and foreign-born populations. Specifically, it includes: (a) the net international migration of the foreign born, (b) the net international migration of the native born, and (c) the net migration between the United States and Puerto Rico.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B3. Total U.S. Resident Population by Age: April 1, 2010
(In thousands)

Age on April 1, 2010	Year of birth	Series				
		Low	Low middle	Middle	High middle	High
Total		**305,684**	**307,415**	**308,475**	**310,038**	**312,713**
0	2009-2010	4,119	4,119	4,120	4,121	4,122
1	2008-2009	4,208	4,208	4,211	4,214	4,217
2	2007-2008	4,331	4,331	4,335	4,341	4,346
3	2006-2007	4,318	4,318	4,325	4,333	4,342
4	2005-2006	4,205	4,205	4,214	4,225	4,238
5	2004-2005	4,162	4,162	4,174	4,187	4,203
6	2003-2004	4,177	4,177	4,192	4,207	4,228
7	2002-2003	4,108	4,108	4,127	4,145	4,170
8	2001-2002	4,109	4,109	4,131	4,152	4,181
9	2000-2001	4,159	4,159	4,184	4,207	4,241
10	1999-2000	4,170	4,179	4,206	4,230	4,266
11	1998-1999	4,118	4,128	4,155	4,178	4,214
12	1997-1998	4,080	4,092	4,120	4,141	4,178
13	1996-1997	4,072	4,084	4,111	4,132	4,169
14	1995-1996	4,100	4,114	4,141	4,162	4,198
15	1994-1995	4,128	4,143	4,168	4,189	4,226
16	1993-1994	4,202	4,218	4,243	4,264	4,302
17	1992-1993	4,276	4,294	4,317	4,340	4,381
18	1991-1992	4,360	4,378	4,401	4,426	4,470
19	1990-1991	4,411	4,430	4,453	4,480	4,527
20	1989-1990	4,359	4,379	4,400	4,431	4,481
21	1988-1989	4,239	4,258	4,279	4,313	4,366
22	1987-1988	4,169	4,189	4,210	4,247	4,303
23	1986-1987	4,126	4,145	4,167	4,209	4,265
24	1985-1986	4,163	4,183	4,206	4,251	4,307
25	1984-1985	4,125	4,146	4,170	4,219	4,272
26	1983-1984	4,107	4,128	4,152	4,204	4,254
27	1982-1983	4,206	4,231	4,255	4,309	4,354
28	1981-1982	4,201	4,229	4,254	4,307	4,348
29	1980-1981	4,211	4,242	4,268	4,321	4,356
30	1979-1980	4,159	4,193	4,218	4,270	4,301
31	1978-1979	3,997	4,033	4,058	4,109	4,135
32	1977-1978	3,964	4,004	4,029	4,078	4,102
33	1976-1977	3,866	3,909	3,933	3,980	4,002
34	1975-1976	3,803	3,850	3,873	3,917	3,937
35	1974-1975	3,828	3,877	3,899	3,941	3,959
36	1973-1974	3,754	3,802	3,824	3,863	3,880
37	1972-1973	3,874	3,924	3,944	3,980	3,996
38	1971-1972	4,089	4,139	4,159	4,192	4,208
39	1970-1971	4,346	4,394	4,412	4,443	4,458
40	1969-1970	4,230	4,269	4,287	4,316	4,330
41	1968-1969	4,097	4,131	4,148	4,175	4,189
42	1967-1968	4,034	4,067	4,082	4,107	4,122
43	1966-1967	4,103	4,134	4,149	4,173	4,188
44	1965-1966	4,194	4,226	4,240	4,262	4,278
45	1964-1965	4,427	4,460	4,474	4,494	4,510
46	1963-1964	4,497	4,528	4,540	4,559	4,575
47	1962-1963	4,515	4,544	4,556	4,574	4,590
48	1961-1962	4,551	4,579	4,590	4,606	4,623
49	1960-1961	4,555	4,583	4,594	4,609	4,626
50	1959-1960	4,539	4,572	4,582	4,596	4,614
51	1958-1959	4,402	4,425	4,435	4,447	4,466
52	1957-1958	4,441	4,469	4,478	4,489	4,508
53	1956-1957	4,311	4,338	4,346	4,357	4,376
54	1955-1956	4,202	4,228	4,236	4,246	4,266
55	1954-1955	4,119	4,148	4,155	4,164	4,185
56	1953-1954	3,953	3,980	3,986	3,995	4,016
57	1952-1953	3,841	3,868	3,874	3,882	3,903
58	1951-1952	3,739	3,767	3,773	3,780	3,803
59	1950-1951	3,535	3,566	3,572	3,578	3,602
60	1949-1950	3,481	3,518	3,523	3,529	3,555
61	1948-1949	3,372	3,404	3,409	3,415	3,443
62	1947-1948	3,437	3,476	3,481	3,486	3,518
63	1946-1947	3,386	3,426	3,431	3,436	3,470
64	1945-1946	2,507	2,539	2,543	2,548	2,576
65	1944-1945	2,677	2,688	2,688	2,688	2,729
66	1943-1944	2,676	2,686	2,686	2,686	2,799
67	1942-1943	2,677	2,687	2,687	2,687	2,839
68	1941-1942	2,331	2,340	2,340	2,340	2,494
69	1940-1941	2,132	2,140	2,140	2,140	2,295
70	1939-1940	2,001	2,008	2,008	2,008	2,028
71	1938-1939	1,933	1,940	1,940	1,940	1,967
72	1937-1938	1,836	1,843	1,843	1,843	1,872
73	1936-1937	1,701	1,707	1,707	1,707	1,738
74	1935-1936	1,652	1,657	1,657	1,657	1,691
75	1934-1935	1,581	1,586	1,586	1,586	1,594
76	1933-1934	1,438	1,443	1,443	1,443	1,452
77	1932-1933	1,418	1,423	1,423	1,423	1,433
78	1931-1932	1,370	1,375	1,375	1,375	1,386
79	1930-1931	1,336	1,341	1,341	1,341	1,353
80	1929-1930	1,257	1,261	1,261	1,261	1,273
81	1928-1929	1,184	1,188	1,188	1,188	1,200
82	1927-1928	1,131	1,135	1,135	1,135	1,147
83	1926-1927	1,047	1,050	1,050	1,050	1,061
84	1925-1926	960	963	963	963	974
85+	Before April 1925	5,478	5,493	5,493	5,493	5,552

Notes:
Estimates may not sum to totals shown because of rounding.
Year of birth refers to events occurring between April 1 and March 31 of the indicated years.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B4. Black U.S. Resident Population by Age: April 1, 2010
(In thousands)

Age on April 1, 2010	Year of birth	Series				
		Low	Low middle	Middle	High middle	High
Total		**40,869**	**41,163**	**41,270**	**41,410**	**41,741**
0	2009-2010	650	650	650	650	650
1	2008-2009	662	662	662	662	662
2	2007-2008	680	680	680	681	681
3	2006-2007	676	676	677	678	678
4	2005-2006	646	646	647	648	648
5	2004-2005	626	626	628	629	629
6	2003-2004	612	612	614	615	616
7	2002-2003	602	602	604	606	607
8	2001-2002	613	613	616	618	619
9	2000-2001	628	628	630	632	635
10	1999-2000	633	634	637	639	641
11	1998-1999	624	625	628	630	633
12	1997-1998	622	623	626	628	631
13	1996-1997	614	615	619	621	624
14	1995-1996	617	618	621	624	627
15	1994-1995	644	645	648	650	653
16	1993-1994	673	674	677	680	683
17	1992-1993	693	694	697	700	702
18	1991-1992	701	702	705	708	711
19	1990-1991	704	706	709	712	714
20	1989-1990	697	699	701	704	706
21	1988-1989	668	669	672	675	677
22	1987-1988	640	641	644	647	649
23	1986-1987	620	622	624	628	629
24	1985-1986	612	614	617	621	621
25	1984-1985	599	601	603	608	609
26	1983-1984	595	597	599	603	604
27	1982-1983	604	607	609	613	614
28	1981-1982	605	608	610	614	615
29	1980-1981	608	610	613	617	618
30	1979-1980	618	620	623	627	628
31	1978-1979	594	597	599	603	604
32	1977-1978	578	581	583	587	588
33	1976-1977	561	564	566	570	571
34	1975-1976	546	550	552	555	557
35	1974-1975	541	545	547	550	552
36	1973-1974	539	542	544	548	549
37	1972-1973	558	563	565	568	570
38	1971-1972	579	583	585	588	590
39	1970-1971	604	609	611	613	616
40	1969-1970	570	575	577	580	582
41	1968-1969	553	558	559	562	565
42	1967-1968	559	564	566	568	571
43	1966-1967	570	576	577	580	583
44	1965-1966	589	595	596	598	602
45	1964-1965	609	615	616	618	622
46	1963-1964	606	612	613	615	619
47	1962-1963	603	609	610	612	616
48	1961-1962	599	604	606	607	612
49	1960-1961	595	601	602	604	609
50	1959-1960	594	602	603	604	609
51	1958-1959	572	578	579	580	586
52	1957-1958	565	572	573	574	580
53	1956-1957	548	556	556	557	564
54	1955-1956	526	534	534	535	542
55	1954-1955	502	510	511	512	519
56	1953-1954	470	477	478	479	486
57	1952-1953	439	447	448	449	456
58	1951-1952	427	436	436	437	446
59	1950-1951	406	416	416	417	426
60	1949-1950	389	399	399	400	409
61	1948-1949	362	371	371	372	381
62	1947-1948	338	348	348	348	358
63	1946-1947	311	320	321	321	330
64	1945-1946	250	258	259	259	268
65	1944-1945	263	267	267	267	262
66	1943-1944	255	259	259	259	266
67	1942-1943	246	250	250	250	263
68	1941-1942	220	223	223	223	238
69	1940-1941	204	207	207	207	223
70	1939-1940	192	195	195	195	200
71	1938-1939	178	181	181	181	186
72	1937-1938	170	172	172	172	178
73	1936-1937	155	157	157	157	163
74	1935-1936	152	153	153	153	160
75	1934-1935	142	144	144	144	147
76	1933-1934	128	130	130	130	133
77	1932-1933	124	126	126	126	129
78	1931-1932	110	111	111	111	114
79	1930-1931	104	105	105	105	108
80	1929-1930	96	98	98	98	100
81	1928-1929	89	90	90	90	92
82	1927-1928	83	84	84	84	86
83	1926-1927	76	76	76	76	79
84	1925-1926	69	70	70	70	72
85+	Before April 1925	375	380	380	380	389

Notes:
Estimates may not sum to totals shown because of rounding.
Year of birth refers to events occurring between April 1 and March 31 of the indicated years.
Black refers to Black alone. All others are classified as non-Black.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B5. Non-Black U.S. Resident Population by Age: April 1, 2010
(In thousands)

Age on April 1, 2010	Year of birth	Series				
		Low	Low middle	Middle	High middle	High
Total		**264,815**	**266,251**	**267,205**	**268,627**	**270,972**
0	2009-2010	3,469	3,469	3,470	3,471	3,472
1	2008-2009	3,547	3,547	3,549	3,552	3,555
2	2007-2008	3,651	3,651	3,655	3,660	3,665
3	2006-2007	3,642	3,642	3,648	3,656	3,664
4	2005-2006	3,559	3,559	3,568	3,578	3,590
5	2004-2005	3,535	3,535	3,546	3,558	3,574
6	2003-2004	3,565	3,565	3,579	3,592	3,613
7	2002-2003	3,506	3,506	3,523	3,539	3,563
8	2001-2002	3,495	3,495	3,515	3,534	3,562
9	2000-2001	3,531	3,531	3,554	3,575	3,607
10	1999-2000	3,537	3,545	3,569	3,591	3,624
11	1998-1999	3,494	3,503	3,527	3,548	3,581
12	1997-1998	3,459	3,469	3,494	3,513	3,547
13	1996-1997	3,458	3,469	3,493	3,512	3,545
14	1995-1996	3,482	3,496	3,519	3,538	3,571
15	1994-1995	3,485	3,498	3,520	3,539	3,573
16	1993-1994	3,529	3,544	3,565	3,585	3,620
17	1992-1993	3,584	3,600	3,621	3,641	3,678
18	1991-1992	3,659	3,676	3,696	3,718	3,759
19	1990-1991	3,707	3,724	3,744	3,768	3,813
20	1989-1990	3,662	3,680	3,699	3,726	3,775
21	1988-1989	3,572	3,589	3,608	3,638	3,690
22	1987-1988	3,529	3,547	3,566	3,600	3,654
23	1986-1987	3,506	3,524	3,543	3,580	3,636
24	1985-1986	3,551	3,569	3,589	3,631	3,685
25	1984-1985	3,526	3,545	3,567	3,612	3,664
26	1983-1984	3,513	3,531	3,553	3,601	3,650
27	1982-1983	3,602	3,624	3,647	3,696	3,740
28	1981-1982	3,596	3,621	3,644	3,693	3,733
29	1980-1981	3,604	3,632	3,655	3,704	3,738
30	1979-1980	3,541	3,573	3,596	3,644	3,673
31	1978-1979	3,404	3,436	3,459	3,506	3,532
32	1977-1978	3,387	3,423	3,445	3,490	3,513
33	1976-1977	3,306	3,345	3,367	3,410	3,431
34	1975-1976	3,257	3,300	3,321	3,362	3,380
35	1974-1975	3,287	3,332	3,352	3,391	3,407
36	1973-1974	3,215	3,260	3,280	3,315	3,330
37	1972-1973	3,315	3,361	3,379	3,412	3,426
38	1971-1972	3,510	3,556	3,573	3,604	3,617
39	1970-1971	3,742	3,785	3,801	3,829	3,842
40	1969-1970	3,660	3,694	3,710	3,736	3,748
41	1968-1969	3,544	3,573	3,588	3,613	3,625
42	1967-1968	3,475	3,502	3,517	3,539	3,551
43	1966-1967	3,533	3,559	3,572	3,593	3,605
44	1965-1966	3,605	3,631	3,644	3,664	3,676
45	1964-1965	3,818	3,845	3,857	3,876	3,888
46	1963-1964	3,891	3,916	3,927	3,944	3,957
47	1962-1963	3,912	3,936	3,946	3,962	3,974
48	1961-1962	3,952	3,974	3,984	3,999	4,011
49	1960-1961	3,960	3,982	3,991	4,005	4,017
50	1959-1960	3,945	3,971	3,980	3,992	4,005
51	1958-1959	3,830	3,847	3,856	3,867	3,880
52	1957-1958	3,876	3,897	3,905	3,916	3,929
53	1956-1957	3,763	3,782	3,790	3,800	3,813
54	1955-1956	3,676	3,695	3,702	3,711	3,724
55	1954-1955	3,616	3,638	3,644	3,653	3,666
56	1953-1954	3,484	3,502	3,508	3,516	3,530
57	1952-1953	3,402	3,420	3,426	3,433	3,447
58	1951-1952	3,312	3,331	3,336	3,343	3,358
59	1950-1951	3,129	3,150	3,155	3,162	3,177
60	1949-1950	3,092	3,119	3,124	3,129	3,146
61	1948-1949	3,010	3,033	3,037	3,043	3,062
62	1947-1948	3,099	3,129	3,133	3,138	3,160
63	1946-1947	3,076	3,106	3,110	3,115	3,140
64	1945-1946	2,257	2,280	2,284	2,288	2,309
65	1944-1945	2,415	2,422	2,422	2,422	2,467
66	1943-1944	2,421	2,427	2,427	2,427	2,533
67	1942-1943	2,431	2,438	2,438	2,438	2,576
68	1941-1942	2,111	2,117	2,117	2,117	2,255
69	1940-1941	1,928	1,934	1,934	1,934	2,072
70	1939-1940	1,808	1,813	1,813	1,813	1,828
71	1938-1939	1,755	1,760	1,760	1,760	1,780
72	1937-1938	1,666	1,671	1,671	1,671	1,695
73	1936-1937	1,546	1,550	1,550	1,550	1,575
74	1935-1936	1,500	1,504	1,504	1,504	1,531
75	1934-1935	1,438	1,442	1,442	1,442	1,448
76	1933-1934	1,310	1,313	1,313	1,313	1,320
77	1932-1933	1,293	1,297	1,297	1,297	1,304
78	1931-1932	1,260	1,264	1,264	1,264	1,272
79	1930-1931	1,232	1,235	1,235	1,235	1,245
80	1929-1930	1,160	1,163	1,163	1,163	1,173
81	1928-1929	1,095	1,098	1,098	1,098	1,107
82	1927-1928	1,049	1,051	1,051	1,051	1,061
83	1926-1927	971	974	974	974	983
84	1925-1926	891	894	894	894	902
85+	Before April 1925	5,100	5,113	5,113	5,113	5,160

Notes:
Estimates may not sum to totals shown because of rounding.
Year of birth refers to events occurring between April 1 and March 31 of the indicated years.
Black refers to Black alone. All others are classified as non-Black.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B6. Low Series Estimates of the Population and Components Used to Construct the U.S. Resident Population by Age: April 1, 2010
(In thousands)

Age on April 1, 2010	Year of birth	Component					Total resident population
		Births	Deaths	Net international migration	Armed Forces overseas	Medicare-based estimates of the population 65 and over	
Total		**249,420**	**14,829**	**31,711**	**433**	**39,814**	**305,684**
0	2009-2010	4,135	26	10	(X)	(X)	4,119
1	2008-2009	4,210	30	28	(X)	(X)	4,208
2	2007-2008	4,319	32	44	(X)	(X)	4,331
3	2006-2007	4,292	33	59	(X)	(X)	4,318
4	2005-2006	4,164	33	73	(X)	(X)	4,205
5	2004-2005	4,107	33	87	(X)	(X)	4,162
6	2003-2004	4,111	34	100	(X)	(X)	4,177
7	2002-2003	4,030	34	113	(X)	(X)	4,108
8	2001-2002	4,015	34	128	(X)	(X)	4,109
9	2000-2001	4,048	35	146	(X)	(X)	4,159
10	1999-2000	3,998	36	208	(X)	(X)	4,170
11	1998-1999	3,944	37	211	(X)	(X)	4,118
12	1997-1998	3,898	37	219	(X)	(X)	4,080
13	1996-1997	3,883	38	227	(X)	(X)	4,072
14	1995-1996	3,899	40	241	(X)	(X)	4,100
15	1994-1995	3,931	44	241	(X)	(X)	4,128
16	1993-1994	3,992	48	258	(X)	(X)	4,202
17	1992-1993	4,046	53	283	-	(X)	4,276
18	1991-1992	4,112	59	309	2	(X)	4,360
19	1990-1991	4,148	65	340	12	(X)	4,411
20	1989-1990	4,079	74	378	25	(X)	4,359
21	1988-1989	3,940	73	403	30	(X)	4,239
22	1987-1988	3,834	77	443	30	(X)	4,169
23	1986-1987	3,761	82	475	29	(X)	4,126
24	1985-1986	3,766	89	515	29	(X)	4,163
25	1984-1985	3,688	92	555	26	(X)	4,125
26	1983-1984	3,633	97	595	24	(X)	4,107
27	1982-1983	3,689	104	642	21	(X)	4,206
28	1981-1982	3,644	109	685	19	(X)	4,201
29	1980-1981	3,617	115	726	17	(X)	4,211
30	1979-1980	3,535	121	759	15	(X)	4,159
31	1978-1979	3,376	122	757	13	(X)	3,997
32	1977-1978	3,325	127	778	12	(X)	3,964
33	1976-1977	3,223	130	785	11	(X)	3,866
34	1975-1976	3,152	136	799	11	(X)	3,803
35	1974-1975	3,176	144	806	10	(X)	3,828
36	1973-1974	3,123	151	793	11	(X)	3,754
37	1972-1973	3,234	166	817	11	(X)	3,874
38	1971-1972	3,477	184	808	11	(X)	4,089
39	1970-1971	3,759	205	801	10	(X)	4,346
40	1969-1970	3,644	211	806	8	(X)	4,230
41	1968-1969	3,553	219	771	7	(X)	4,097
42	1967-1968	3,505	232	767	6	(X)	4,034
43	1966-1967	3,612	253	750	6	(X)	4,103
44	1965-1966	3,736	281	744	5	(X)	4,194
45	1964-1965	3,987	314	759	4	(X)	4,427
46	1963-1964	4,116	341	725	4	(X)	4,497
47	1962-1963	4,172	365	711	3	(X)	4,515
48	1961-1962	4,269	390	674	2	(X)	4,551
49	1960-1961	4,305	417	669	2	(X)	4,555
50	1959-1960	4,285	440	696	1	(X)	4,539
51	1958-1959	4,279	462	587	1	(X)	4,402
52	1957-1958	4,315	489	616	1	(X)	4,441
53	1956-1957	4,229	505	589	1	(X)	4,311
54	1955-1956	4,152	521	571	1	(X)	4,202
55	1954-1955	4,093	540	566	-	(X)	4,119
56	1953-1954	3,993	556	516	-	(X)	3,953
57	1952-1953	3,920	575	496	-	(X)	3,841
58	1951-1952	3,852	591	478	-	(X)	3,739
59	1950-1951	3,661	602	476	-	(X)	3,535
60	1949-1950	3,629	630	482	-	(X)	3,481
61	1948-1949	3,610	660	422	-	(X)	3,372
62	1947-1948	3,705	699	432	-	(X)	3,437
63	1946-1947	3,696	711	401	-	(X)	3,386
64	1945-1946	2,793	647	361	-	(X)	2,507
65	1944-1945	(X)	(X)	(X)	(X)	2,677	2,677
66	1943-1944	(X)	(X)	(X)	(X)	2,676	2,676
67	1942-1943	(X)	(X)	(X)	(X)	2,677	2,677
68	1941-1942	(X)	(X)	(X)	(X)	2,331	2,331
69	1940-1941	(X)	(X)	(X)	(X)	2,132	2,132
70	1939-1940	(X)	(X)	(X)	(X)	2,001	2,001
71	1938-1939	(X)	(X)	(X)	(X)	1,933	1,933
72	1937-1938	(X)	(X)	(X)	(X)	1,836	1,836
73	1936-1937	(X)	(X)	(X)	(X)	1,701	1,701
74	1935-1936	(X)	(X)	(X)	(X)	1,652	1,652
75	1934-1935	(X)	(X)	(X)	(X)	1,581	1,581
76	1933-1934	(X)	(X)	(X)	(X)	1,438	1,438
77	1932-1933	(X)	(X)	(X)	(X)	1,418	1,418
78	1931-1932	(X)	(X)	(X)	(X)	1,370	1,370
79	1930-1931	(X)	(X)	(X)	(X)	1,336	1,336
80	1929-1930	(X)	(X)	(X)	(X)	1,257	1,257
81	1928-1929	(X)	(X)	(X)	(X)	1,184	1,184
82	1927-1928	(X)	(X)	(X)	(X)	1,131	1,131
83	1926-1927	(X)	(X)	(X)	(X)	1,047	1,047
84	1925-1926	(X)	(X)	(X)	(X)	960	960
85+	Before April 1925	(X)	(X)	(X)	(X)	5,476	5,476

X Not applicable.
- Represents zero or rounds to 0.

Notes:

Estimates may not sum to totals shown because of rounding.

Year of birth refers to events occurring between April 1 and March 31 of the indicated years.

Births, deaths, and net international migration refer to events occurring between April 1, 1945 and March 31, 2010. The Armed Forces overseas, population ages 65 and over, and the total population are estimates as of April 1, 2010.

Net international migration includes the international migration of both native and foreign-born populations. Specifically, it includes: (a) the net international migration of the foreign born, (b) the net international migration of the native born, and (c) the net migration between the United States and Puerto Rico.

Data for the Armed Forces overseas only include information for those aged 17 to 64.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B7. Low Middle Series Estimates of the Population and Components Used to Construct the U.S. Resident Population by Age: April 1, 2010
(In thousands)

Age on April 1, 2010	Year of birth	Component					Total resident population
		Births	Deaths	Net international migration	Armed Forces overseas	Medicare-based estimates of the population 65 and over	
Total		**249,891**	**14,829**	**32,829**	**433**	**39,957**	**307,415**
0	2009-2010	4,135	26	10	(X)	(X)	4,119
1	2008-2009	4,210	30	28	(X)	(X)	4,208
2	2007-2008	4,319	32	44	(X)	(X)	4,331
3	2006-2007	4,292	33	59	(X)	(X)	4,318
4	2005-2006	4,164	33	73	(X)	(X)	4,205
5	2004-2005	4,107	33	87	(X)	(X)	4,162
6	2003-2004	4,111	34	100	(X)	(X)	4,177
7	2002-2003	4,030	34	113	(X)	(X)	4,108
8	2001-2002	4,015	34	128	(X)	(X)	4,109
9	2000-2001	4,048	35	146	(X)	(X)	4,159
10	1999-2000	3,998	36	217	(X)	(X)	4,179
11	1998-1999	3,944	37	221	(X)	(X)	4,128
12	1997-1998	3,898	37	231	(X)	(X)	4,092
13	1996-1997	3,883	38	240	(X)	(X)	4,084
14	1995-1996	3,899	40	256	(X)	(X)	4,114
15	1994-1995	3,931	44	256	(X)	(X)	4,143
16	1993-1994	3,992	48	274	(X)	(X)	4,218
17	1992-1993	4,046	53	300	-	(X)	4,294
18	1991-1992	4,112	59	327	2	(X)	4,378
19	1990-1991	4,148	65	359	12	(X)	4,430
20	1989-1990	4,079	74	399	25	(X)	4,379
21	1988-1989	3,940	73	422	30	(X)	4,258
22	1987-1988	3,834	77	462	30	(X)	4,189
23	1986-1987	3,761	82	495	29	(X)	4,145
24	1985-1986	3,766	89	535	29	(X)	4,183
25	1984-1985	3,689	92	576	26	(X)	4,146
26	1983-1984	3,634	97	614	24	(X)	4,128
27	1982-1983	3,690	104	665	21	(X)	4,231
28	1981-1982	3,646	109	711	19	(X)	4,229
29	1980-1981	3,619	115	755	17	(X)	4,242
30	1979-1980	3,537	121	791	15	(X)	4,193
31	1978-1979	3,379	122	790	13	(X)	4,033
32	1977-1978	3,328	127	815	12	(X)	4,004
33	1976-1977	3,226	130	824	11	(X)	3,909
34	1975-1976	3,155	136	841	11	(X)	3,850
35	1974-1975	3,180	144	851	10	(X)	3,877
36	1973-1974	3,127	151	837	11	(X)	3,802
37	1972-1973	3,238	166	863	11	(X)	3,924
38	1971-1972	3,482	184	853	11	(X)	4,139
39	1970-1971	3,765	205	843	10	(X)	4,394
40	1969-1970	3,650	211	839	8	(X)	4,269
41	1968-1969	3,560	219	798	7	(X)	4,131
42	1967-1968	3,512	232	793	6	(X)	4,067
43	1966-1967	3,620	253	773	6	(X)	4,134
44	1965-1966	3,746	281	766	5	(X)	4,226
45	1964-1965	3,998	314	781	4	(X)	4,460
46	1963-1964	4,127	341	745	4	(X)	4,528
47	1962-1963	4,184	365	728	3	(X)	4,544
48	1961-1962	4,282	390	690	2	(X)	4,579
49	1960-1961	4,318	417	684	2	(X)	4,583
50	1959-1960	4,299	440	715	1	(X)	4,572
51	1958-1959	4,293	462	596	1	(X)	4,425
52	1957-1958	4,330	489	628	1	(X)	4,469
53	1956-1957	4,245	505	599	1	(X)	4,338
54	1955-1956	4,169	521	581	1	(X)	4,228
55	1954-1955	4,111	540	577	-	(X)	4,148
56	1953-1954	4,012	556	523	-	(X)	3,980
57	1952-1953	3,941	575	503	-	(X)	3,868
58	1951-1952	3,874	591	484	-	(X)	3,767
59	1950-1951	3,685	602	484	-	(X)	3,566
60	1949-1950	3,654	630	493	-	(X)	3,518
61	1948-1949	3,638	660	425	-	(X)	3,404
62	1947-1948	3,736	699	440	-	(X)	3,476
63	1946-1947	3,731	711	407	-	(X)	3,426
64	1945-1946	2,822	647	364	-	(X)	2,539
65	1944-1945	(X)	(X)	(X)	(X)	2,688	2,688
66	1943-1944	(X)	(X)	(X)	(X)	2,686	2,686
67	1942-1943	(X)	(X)	(X)	(X)	2,687	2,687
68	1941-1942	(X)	(X)	(X)	(X)	2,340	2,340
69	1940-1941	(X)	(X)	(X)	(X)	2,140	2,140
70	1939-1940	(X)	(X)	(X)	(X)	2,008	2,008
71	1938-1939	(X)	(X)	(X)	(X)	1,940	1,940
72	1937-1938	(X)	(X)	(X)	(X)	1,843	1,843
73	1936-1937	(X)	(X)	(X)	(X)	1,707	1,707
74	1935-1936	(X)	(X)	(X)	(X)	1,657	1,657
75	1934-1935	(X)	(X)	(X)	(X)	1,586	1,586
76	1933-1934	(X)	(X)	(X)	(X)	1,443	1,443
77	1932-1933	(X)	(X)	(X)	(X)	1,423	1,423
78	1931-1932	(X)	(X)	(X)	(X)	1,375	1,375
79	1930-1931	(X)	(X)	(X)	(X)	1,341	1,341
80	1929-1930	(X)	(X)	(X)	(X)	1,261	1,261
81	1928-1929	(X)	(X)	(X)	(X)	1,188	1,188
82	1927-1928	(X)	(X)	(X)	(X)	1,135	1,135
83	1926-1927	(X)	(X)	(X)	(X)	1,050	1,050
84	1925-1926	(X)	(X)	(X)	(X)	963	963
85+	Before April 1925	(X)	(X)	(X)	(X)	5,494	5,494

X Not applicable.
- Represents zero or rounds to 0.

Notes:

Estimates may not sum to totals shown because of rounding.

Year of birth refers to events occurring between April 1 and March 31 of the indicated years.

Births, deaths, and net international migration refer to events occurring between April 1, 1945 and March 31, 2010. The Armed Forces overseas, population ages 65 and over, and the total population are estimates as of April 1, 2010.

Net international migration includes the international migration of both native and foreign-born populations. Specifically, it includes: (a) the net international migration of the foreign born, (b) the net international migration of the native born, and (c) the net migration between the United States and Puerto Rico.

Data for the Armed Forces overseas only include information for those aged 17 to 64.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B8. Middle Series Estimates of the Population and Components Used to Construct the U.S. Resident Population by Age: April 1, 2010
(In thousands)

Age on April 1, 2010	Year of birth	Component					Total resident population
		Births	Deaths	Net international migration	Armed Forces overseas	Medicare-based estimates of the population 65 and over	
Total		**249,891**	**14,829**	**33,889**	**433**	**39,957**	**308,475**
0	2009-2010	4,135	26	11	(X)	(X)	4,120
1	2008-2009	4,210	30	31	(X)	(X)	4,211
2	2007-2008	4,319	32	49	(X)	(X)	4,335
3	2006-2007	4,292	33	66	(X)	(X)	4,325
4	2005-2006	4,164	33	83	(X)	(X)	4,214
5	2004-2005	4,107	33	100	(X)	(X)	4,174
6	2003-2004	4,111	34	115	(X)	(X)	4,192
7	2002-2003	4,030	34	131	(X)	(X)	4,127
8	2001-2002	4,015	34	150	(X)	(X)	4,131
9	2000-2001	4,048	35	171	(X)	(X)	4,184
10	1999-2000	3,998	36	244	(X)	(X)	4,206
11	1998-1999	3,944	37	248	(X)	(X)	4,155
12	1997-1998	3,898	37	259	(X)	(X)	4,120
13	1996-1997	3,883	38	266	(X)	(X)	4,111
14	1995-1996	3,899	40	282	(X)	(X)	4,141
15	1994-1995	3,931	44	281	(X)	(X)	4,168
16	1993-1994	3,992	48	299	(X)	(X)	4,243
17	1992-1993	4,046	53	324	-	(X)	4,317
18	1991-1992	4,112	59	350	2	(X)	4,401
19	1990-1991	4,148	65	381	12	(X)	4,453
20	1989-1990	4,079	74	420	25	(X)	4,400
21	1988-1989	3,940	73	443	30	(X)	4,279
22	1987-1988	3,834	77	483	30	(X)	4,210
23	1986-1987	3,761	82	517	29	(X)	4,167
24	1985-1986	3,766	89	557	29	(X)	4,206
25	1984-1985	3,689	92	599	26	(X)	4,170
26	1983-1984	3,634	97	639	24	(X)	4,152
27	1982-1983	3,690	104	690	21	(X)	4,255
28	1981-1982	3,646	109	736	19	(X)	4,254
29	1980-1981	3,619	115	780	17	(X)	4,268
30	1979-1980	3,537	121	816	15	(X)	4,218
31	1978-1979	3,379	122	815	13	(X)	4,058
32	1977-1978	3,328	127	840	12	(X)	4,029
33	1976-1977	3,226	130	848	11	(X)	3,933
34	1975-1976	3,155	136	865	11	(X)	3,873
35	1974-1975	3,180	144	874	10	(X)	3,899
36	1973-1974	3,127	151	859	11	(X)	3,824
37	1972-1973	3,238	166	883	11	(X)	3,944
38	1971-1972	3,482	184	872	11	(X)	4,159
39	1970-1971	3,765	205	861	10	(X)	4,412
40	1969-1970	3,650	211	856	8	(X)	4,287
41	1968-1969	3,560	219	815	7	(X)	4,148
42	1967-1968	3,512	232	808	6	(X)	4,082
43	1966-1967	3,620	253	788	6	(X)	4,149
44	1965-1966	3,746	281	780	5	(X)	4,240
45	1964-1965	3,998	314	794	4	(X)	4,474
46	1963-1964	4,127	341	758	4	(X)	4,540
47	1962-1963	4,184	365	740	3	(X)	4,556
48	1961-1962	4,282	390	701	2	(X)	4,590
49	1960-1961	4,318	417	695	2	(X)	4,594
50	1959-1960	4,299	440	725	1	(X)	4,582
51	1958-1959	4,293	462	605	1	(X)	4,435
52	1957-1958	4,330	489	637	1	(X)	4,478
53	1956-1957	4,245	505	607	1	(X)	4,346
54	1955-1956	4,169	521	589	1	(X)	4,236
55	1954-1955	4,111	540	584	-	(X)	4,155
56	1953-1954	4,012	556	530	-	(X)	3,986
57	1952-1953	3,941	575	509	-	(X)	3,874
58	1951-1952	3,874	591	490	-	(X)	3,773
59	1950-1951	3,685	602	489	-	(X)	3,572
60	1949-1950	3,654	630	498	-	(X)	3,523
61	1948-1949	3,638	660	430	-	(X)	3,409
62	1947-1948	3,736	699	444	-	(X)	3,481
63	1946-1947	3,731	711	411	-	(X)	3,431
64	1945-1946	2,822	647	368	-	(X)	2,543
65	1944-1945	(X)	(X)	(X)	(X)	2,688	2,688
66	1943-1944	(X)	(X)	(X)	(X)	2,686	2,686
67	1942-1943	(X)	(X)	(X)	(X)	2,687	2,687
68	1941-1942	(X)	(X)	(X)	(X)	2,340	2,340
69	1940-1941	(X)	(X)	(X)	(X)	2,140	2,140
70	1939-1940	(X)	(X)	(X)	(X)	2,008	2,008
71	1938-1939	(X)	(X)	(X)	(X)	1,940	1,940
72	1937-1938	(X)	(X)	(X)	(X)	1,843	1,843
73	1936-1937	(X)	(X)	(X)	(X)	1,707	1,707
74	1935-1936	(X)	(X)	(X)	(X)	1,657	1,657
75	1934-1935	(X)	(X)	(X)	(X)	1,586	1,586
76	1933-1934	(X)	(X)	(X)	(X)	1,443	1,443
77	1932-1933	(X)	(X)	(X)	(X)	1,423	1,423
78	1931-1932	(X)	(X)	(X)	(X)	1,375	1,375
79	1930-1931	(X)	(X)	(X)	(X)	1,341	1,341
80	1929-1930	(X)	(X)	(X)	(X)	1,261	1,261
81	1928-1929	(X)	(X)	(X)	(X)	1,188	1,188
82	1927-1928	(X)	(X)	(X)	(X)	1,135	1,135
83	1926-1927	(X)	(X)	(X)	(X)	1,050	1,050
84	1925-1926	(X)	(X)	(X)	(X)	963	963
85+	Before April 1925	(X)	(X)	(X)	(X)	5,494	5,494

X Not applicable.
- Represents zero or rounds to 0.
Notes:
Estimates may not sum to totals shown because of rounding.
Year of birth refers to events occurring between April 1 and March 31 of the indicated years.
Births, deaths, and net international migration refer to events occurring between April 1, 1945 and March 31, 2010. The Armed Forces overseas, population ages 65 and over, and the total population are estimates as of April 1, 2010.
Net international migration includes the international migration of both native and foreign-born populations. Specifically, it includes: (a) the net international migration of the foreign born, (b) the net international migration of the native born, and (c) the net migration between the United States and Puerto Rico.
Data for the Armed Forces overseas only include information for those aged 17 to 64.
Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B9. High Middle Series Estimates of the Population and Components Used to Construct the U.S. Resident Population by Age: April 1, 2010
(In thousands)

		Component					
Age on April 1, 2010	Year of birth	Births	Deaths	Net international migration	Armed Forces overseas	Medicare-based estimates of the population 65 and over	Total resident population
Total		**249,891**	**14,829**	**35,452**	**433**	**39,957**	**310,038**
0	2009-2010	4,135	26	12	(X)	(X)	4,121
1	2008-2009	4,210	30	34	(X)	(X)	4,214
2	2007-2008	4,319	32	54	(X)	(X)	4,341
3	2006-2007	4,292	33	74	(X)	(X)	4,333
4	2005-2006	4,164	33	94	(X)	(X)	4,225
5	2004-2005	4,107	33	113	(X)	(X)	4,187
6	2003-2004	4,111	34	130	(X)	(X)	4,207
7	2002-2003	4,030	34	149	(X)	(X)	4,145
8	2001-2002	4,015	34	171	(X)	(X)	4,152
9	2000-2001	4,048	35	195	(X)	(X)	4,207
10	1999-2000	3,998	36	268	(X)	(X)	4,230
11	1998-1999	3,944	37	271	(X)	(X)	4,178
12	1997-1998	3,898	37	280	(X)	(X)	4,141
13	1996-1997	3,883	38	288	(X)	(X)	4,132
14	1995-1996	3,899	40	303	(X)	(X)	4,162
15	1994-1995	3,931	44	302	(X)	(X)	4,189
16	1993-1994	3,992	48	320	(X)	(X)	4,264
17	1992-1993	4,046	53	347	-	(X)	4,340
18	1991-1992	4,112	59	375	2	(X)	4,426
19	1990-1991	4,148	65	409	12	(X)	4,480
20	1989-1990	4,079	74	450	25	(X)	4,431
21	1988-1989	3,940	73	477	30	(X)	4,313
22	1987-1988	3,834	77	521	30	(X)	4,247
23	1986-1987	3,761	82	558	29	(X)	4,209
24	1985-1986	3,766	89	603	29	(X)	4,251
25	1984-1985	3,689	92	648	26	(X)	4,219
26	1983-1984	3,634	97	691	24	(X)	4,204
27	1982-1983	3,690	104	743	21	(X)	4,309
28	1981-1982	3,646	109	789	19	(X)	4,307
29	1980-1981	3,619	115	833	17	(X)	4,321
30	1979-1980	3,537	121	868	15	(X)	4,270
31	1978-1979	3,379	122	865	13	(X)	4,109
32	1977-1978	3,328	127	889	12	(X)	4,078
33	1976-1977	3,226	130	895	11	(X)	3,980
34	1975-1976	3,155	136	909	11	(X)	3,917
35	1974-1975	3,180	144	916	10	(X)	3,941
36	1973-1974	3,127	151	898	11	(X)	3,863
37	1972-1973	3,238	166	919	11	(X)	3,980
38	1971-1972	3,482	184	905	11	(X)	4,192
39	1970-1971	3,765	205	892	10	(X)	4,443
40	1969-1970	3,650	211	885	8	(X)	4,316
41	1968-1969	3,560	219	842	7	(X)	4,175
42	1967-1968	3,512	232	833	6	(X)	4,107
43	1966-1967	3,620	253	811	6	(X)	4,173
44	1965-1966	3,746	281	802	5	(X)	4,262
45	1964-1965	3,998	314	815	4	(X)	4,494
46	1963-1964	4,127	341	776	4	(X)	4,559
47	1962-1963	4,184	365	758	3	(X)	4,574
48	1961-1962	4,282	390	717	2	(X)	4,606
49	1960-1961	4,318	417	710	2	(X)	4,609
50	1959-1960	4,299	440	739	1	(X)	4,596
51	1958-1959	4,293	462	618	1	(X)	4,447
52	1957-1958	4,330	489	649	1	(X)	4,489
53	1956-1957	4,245	505	618	1	(X)	4,357
54	1955-1956	4,169	521	599	1	(X)	4,246
55	1954-1955	4,111	540	594	-	(X)	4,164
56	1953-1954	4,012	556	539	-	(X)	3,995
57	1952-1953	3,941	575	517	-	(X)	3,882
58	1951-1952	3,874	591	497	-	(X)	3,780
59	1950-1951	3,685	602	496	-	(X)	3,578
60	1949-1950	3,654	630	504	-	(X)	3,529
61	1948-1949	3,638	660	436	-	(X)	3,415
62	1947-1948	3,736	699	450	-	(X)	3,486
63	1946-1947	3,731	711	416	-	(X)	3,436
64	1945-1946	2,822	647	373	-	(X)	2,548
65	1944-1945	(X)	(X)	(X)	(X)	2,688	2,688
66	1943-1944	(X)	(X)	(X)	(X)	2,686	2,686
67	1942-1943	(X)	(X)	(X)	(X)	2,687	2,687
68	1941-1942	(X)	(X)	(X)	(X)	2,340	2,340
69	1940-1941	(X)	(X)	(X)	(X)	2,140	2,140
70	1939-1940	(X)	(X)	(X)	(X)	2,008	2,008
71	1938-1939	(X)	(X)	(X)	(X)	1,940	1,940
72	1937-1938	(X)	(X)	(X)	(X)	1,843	1,843
73	1936-1937	(X)	(X)	(X)	(X)	1,707	1,707
74	1935-1936	(X)	(X)	(X)	(X)	1,657	1,657
75	1934-1935	(X)	(X)	(X)	(X)	1,586	1,586
76	1933-1934	(X)	(X)	(X)	(X)	1,443	1,443
77	1932-1933	(X)	(X)	(X)	(X)	1,423	1,423
78	1931-1932	(X)	(X)	(X)	(X)	1,375	1,375
79	1930-1931	(X)	(X)	(X)	(X)	1,341	1,341
80	1929-1930	(X)	(X)	(X)	(X)	1,261	1,261
81	1928-1929	(X)	(X)	(X)	(X)	1,188	1,188
82	1927-1928	(X)	(X)	(X)	(X)	1,135	1,135
83	1926-1927	(X)	(X)	(X)	(X)	1,050	1,050
84	1925-1926	(X)	(X)	(X)	(X)	963	963
85+	Before April 1925	(X)	(X)	(X)	(X)	5,494	5,494

X Not applicable.
- Represents zero or rounds to 0.

Notes:
Estimates may not sum to totals shown because of rounding.
Year of birth refers to events occurring between April 1 and March 31 of the indicated years.
Births, deaths, and net international migration refer to events occurring between April 1, 1945 and March 31, 2010. The Armed Forces overseas, population ages 65 and over, and the total population are estimates as of April 1, 2010.
Net international migration includes the international migration of both native and foreign-born populations. Specifically, it includes: (a) the net international migration of the foreign born, (b) the net international migration of the native born, and (c) the net migration between the United States and Puerto Rico.
Data for the Armed Forces overseas only include information for those aged 17 to 64.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B10. High Series Estimates of the Population and Components Used to Construct the U.S. Resident Population by Age: April 1, 2010
(In thousands)

Age on April 1, 2010	Year of birth	Component					Total resident population
		Births	Deaths	Net international migration	Armed Forces overseas	Medicare-based estimates of the population 65 and over	
Total		**250,361**	**14,829**	**36,737**	**433**	**40,876**	**312,713**
0	2009-2010	4,135	26	13	(X)	(X)	4,122
1	2008-2009	4,210	30	37	(X)	(X)	4,217
2	2007-2008	4,319	32	59	(X)	(X)	4,346
3	2006-2007	4,292	33	82	(X)	(X)	4,342
4	2005-2006	4,164	33	106	(X)	(X)	4,238
5	2004-2005	4,107	33	129	(X)	(X)	4,203
6	2003-2004	4,111	34	151	(X)	(X)	4,228
7	2002-2003	4,030	34	174	(X)	(X)	4,170
8	2001-2002	4,015	34	201	(X)	(X)	4,181
9	2000-2001	4,048	35	228	(X)	(X)	4,241
10	1999-2000	3,998	36	304	(X)	(X)	4,266
11	1998-1999	3,944	37	307	(X)	(X)	4,214
12	1997-1998	3,898	37	317	(X)	(X)	4,178
13	1996-1997	3,883	38	324	(X)	(X)	4,169
14	1995-1996	3,899	40	340	(X)	(X)	4,198
15	1994-1995	3,931	44	339	(X)	(X)	4,226
16	1993-1994	3,992	48	358	(X)	(X)	4,302
17	1992-1993	4,046	53	387	-	(X)	4,381
18	1991-1992	4,112	59	419	2	(X)	4,470
19	1990-1991	4,148	65	456	12	(X)	4,527
20	1989-1990	4,079	74	501	25	(X)	4,481
21	1988-1989	3,940	73	530	30	(X)	4,366
22	1987-1988	3,834	77	576	30	(X)	4,303
23	1986-1987	3,761	82	615	29	(X)	4,265
24	1985-1986	3,766	89	659	29	(X)	4,307
25	1984-1985	3,689	92	701	26	(X)	4,272
26	1983-1984	3,635	97	740	24	(X)	4,254
27	1982-1983	3,691	104	787	21	(X)	4,354
28	1981-1982	3,647	109	828	19	(X)	4,348
29	1980-1981	3,621	115	867	17	(X)	4,356
30	1979-1980	3,540	121	897	15	(X)	4,301
31	1978-1979	3,381	122	890	13	(X)	4,135
32	1977-1978	3,331	127	910	12	(X)	4,102
33	1976-1977	3,230	130	914	11	(X)	4,002
34	1975-1976	3,159	136	925	11	(X)	3,937
35	1974-1975	3,184	144	930	10	(X)	3,959
36	1973-1974	3,131	151	910	11	(X)	3,880
37	1972-1973	3,243	166	930	11	(X)	3,996
38	1971-1972	3,487	184	915	11	(X)	4,208
39	1970-1971	3,771	205	902	10	(X)	4,458
40	1969-1970	3,656	211	893	8	(X)	4,330
41	1968-1969	3,567	219	850	7	(X)	4,189
42	1967-1968	3,519	232	841	6	(X)	4,122
43	1966-1967	3,628	253	818	6	(X)	4,188
44	1965-1966	3,755	281	808	5	(X)	4,278
45	1964-1965	4,008	314	821	4	(X)	4,510
46	1963-1964	4,138	341	782	4	(X)	4,575
47	1962-1963	4,195	365	763	3	(X)	4,590
48	1961-1962	4,294	390	722	2	(X)	4,623
49	1960-1961	4,331	417	714	2	(X)	4,626
50	1959-1960	4,312	440	743	1	(X)	4,614
51	1958-1959	4,308	462	621	1	(X)	4,466
52	1957-1958	4,346	489	652	1	(X)	4,508
53	1956-1957	4,261	505	621	1	(X)	4,376
54	1955-1956	4,186	521	601	1	(X)	4,266
55	1954-1955	4,130	540	596	-	(X)	4,185
56	1953-1954	4,031	556	541	-	(X)	4,016
57	1952-1953	3,961	575	518	-	(X)	3,903
58	1951-1952	3,896	591	498	-	(X)	3,803
59	1950-1951	3,708	602	497	-	(X)	3,602
60	1949-1950	3,680	630	505	-	(X)	3,555
61	1948-1949	3,667	660	436	-	(X)	3,443
62	1947-1948	3,768	699	450	-	(X)	3,518
63	1946-1947	3,765	711	416	-	(X)	3,470
64	1945-1946	2,851	647	373	-	(X)	2,576
65	1944-1945	(X)	(X)	(X)	(X)	2,729	2,729
66	1943-1944	(X)	(X)	(X)	(X)	2,799	2,799
67	1942-1943	(X)	(X)	(X)	(X)	2,839	2,839
68	1941-1942	(X)	(X)	(X)	(X)	2,494	2,494
69	1940-1941	(X)	(X)	(X)	(X)	2,295	2,295
70	1939-1940	(X)	(X)	(X)	(X)	2,028	2,028
71	1938-1939	(X)	(X)	(X)	(X)	1,967	1,967
72	1937-1938	(X)	(X)	(X)	(X)	1,872	1,872
73	1936-1937	(X)	(X)	(X)	(X)	1,738	1,738
74	1935-1936	(X)	(X)	(X)	(X)	1,691	1,691
75	1934-1935	(X)	(X)	(X)	(X)	1,594	1,594
76	1933-1934	(X)	(X)	(X)	(X)	1,452	1,452
77	1932-1933	(X)	(X)	(X)	(X)	1,433	1,433
78	1931-1932	(X)	(X)	(X)	(X)	1,386	1,386
79	1930-1931	(X)	(X)	(X)	(X)	1,353	1,353
80	1929-1930	(X)	(X)	(X)	(X)	1,273	1,273
81	1928-1929	(X)	(X)	(X)	(X)	1,200	1,200
82	1927-1928	(X)	(X)	(X)	(X)	1,147	1,147
83	1926-1927	(X)	(X)	(X)	(X)	1,061	1,061
84	1925-1926	(X)	(X)	(X)	(X)	974	974
85+	Before April 1925	(X)	(X)	(X)	(X)	5,552	5,552

X Not applicable.
- Represents zero or rounds to 0.
Notes:
Estimates may not sum to totals shown because of rounding.
Year of birth refers to events occurring between April 1 and March 31 of the indicated years.
Births, deaths, and net international migration refer to events occurring between April 1, 1945 and March 31, 2010. The Armed Forces overseas, population ages 65 and over, and the total population are estimates as of April 1, 2010.
Net international migration includes the international migration of both native and foreign-born populations. Specifically, it includes: (a) the net international migration of the foreign born, (b) the net international migration of the native born, and (c) the net migration between the United States and Puerto Rico.
Data for the Armed Forces overseas only include information for those aged 17 to 64.
Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B11. Total U.S. Resident Population by Age and Sex: April 1, 2010
(In thousands)

Age on		Series									
		Low		Low middle		Middle		High middle		High	
April 1, 2010	Year of birth	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Total		**151,944**	**153,739**	**152,822**	**154,593**	**153,372**	**155,104**	**154,199**	**155,838**	**155,524**	**157,190**
0	2009-2010	2,106	2,013	2,106	2,013	2,106	2,014	2,107	2,014	2,107	2,015
1	2008-2009	2,151	2,058	2,151	2,058	2,152	2,059	2,153	2,061	2,155	2,062
2	2007-2008	2,212	2,118	2,212	2,118	2,215	2,121	2,217	2,123	2,220	2,126
3	2006-2007	2,208	2,110	2,208	2,110	2,211	2,114	2,215	2,118	2,220	2,122
4	2005-2006	2,150	2,055	2,150	2,055	2,154	2,060	2,160	2,066	2,166	2,071
5	2004-2005	2,128	2,034	2,128	2,034	2,134	2,040	2,140	2,047	2,149	2,054
6	2003-2004	2,135	2,042	2,135	2,042	2,143	2,050	2,150	2,057	2,162	2,067
7	2002-2003	2,101	2,008	2,101	2,008	2,110	2,017	2,119	2,026	2,133	2,037
8	2001-2002	2,099	2,010	2,099	2,010	2,109	2,021	2,120	2,031	2,136	2,045
9	2000-2001	2,125	2,034	2,125	2,034	2,138	2,046	2,150	2,058	2,168	2,073
10	1999-2000	2,134	2,036	2,138	2,040	2,152	2,054	2,164	2,065	2,184	2,082
11	1998-1999	2,104	2,014	2,109	2,019	2,123	2,033	2,134	2,043	2,154	2,060
12	1997-1998	2,086	1,994	2,092	2,000	2,106	2,013	2,117	2,024	2,137	2,040
13	1996-1997	2,078	1,994	2,084	2,000	2,098	2,013	2,109	2,024	2,128	2,040
14	1995-1996	2,094	2,006	2,101	2,013	2,115	2,026	2,126	2,036	2,145	2,053
15	1994-1995	2,111	2,017	2,118	2,024	2,131	2,037	2,142	2,047	2,162	2,063
16	1993-1994	2,151	2,051	2,159	2,059	2,171	2,071	2,183	2,082	2,204	2,099
17	1992-1993	2,191	2,085	2,200	2,094	2,212	2,105	2,225	2,116	2,247	2,134
18	1991-1992	2,233	2,127	2,242	2,136	2,254	2,147	2,268	2,158	2,292	2,178
19	1990-1991	2,257	2,154	2,267	2,164	2,278	2,174	2,294	2,186	2,320	2,208
20	1989-1990	2,228	2,130	2,239	2,140	2,250	2,150	2,267	2,163	2,295	2,186
21	1988-1989	2,167	2,073	2,176	2,082	2,187	2,092	2,206	2,107	2,235	2,131
22	1987-1988	2,130	2,039	2,140	2,048	2,152	2,058	2,173	2,074	2,202	2,100
23	1986-1987	2,108	2,018	2,117	2,028	2,129	2,038	2,153	2,056	2,182	2,083
24	1985-1986	2,130	2,033	2,140	2,043	2,153	2,053	2,179	2,073	2,206	2,101
25	1984-1985	2,109	2,015	2,121	2,026	2,134	2,036	2,161	2,058	2,186	2,086
26	1983-1984	2,106	2,002	2,117	2,011	2,130	2,022	2,160	2,044	2,182	2,072
27	1982-1983	2,158	2,048	2,172	2,058	2,186	2,070	2,215	2,094	2,234	2,120
28	1981-1982	2,159	2,042	2,175	2,054	2,188	2,065	2,218	2,090	2,233	2,114
29	1980-1981	2,166	2,046	2,184	2,058	2,198	2,070	2,226	2,094	2,239	2,117
30	1979-1980	2,141	2,018	2,161	2,032	2,175	2,044	2,202	2,068	2,213	2,088
31	1978-1979	2,056	1,942	2,077	1,956	2,090	1,967	2,117	1,991	2,126	2,010
32	1977-1978	2,037	1,927	2,060	1,944	2,073	1,956	2,098	1,979	2,106	1,996
33	1976-1977	1,984	1,882	2,009	1,900	2,021	1,912	2,046	1,934	2,053	1,949
34	1975-1976	1,948	1,855	1,974	1,876	1,986	1,887	2,010	1,908	2,015	1,922
35	1974-1975	1,959	1,869	1,987	1,890	1,999	1,901	2,021	1,920	2,026	1,933
36	1973-1974	1,916	1,838	1,943	1,859	1,955	1,869	1,975	1,888	1,980	1,899
37	1972-1973	1,972	1,902	2,000	1,923	2,011	1,933	2,030	1,950	2,035	1,961
38	1971-1972	2,082	2,008	2,109	2,030	2,120	2,039	2,137	2,055	2,142	2,065
39	1970-1971	2,211	2,135	2,238	2,156	2,247	2,164	2,264	2,179	2,269	2,189
40	1969-1970	2,161	2,069	2,178	2,091	2,187	2,100	2,202	2,113	2,207	2,123
41	1968-1969	2,086	2,011	2,100	2,031	2,108	2,039	2,123	2,052	2,128	2,061
42	1967-1968	2,053	1,981	2,066	2,000	2,074	2,008	2,088	2,020	2,093	2,029
43	1966-1967	2,084	2,019	2,098	2,036	2,105	2,044	2,118	2,055	2,124	2,064
44	1965-1966	2,127	2,067	2,141	2,085	2,148	2,092	2,159	2,103	2,166	2,112
45	1964-1965	2,240	2,187	2,255	2,205	2,262	2,212	2,272	2,222	2,280	2,231
46	1963-1964	2,271	2,226	2,284	2,243	2,291	2,250	2,300	2,259	2,308	2,268
47	1962-1963	2,275	2,240	2,288	2,257	2,294	2,263	2,302	2,271	2,310	2,280
48	1961-1962	2,290	2,261	2,302	2,276	2,308	2,282	2,316	2,290	2,324	2,299
49	1960-1961	2,285	2,270	2,298	2,285	2,304	2,290	2,311	2,298	2,320	2,307
50	1959-1960	2,277	2,262	2,292	2,281	2,297	2,286	2,304	2,292	2,312	2,301
51	1958-1959	2,191	2,212	2,201	2,224	2,206	2,229	2,212	2,235	2,221	2,245
52	1957-1958	2,213	2,228	2,226	2,243	2,231	2,247	2,237	2,253	2,246	2,262
53	1956-1957	2,144	2,168	2,156	2,182	2,160	2,186	2,165	2,192	2,175	2,201
54	1955-1956	2,081	2,121	2,093	2,135	2,097	2,139	2,102	2,144	2,112	2,154
55	1954-1955	2,037	2,082	2,051	2,098	2,054	2,101	2,059	2,106	2,069	2,116
56	1953-1954	1,945	2,008	1,957	2,022	1,961	2,026	1,965	2,030	1,976	2,040
57	1952-1953	1,886	1,956	1,898	1,969	1,901	1,973	1,905	1,977	1,916	1,987
58	1951-1952	1,831	1,908	1,845	1,922	1,847	1,925	1,851	1,929	1,863	1,940
59	1950-1951	1,726	1,810	1,740	1,826	1,743	1,829	1,746	1,832	1,759	1,844
60	1949-1950	1,697	1,784	1,715	1,802	1,718	1,805	1,721	1,808	1,734	1,821
61	1948-1949	1,639	1,733	1,655	1,749	1,657	1,751	1,660	1,754	1,675	1,768
62	1947-1948	1,671	1,766	1,691	1,785	1,693	1,788	1,695	1,791	1,712	1,806
63	1946-1947	1,647	1,739	1,668	1,759	1,670	1,761	1,672	1,764	1,690	1,780
64	1945-1946	1,202	1,305	1,218	1,321	1,220	1,323	1,222	1,326	1,237	1,340
65	1944-1945	1,289	1,388	1,295	1,393	1,295	1,393	1,295	1,393	1,315	1,414
66	1943-1944	1,281	1,395	1,287	1,400	1,287	1,400	1,287	1,400	1,345	1,454
67	1942-1943	1,278	1,399	1,284	1,404	1,284	1,404	1,284	1,404	1,364	1,476
68	1941-1942	1,103	1,228	1,108	1,232	1,108	1,232	1,108	1,232	1,189	1,305
69	1940-1941	1,002	1,130	1,007	1,133	1,007	1,133	1,007	1,133	1,088	1,207
70	1939-1940	933	1,068	937	1,071	937	1,071	937	1,071	948	1,080
71	1938-1939	898	1,036	901	1,039	901	1,039	901	1,039	915	1,051
72	1937-1938	845	991	848	994	848	994	848	994	864	1,008
73	1936-1937	776	925	779	928	779	928	779	928	795	943
74	1935-1936	746	906	749	909	749	909	749	909	766	925
75	1934-1935	707	873	710	876	710	876	710	876	716	879
76	1933-1934	636	802	638	805	638	805	638	805	644	808
77	1932-1933	618	799	621	802	621	802	621	802	627	806
78	1931-1932	591	779	593	782	593	782	593	782	600	786
79	1930-1931	567	769	569	772	569	772	569	772	576	777
80	1929-1930	523	734	525	736	525	736	525	736	531	742
81	1928-1929	483	701	484	703	484	703	484	703	491	709
82	1927-1928	451	680	453	682	453	682	453	682	459	688
83	1926-1927	408	638	410	640	410	640	410	640	416	646
84	1925-1926	363	597	364	599	364	599	364	599	369	604
85+	Before April 1925	1,771	3,705	1,778	3,716	1,778	3,716	1,778	3,716	1,803	3,749

X Not applicable.

Notes:

Estimates may not sum to totals shown because of rounding.

Year of birth refers to events occurring between April 1 and March 31 of the indicated years.

Source: U.S. Census Bureau, Population Division, 2010 Demographc Analysis.

Table B12. 2010 Demographic Analysis Estimates of the Population Aged 0 to 19
(In thousands)

Demographic Analysis Estimate	Births	Deaths	Net International Migration (NIM)
	Cohorts born between 1990 and 2010		
Low Series **Resident Population = 83,813**	**(A) Registered Births** **Births = 81,280**	**(A) Registered Deaths**: **Deaths = 780**	**(A-1) Low NIM Series**: Foreign-born Immigration - Lower bound Residence One Year Ago Foreign-born Emigration - High estimate using residual method Net Native-born Migration - Analysis of census data from other countries Net Migration from Puerto Rico - Residence One Year Ago Method Residual Foreign Born (2000) - Low Coverage assumption **NIM = 3,327**
Low Middle Series **Resident Population = 83,956**			**(A-2) Low NIM Series**: Foreign-born Immigration - Lower bound Residence One Year Ago Foreign-born Emigration - High estimate using residual method Net Native-born Migration - Analysis of census data from other countries Net Migration from Puerto Rico - Residence One Year Ago Method Residual Foreign Born (2000) - 85% Coverage assumption **NIM = 3,470**
Middle Series **Resident Population = 84,327**			**(B) Middle NIM Series**: Foreign-born Immigration - Residence One Year Ago Foreign-born Emigration - Residual method Net Native-born Migration - Analysis of census data from other countries Net Migration from Puerto Rico - Residence One Year Ago Method Residual Foreign Born (2000) - 85% Coverage assumption Born Abroad of U.S. Citizen Parents - Middle estimate **NIM = 3,841**
High Middle Series **Resident Population = 84,675**			**(C) High Middle NIM Series**: Foreign-born Immigration - Year of Entry Foreign-born Emigration - Residual method Net Native-born Migration - Analysis of census data from other countries Net Migration from Puerto Rico - Residence One Year Ago Method Residual Foreign Born (2000) - 85% Coverage assumption Born Abroad of U.S. Citizen Parents - Middle estimate **NIM = 4,189**
High Series **Resident Population = 85,218**			**(D) High NIM Series**: Foreign-born Immigration - Year of Entry with coverage factors Foreign-born Emigration - Low estimate using residual method Net Native-born Migration - Analysis of census data from other countries Net Migration from Puerto Rico - Residence One Year Ago Method Residual Foreign Born (2000) - 85% Coverage assumption Born Abroad of U.S. Citizen Parents - High estimate **NIM = 4,732**

Note: The Armed Forces overseas component is subtracted when calculating the resident population.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B13. Population Estimates and the Components Used to Construct the U.S. Resident Population Ages 0 to 19 by Hispanic Origin and Sex: April 1, 2010
(In thousands)

Series and component	Total population	Hispanic			Non-Hispanic		
		Both sexes	Male	Female	Both sexes	Male	Female
Low Series							
Total population	83,813	18,263	9,351	8,912	65,550	33,501	32,049
Births	81,280	16,598	8,466	8,132	64,682	33,129	31,553
Deaths	780	131	74	57	649	370	280
Net international migration	3,327	1,798	960	838	1,530	752	778
Armed Forces overseas	14	2	1	-	12	11	2
Low Middle Series							
Total population	83,956	19,074	9,765	9,310	64,882	33,159	31,723
Births	81,280	17,334	8,841	8,492	63,947	32,754	31,193
Deaths	780	131	74	57	649	370	280
Net international migration	3,470	1,873	999	875	1,597	785	812
Armed Forces overseas	14	2	1	-	12	11	2
Middle Series							
Total population	84,327	19,189	9,825	9,364	65,138	33,287	31,851
Births	81,280	17,334	8,841	8,492	63,947	32,754	31,193
Deaths	780	131	74	57	649	370	280
Net international migration	3,841	1,989	1,059	929	1,852	913	940
Armed Forces overseas	14	2	1	-	12	11	2
High Middle Series							
Total population	84,675	19,374	9,925	9,449	65,300	33,367	31,933
Births	81,280	17,334	8,841	8,492	63,947	32,754	31,193
Deaths	780	131	74	57	649	370	280
Net international migration	4,189	2,174	1,159	1,014	2,015	993	1,022
Armed Forces overseas	14	2	1	-	12	11	2
High Series							
Total population	85,218	21,324	10,947	10,378	63,894	32,642	31,252
Births	81,280	18,949	9,666	9,283	62,332	31,930	30,402
Deaths	780	131	74	57	649	370	280
Net international migration	4,732	2,509	1,357	1,152	2,223	1,092	1,131
Armed Forces overseas	14	2	1	-	12	11	2

- Represents zero or rounds to 0.

Notes:

Estimates may not sum to totals shown because of rounding.

Demographic analysis estimates of the population by Hispanic origin as of April 1, 2010 were only produced for ages 0 to 19.

Hispanics may be of any race.

Births, deaths, and net international migration for the 2010 estimates refer to events occurring between April 1, 1990 and March 31, 2010. The Armed Forces overseas and the total population are estimates as of April 1, 2010.

Net international migration includes the international migration of both native and foreign-born populations. Specifically, it includes: (a) the net international migration of the foreign born, (b) the net international migration of the native born, and (c) the net migration between the United States and Puerto Rico.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Table B14. Hispanic U.S. Resident Population by Age: April 1, 2010
(In thousands)

Age on April 1, 2010	Year of birth	Series				
		Low	Low middle	Middle	High middle	High
	Total	**18,263**	**19,074**	**19,189**	**19,374**	**21,324**
0	2009-2010	1,026	1,073	1,073	1,074	1,176
1	2008-2009	1,053	1,100	1,101	1,103	1,208
2	2007-2008	1,088	1,136	1,137	1,140	1,249
3	2006-2007	1,083	1,130	1,132	1,136	1,244
4	2005-2006	1,038	1,082	1,085	1,090	1,194
5	2004-2005	1,003	1,045	1,048	1,055	1,158
6	2003-2004	975	1,014	1,019	1,026	1,127
7	2002-2003	945	983	989	998	1,096
8	2001-2002	927	964	971	982	1,080
9	2000-2001	907	944	952	964	1,064
10	1999-2000	894	933	942	954	1,052
11	1998-1999	851	889	897	909	1,005
12	1997-1998	829	867	875	886	979
13	1996-1997	822	859	867	878	969
14	1995-1996	813	851	859	870	958
15	1994-1995	798	836	844	855	943
16	1993-1994	806	846	853	865	954
17	1992-1993	805	844	852	864	954
18	1991-1992	804	843	851	865	958
19	1990-1991	797	836	844	860	955

Notes:
Estimates may not sum to totals shown because of rounding.
Year of birth refers to events occurring between April 1 and March 31 of the indicated years.
Demographic analysis estimates of the population by Hispanic origin were only produced for aged 0 to 19 on April 1, 2010.
Hispanics may be of any race.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

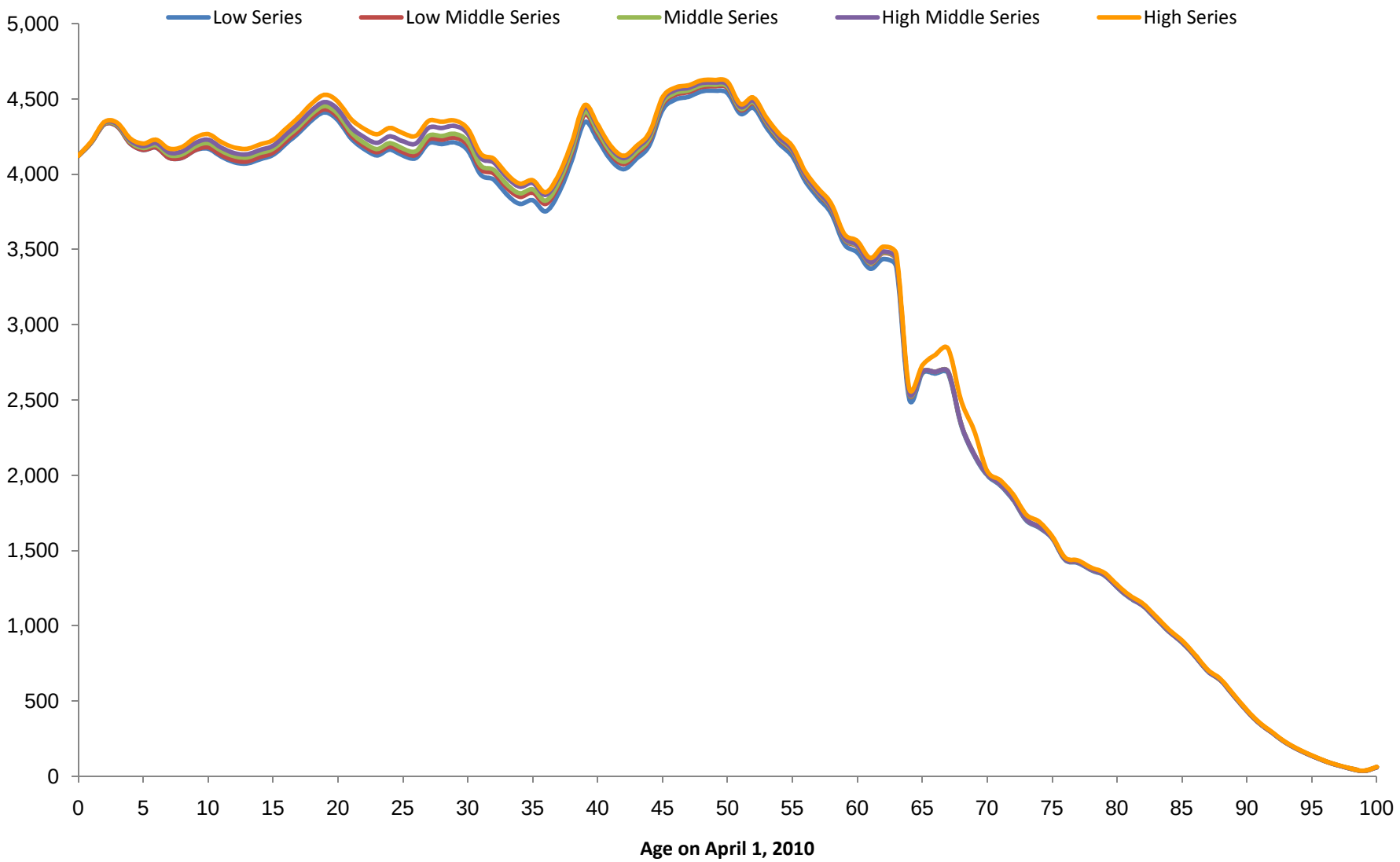
Table B15. Non-Hispanic U.S. Resident Population by Age: April 1, 2010
(In thousands)

Age on April 1, 2010	Year of birth	Series				
		Low	Low middle	Middle	High middle	High
	Total	**65,550**	**64,882**	**65,138**	**65,300**	**63,894**
0	2009-2010	3,093	3,047	3,047	3,048	2,946
1	2008-2009	3,155	3,108	3,110	3,112	3,009
2	2007-2008	3,243	3,195	3,198	3,201	3,097
3	2006-2007	3,235	3,188	3,193	3,197	3,098
4	2005-2006	3,167	3,123	3,130	3,135	3,043
5	2004-2005	3,159	3,117	3,125	3,132	3,046
6	2003-2004	3,203	3,163	3,173	3,181	3,101
7	2002-2003	3,163	3,125	3,138	3,147	3,074
8	2001-2002	3,182	3,145	3,160	3,170	3,101
9	2000-2001	3,251	3,215	3,232	3,243	3,177
10	1999-2000	3,276	3,245	3,264	3,275	3,214
11	1998-1999	3,267	3,239	3,258	3,268	3,210
12	1997-1998	3,252	3,225	3,245	3,255	3,199
13	1996-1997	3,250	3,225	3,244	3,254	3,200
14	1995-1996	3,287	3,264	3,282	3,292	3,240
15	1994-1995	3,330	3,307	3,324	3,334	3,283
16	1993-1994	3,396	3,373	3,389	3,399	3,348
17	1992-1993	3,471	3,450	3,466	3,476	3,426
18	1991-1992	3,556	3,535	3,550	3,561	3,512
19	1990-1991	3,614	3,595	3,609	3,620	3,572

Notes:
Estimates may not sum to totals shown because of rounding.
Year of birth refers to events occurring between April 1 and March 31 of the indicated years.
Demographic analysis estimates of the population by Hispanic origin were only produced for aged 0 to 19 on April 1, 2010.
Non-Hispanics may be of any race.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

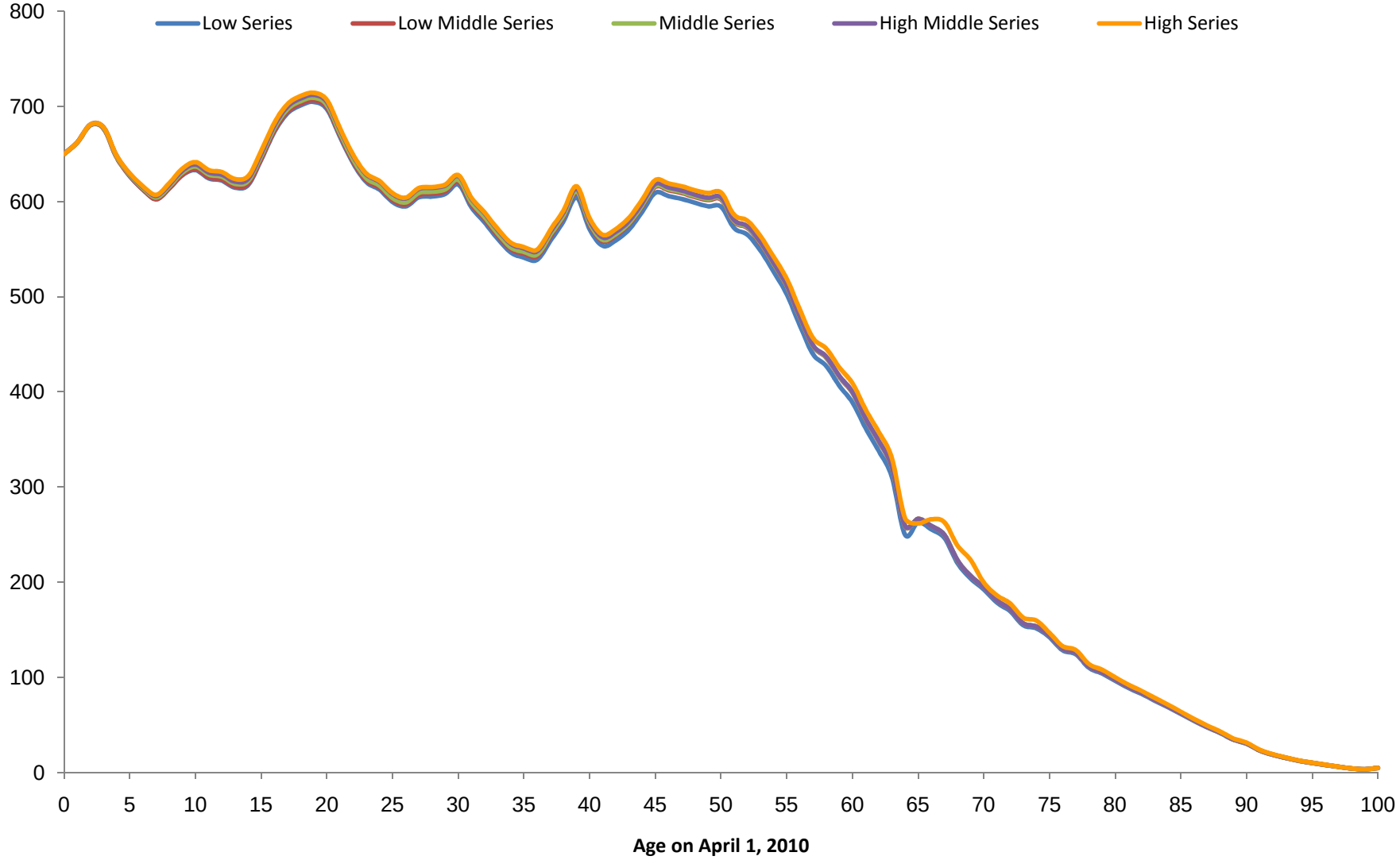
Figure B1. Total Population by Age: April 1, 2010
(In thousands)



Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Figure B2. Black Population by Age: April 1, 2010

(In thousands)

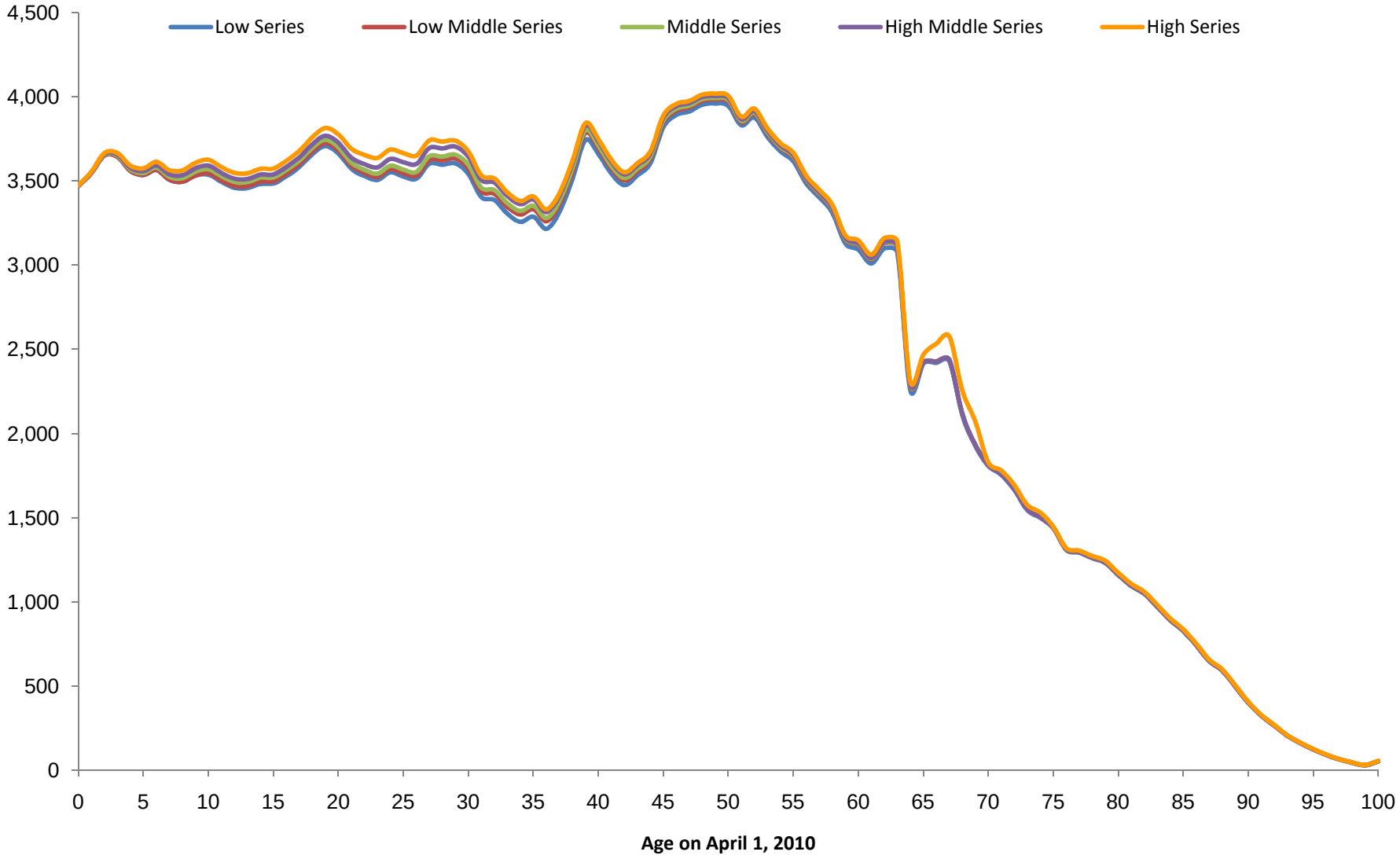


Black refers to Black alone. All others are classified as non-Black.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Figure B3. Non-Black Population by Age: April 1, 2010

(In thousands)

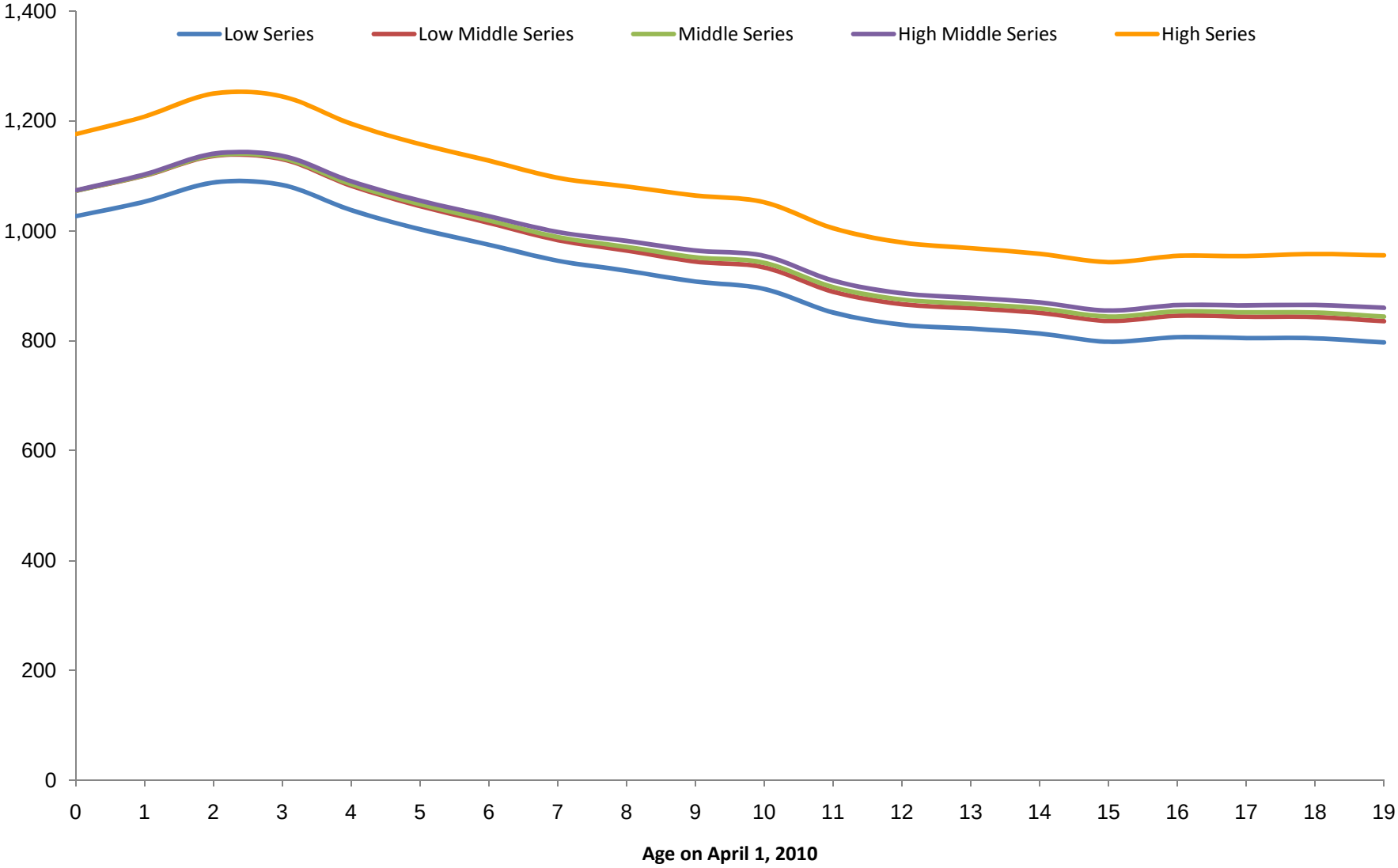


Black refers to Black alone. All others are classified as non-Black.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.

Figure B4. Hispanic Population by Age: April 1, 2010

(In thousands)



Hispanics may be of any race.

Source: U.S. Census Bureau, Population Division, 2010 Demographic Analysis.