Documentation for Vintage 2008 Bridged-Race Postcensal Population Estimates for Calculating Vital Rates

The Vintage 2008 bridged-race postcensal population estimates files contain estimates of the resident population of the United States as of July 1, 2000 to July 1, 2008, by county, single-year of age (0, 1, 2,..., 85 years and over), bridged-race category (White, Black or African American, American Indian or Alaska Native, Asian or Pacific Islander), Hispanic origin (not Hispanic or Latino, Hispanic or Latino), and sex (1). The estimates on this file are based on Census 2000 and result from bridging the Vintage 2008 postcensal estimates with 31 race groups (the 31 race groups used in Census 2000 in accordance with the 1997 Office of Management and Budget (OMB) standards for the collection of data on race and ethnicity) to the four race categories specified under the 1977 OMB standards (2, 3).

Source of the Estimates

The Vintage 2008 bridged-race postcensal estimates were produced by the Population Estimates Program of the U.S. Census Bureau in collaboration with the National Center for Health Statistics (NCHS). This file was released by the Census Bureau on May 14, 2009 and by NCHS on September 2, 2009.

Changes in Estimates Methodology Implemented for Vintage 2008

The Vintage 2008 postcensal population estimates reflect three major improvements in the estimates methodology (4, 5). Improvements include changes in 1) the estimation of net international migration, 2) the incorporation of accepted challenges and special censuses into the national population estimates, and 3) the imputation of the race and Hispanic origin for births. These methodology changes go beyond the extensive methodology changes implemented for the Vintage 2007 estimates (6). The net impact of the various methodologic changes is a downward shift of the Vintage 2008 postcensal population estimates when compared to those from the Vintage 2007 series; the Vintage 2007 postcensal estimates also reflected a downward shift when compared to the 2006 estimates.

In an effort to produce the most accurate and effective estimates, the Census Bureau retained adjustments developed for the Vintage 2006 and Vintage 2007 estimates in the Vintage 2008 estimation procedures. These adjustments accommodate geographic shifts in the populations of Alabama, Louisiana, Mississippi and Texas resulting from Hurricanes Katrina and Rita in 2005 (7-9).~~).~~

Geographic Codes in the Bridged-Race Population Files

The Vintage 2008 files have population estimates for 3,142 counties and county equivalents. The Federal Information Processing System (FIPS) codes on the Vintage

2008 files differ slightly from those on earlier vintages: two new FIPS codes are included on the files (Skagway Municipality and Hoonah-Angoon Census Area) and one FIPS code is excluded (Skagway-Hoonah-Angoon Census Area). The table below summarizes differences in FIPS codes across the various bridged-race population files; for the most part, FIPS codes on the files are the same. Vintage 2002, Vintage 2005, Vintage 2006, and Vintage 2007 have estimates for 3,141 counties and county equivalents and the FIPS codes on these four vintages are consistent with each other. The Vintage 2003 and Vintage 2004 files have estimates for 3,140 counties and county equivalents and the FIPS codes on these two vintages are consistent with each other (unlike the other postcensal vintages, they do not have population estimates for Broomfield County, Colorado). The intercensal files and the April 1, 2000 files have estimates for 3,141 counties and county equivalents; these files do not have estimates for Broomfield, CO but unlike later files do have estimates for Clifton Forge, VA.

Counties and county equivalents that do not appear on all of the bridged-race population files: 1990-2008

Year	County or county equivalent					
	Number of counties	Skagway Municipality, AK	Hoonah-Angoon Census Area< AK	Skagway-Hoonah-Angoon Census Area, AK	Broomfield County, CO	Clifton Forge County, VA
Intercensal estimates						
1990-1999	3,141	--*--	--*--	X	--*--	X
Census counts						
April 1, 2000	3,141	--*--	--*--	X	--*--	X
Postcensal estimates						
Vintage 2001	None, only national estimates	--*--	--*--	--*--	--*--	--*--
Vintage 2002	3,141	--*--	--*--	X	X	--*--
Vintage 2003	3,140	--*--	--*--	X	--*--	--*--
Vintage 2004	3,140	--*--	--*--	X	--*--	--*--
Vintage 2005	3,141	--*--	--*--	X	X	--*--
Vintage 2006	3,141	--*--	--*--		X	--*--
Vintage 2007	3,141	--*--	--*--	X	X	--*--
Vintage 2008	3,142	X	X	--*--	X	--*--

--*-- County or county equivalent is not on the file.
X County or county equivalent is on the file.

Specific details:

Broomfield County, Colorado (FIPS code=08014) was created effective November 15, 2001 from parts of four Colorado counties: Adams, Boulder, Jefferson, and Weld. There are estimates for this county on some, but not all, of the bridged-race files. Note that data for Broomfield County do not appear on NCHS birth or mortality files until data year 2003.

Clifton Forge County, Virginia (FIPS code = 51560). On July 1, 2001, Clifton Forge city, Virginia, formerly an independent city, merged with Alleghany county (FIPS code=51005). There are no estimates for this county on the bridged-race postcensal population files. Note that data for Clifton Forge city appear on NCHS

birth and mortality files prior to data year 2003; beginning with the 2003 data year, no data for Clifton Forge city appear on the birth and death files.

Skagway Municipality, AK (FIPS code = 02-230). Skagway Municipality was created from part of the former Skagway-Hoonah-Angoon Census Area (FIPS code = 02-232) effective June 20, 2007; boundaries are identical to the Skagway census subarea; population: 862. The remainder of the former Skagway-Hoonah-Angoon Census Area was established as the new Hoonah-Angoon Census Area (02-105). This county equivalent appears only on the Vintage 2008 files. Note that no data for Skagway Municipality appear on NCHS birth and mortality files.

Hoonah-Angoon Census Area, AK (FIPS code = 02-105). The Hoonah-Angoon Census Area was created from the remainder of the former Skagway-Hoonah-Angoon Census Area (FIPS code = 02-232) when Skagway Municipality (FIPS code = 02-230) was created effective June 20, 2007; population: 2,574. This county equivalent appears only on the Vintage 2008 files. Note that no data for Hoonah-Angoon Census Area appear on NCHS birth and mortality files.

Skagway-Hoonah-Angoon Census Area, AK (FIPS code = 02-232). Effective June 20, 2007, Skagway-Hoonah-Angoon Census area was split to create Skagway Municipality (FIPS = 02-230) and Hoonah-Angoon Census Area (FIPS code = 02-105), This county equivalent appears on the bridged-race files prior to Vintage 2008 (except for Vintage 2001 for which no county-level data are available). Note that data for Skagway-Hoonah-Angoon Census Area appear on NCHS birth and mortality files for 1994 – present.

Race Bridging Background

What is race bridging? - Race bridging refers to making data collected using one set of race categories consistent with data collected using a different set of race categories, to permit estimation and comparison of race-specific statistics at a point in time or over time. More specifically, race bridging is a method used to make multiple-race and single-race data collection systems sufficiently comparable to permit estimation and analysis of race-specific statistics.

OMB's 1977 and 1997 standards on race and ethnicity - In 1997, OMB issued "Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity," which supersedes the 1977 Statistical Policy Directive 15, "Race and Ethnic Standards for Federal Statistics and Administrative Reporting" (2,3). Both documents specify rules for the collection, tabulation, and presentation of race and ethnicity data within the Federal statistical system. The race categories specified in both standards represent a social-political construct and are not anthropologically or biologically based. The revised standards increased the minimum number of race categories to be used by Federal agencies from four (White, Black, American Indian or Alaska Native, and Asian or Pacific Islander) to five (White, Black or African American, American Indian or Alaska

Native, Asian, and Native Hawaiian or Other Pacific Islander). In addition, the revised standards require Federal data collection programs to allow respondents to select more than one race category when responding to a query on their racial identity. This provision means that under the revised standards there are potentially 31 race groups (5 single-race and 26 multiple-race), depending on whether an individual selects one, two, three, four, or all five of the race categories.

Why race bridge? - During the transition to full implementation of the 1997 standards (see paragraph below), these two different standards for the collection of race and ethnicity data are both being used, creating incomparability across data systems. Further, within a given data system, the change in the race standards results in incomparability across time, thus making it difficult to perform trend analyses. The OMB recognized that race-bridging approaches would be needed to make race data collected under the 1997 standards comparable to race data collected under the 1977 standards. Therefore, the OMB issued "Provisional Guidance on the Implementation of the 1997 Standards for Federal Data on Race and Ethnicity" (10). The guidance document contains a detailed discussion of various bridging methods.

Why does NCHS use bridged-race population estimates? - Vital rates are based on information obtained from vital records collected through the state-based Vital Statistics Cooperative Program (numerators) and population estimates derived from the U.S. Census (denominators). Because of differences in the timing of implementation of the 1997 standards, beginning with the 2000 data year, the numerators and denominators of vital rates have incompatible race data. The question on race on the 2000 census was based on the revised OMB standards and so allowed respondents to select more than one race category. As a result, population estimates for 2000 and beyond have five single-race categories and up to 26 multiple-race categories. Implementation of the 1997 standards within the Vital Statistics Cooperative System started in 2003, on an individual state basis, and is proceeding slowly as states implement revised birth and death certificates which incorporate the revised OMB standards. As of 2008, many states had not revised the race question on their birth or death certificates and were still collecting race data using the 1977 race categories. Therefore, at this time, the calculation of post-2000 race-specific birth and death rates requires population estimates with the 1977 race categories. When a sufficient number of states have adopted the revised birth and death certificates, rates will be presented using population estimates that comply with the 1997 standards.

Specifics about NCHS Use of Bridged-Race Population Estimates - NCHS publishes national (and some state) birth and death rates on an annual basis. NCHS uses the bridged-race postcensal population estimates to calculate birth and death rates. Vital rates for a given data year are calculated using bridged-race population estimates from the bridged-race estimates series corresponding with that year. For example, vital rates for 2001 were calculated using population estimates from the Vintage 2001 postcensal series, vital rates for 2002 were calculated using estimates from the Vintage 2002 postcensal series, and so forth. Vital rates for postcensal data

years are not recalculated using updated postcensal estimates. Rather, NCHS revises rates published for postcensal years only once intercensal population estimates become available. Thus, the vital rates for 1991-1999, which originally were calculated using 1990-based postcensal population estimates, have been recalculated using the bridged-race intercensal population estimates for 1991-1999.

NCHS Regression Bridging Method

Bridging methodology developed by NCHS bridges the multiple-race group population counts to four single-race categories (11, 12). Information from the pooled 1997-2000 National Health Interview Survey was used to develop the bridging methodology. Regression models with person-level and county-level covariates were used to generate the probability of selecting each single-race category possible for a multiple-race group. The probabilities generated from the fitted regression models are referred to as the NHIS bridging proportions. The Census Bureau applied the NHIS bridging proportions generated by NCHS to the Census 2000 Modified Race Data Summary file (8). This application resulted in a bridged population count for each of the four single-race categories (White, Black or African American, American Indian or Alaska Native, and Asian or Pacific Islander) by county, single-year of age, Hispanic origin group, and sex, for April 1, 2000. Annually, the bridging proportions are applied to the latest vintage of postcensal estimates with 31 race groups (the 31 race groups used in Census 2000 in accordance with the 1997 OMB standards) to obtain the bridged-race population estimates for the four single-race categories. The bridging methodology is described in detail in the report, “United States Census 2000 Population with Bridged Race Categories” (which is available for download from this site) (11).

Bridged-Race Postcensal Population Estimates

Postcensal population estimates are estimates made for the years following a census, before the next census has been taken. Postcensal estimates are derived by updating the resident population enumerated in the decennial census using various measures of population change. The components of population change used in the derivation of the postcensal estimates include: births to U.S. resident women, deaths to U.S. residents, net international immigration, net movement of U.S. Armed Forces and civilian citizens of the U.S, and migration within the U.S. The Census Bureau annually produces a series of postcensal estimates that includes estimates for the current data year and revised estimates for earlier years. The last year in a series is used to name the series. For example, the Vintage 2002 postcensal series has estimates for July 1, 2000, July 1, 2001, and July 1, 2002. The Vintage 2003 series has estimates for July 1, 2000, July 1, 2001, July 1, 2002, and July 1, 2003. The July 1, 2000, July 1, 2001, and July 1, 2002 estimates from the Vintage 2002 and Vintage 2003 series differ. Estimates for earlier years in a given series are revised to reflect 1) changes in the components of population change data sets (for example, a preliminary natality file is replaced with a final natality file), 2) challenges to the population estimates, and 3) changes in the

estimation methodology. Because of the revisions made to the estimates in each series, pulling estimates from several vintages rather than from a single vintage may introduce discontinuities.

The Census Bureau annually produces a postcensal series of estimates of the resident population of the United States with 31 race groups (in accordance with the 1997 OMB standards). The Census 2000 Modified Race Data Summary File serves as the base data for these post-2000 postcensal series (13). Under a collaborative arrangement with NCHS, the Population Estimates Program of the U.S. Census Bureau applies the NHIS bridging proportions to the 31-race postcensal population estimates to produce the bridged-race postcensal estimates (estimates for the four single-race categories: White, Black or African American, American Indian or Alaska Native, and Asian or Pacific Islander).

Variance of Bridged-Race Population Estimates

Population estimates generally are assumed to be fixed and do not contribute to the variance of rates. However, this is not true for bridged-race population estimates. Although efforts were made to use the best available data and methods to produce the bridged-race estimates, the modeling process introduces error into the estimates. The potential for error will be greatest for the smallest population groups, particularly the smaller race groups and county level estimates. Methodology to compute variances for bridged-race population estimates has been developed (14).

Release of Bridged-Race Population Estimates

In response to the need for bridged estimates by a wide range of users, NCHS makes the bridged-race population estimates available for download from the web site "U.S. Populations with Bridged Race Categories" (http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm). The report detailing the bridging methodology, "United States Census 2000 Population with Bridged Race Categories", also is available for download from this site.

Comments and Questions

NCHS would appreciate receiving feedback on the usefulness of the bridged-race estimates as well as notification of any problems that have been identified. Comments or questions about the estimates may be sent via e-mail to:

PopEst@cdc.gov.

Suggested Citation

National Center for Health Statistics. Postcensal estimates of the resident population of the United States for July 1, 2000-July 1, 2008, by year, county, age, bridged race, Hispanic origin, and sex (Vintage 2008). Prepared under a collaborative arrangement with the U.S. Census Bureau; released May 14, 2009. Available from: http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm as of September 2, 2009

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File layout for the Vintage 2008 Bridged-Race Postcensal Files, 2000-2008

The Vintage 2008 series (July 1, 2000-July 1, 2008) is available as two multi-year text files (2000-2004 and 2005-2008), as single-year text files (a separate file for each year in the series), and as a SAS file with only the estimates for July 1, 2008. The files contain bridged-race postcensal estimates of the July 1 resident population of the United States by year, county, single-year of age (0, 1,…, 85 years and over), bridged-race category (White, Black or African American, American Indian or Alaska Native, Asian or Pacific Islander), Hispanic origin (not Hispanic or Latino, Hispanic or Latino), and sex. There is a record on the files for each combination of county, age, race, sex, and Hispanic origin. The population estimates on the files were derived by the U.S. Census Bureau using the Census 2000 Modified Race Data Summary File as the base file (13). The files were released by NCHS on September 2, 2009

Control totals for Vintage 2008 data files

File name	Number of records[1]	Month, Year	Population count
Pcen_v2008.y0004.txt	4,323,392		
		July 1, 2000	282,171,936
		July 1, 2001	285,039,803
		July 1, 2002	287,726,647
		July 1, 2003	290,210,914
		July 1, 2004	292,892,127
Pcen_v2008.y0508.txt	4,323,392		
		July 1, 2005	295,560,549
		July 1, 2006	298,362,973
		July 1, 2007	301,290,332
		July 1, 2008	304,059,724
pcen_v2008_y00.txt	4,323,392	July 1, 2000	282,171,936
pcen_v2008_y01.txt	4,323,392	July 1, 2001	285,039,803
pcen_v2008_y02.txt	4,323,392	July 1, 2002	287,726,647
pcen_v2008_y03.txt	4,323,392	July 1, 2003	290,210,914
pcen_v2008_y04.txt	4,323,392	July 1, 2004	292,892,127
pcen_v2008_y05.txt	4,323,392	July 1, 2005	295,560,549
pcen_v2008_y06.txt	4,323,392	July 1, 2006	298,362,973
pcen_v2008_y07.txt	4,323,392	July 1, 2007	301,290,332
pcen_v2008_y08.txt	4,323,392	July 1, 2008	304,059,724
pcen_v2008_y08.sas7bdat	4,323,392	July 1, 2008	304,059,724

[1]There is one record for each county, race, sex, Hispanic origin, and age combination

File Layout for **pcen_v2008.y0004.txt**

Location	Field size	Item and code outline	Format
1-4	4	Series vintage (2008)	Numeric
5-6	2	FIPS State code	Numeric
7-9	3	FIPS county code	Numeric
10-11	2	Age (0, 1, 2,…, 85 years and over)	Numeric
12	1	Race-sex 1=White male 2=White female 3=Black or African American male 4=Black or African American female 5=American Indian or Alaska Native male 6=American Indian or Alaska Native female 7=Asian or Pacific Islander male 8=Asian or Pacific Islander female	Numeric
13	1	Hispanic origin 1=not Hispanic or Latino 2=Hispanic or Latino	Numeric
14-21	8	Population count for July 1, 2000	Numeric
22-29	8	Population count for July 1, 2001	Numeric
30-37	8	Population count for July 1, 2002	Numeric
38-45	8	Population count for July 1, 2003	Numeric
46-53	8	Population count for July 1, 2004	Numeric

File Layout for **pcen_v2008.y0508.txt**

Location	Field size	Item and code outline	Format
1-4	4	Series vintage (2008)	Numeric
5-6	2	FIPS State code	Numeric
7-9	3	FIPS county code	Numeric
10-11	2	Age (0, 1, 2,…, 85 years and over)	Numeric
12	1	Race-sex 1=White male 2=White female 3=Black or African American male 4=Black or African American female 5=American Indian or Alaska Native male 6=American Indian or Alaska Native female 7=Asian or Pacific Islander male 8=Asian or Pacific Islander female	Numeric
13	1	Hispanic origin 1=not Hispanic or Latino 2=Hispanic or Latino	Numeric
14-21	8	Population count for July 1, 2005	Numeric
22-29	8	Population count for July 1, 2006	Numeric
30-37	8	Population count for July 1, 2007	Numeric
38-45	8	Population count for July 1, 2008	Numeric

File Layout for **pcen_v2008_y00.txt:**
pcen_v2008_y01.txt
pcen_v2008_y02.txt
pcen_v2008_y03.txt
pcen_v2008_y04.txt
pcen_v2008_y05.txt
pcen_v2008_y06.txt
pcen_v2008_y07.txt
pcen_v2008_y08.txt

Location	Field size	Item and code outline	Format
1-4	4	Series vintage (2008)	Numeric
5-6	2	FIPS State code	Numeric
7-9	3	FIPS county code	Numeric
10-11	2	Age (0, 1, 2,…, 85 years and over)	Numeric
12	1	Race-sex 1=White male 2=White female 3=Black or African American male 4=Black or African American female 5=American Indian or Alaska Native male 6=American Indian or Alaska Native female 7=Asian or Pacific Islander male 8=Asian or Pacific Islander female	Numeric
13	1	Hispanic origin 1=not Hispanic or Latino 2=Hispanic or Latino	Numeric
14-21	8	Population count estimate file y00 has estimate for July 1, 2000 file y01 has estimate for July 1, 2001 file y02 has estimate for July 1, 2002 file y03 has estimate for July 1, 2003 file y04 has estimate for July 1, 2004 file y05 has estimate for July 1, 2005 file y06 has estimate for July 1, 2006 file y07 has estimate for July 1, 2007 file y08 has estimate for July 1, 2008	Numeric

The SAS data set, **pcen_v2008_y08.sas7bdat**

Variable	Item and code outline	Format
VINTAGE	Series Vintage (2008)	Numeric
ST_FIPS	State FIPS code	Numeric
CO_FIPS	County FIPS code	Numeric
AGE	Age (0, 1, 2, …, 85 years and over)	Numeric
RACESEX	Race 1=White male 2=White female 3=Black male 4=Black female 5=American Indian or Alaska Native male 6=American Indian or Alaska Native female 7=Asian or Pacific Islander male 8=Asian or Pacific Islander female	Numeric
HISP	Hispanic origin 1=not Hispanic or Latino 2=Hispanic or Latino	Numeric
Pop	July 1, 2008 resident population	Numeric