Special Processing Procedures for the Areas Affected by Hurricanes Katrina and Rita: (Vintage 2008): April 1, 2000 to July 1, 2008

The Federal Emergency Management Agency (FEMA) declared 117 counties to be disaster areas in Alabama, Louisiana, Mississippi, and Texas as a result of hurricanes Katrina and Rita in August and September 2005, respectively. In an effort to produce the most accurate and effective estimates possible, the U.S. Census Bureau retained several adjustments developed for the Vintage 2006 and Vintage 2007 estimates in the Vintage 2008 procedures. The adjustments for processing input data accommodate geographic shifts of the population resulting from these events in 2005. These procedures are outlined below.

Internal Migration

Under Age 65 Population
Internal migration of the under age 65 population is measured using address data from Federal income tax returns. However, Federal personal income tax return rates for residents of the disaster areas fell significantly in 2006 as a result of the dislocations and automatic IRS-approved filing extensions. With reductions in filing, we expected the year-to-year match rates of IRS data to erode, thereby reducing the accuracy of estimates of internal migration for the population under age 65. After detailed analysis of the tax filer data, the Census Bureau determined that a supplementation by alternative administrative data was necessary for 62 parishes and counties.[1] Applying supplemental data boosted coverage rates and, therefore, enhanced the accuracy of migration estimates compared to those derived from IRS data alone. The Census Bureau supplemented the IRS data with data from the U.S. Postal Services' National Change of Address (NCOA) file, using records processed through the end of June 2006. This allowed us to measure as much of the movement of the population as possible up to the July 1, 2006 estimate date.

In preparing the migration data to support the July 1, 2007 estimates, we retained the supplemental NCOA addresses that had been combined with IRS addresses as first year addresses, in order to measure migration flows from 2006 to 2007; all addresses in the second year of the matched record sets were IRS addresses. This essentially meant that we were returning the measurement of migration flows for the under age 65 population in the second year to be based upon IRS data alone.

Aged 65 and Older Population
Internal migration of the population aged 65 and older is measured using aggregate Medicare data provided by the Centers for Medicare and Medicaid Services (CMS). The data we receive from CMS every year contain a one-year lag; therefore the data used in the 2006 estimates actually represent Medicare enrollment as of July 1, 2005. We calculate the numeric change between the previous two years of CMS data (July 1, 2004 and July 1, 2005) and add this change to July 1, 2005 CMS data to estimate the enrollment as of July 1, 2006.

However, this standard procedure did not reflect the inordinate impact of the hurricanes. Therefore, we developed a process to estimate out-migration of this age group for the same 62 parishes and counties identified above (see endnote 1). We revised the Medicare enrollment figures to reflect out-migrant data measured from special tabulations of exemptions for the population aged 65 and older from the IRS data enhanced by the NCOA address information. The result was a redistribution of out-migrant enrollees from these parishes and counties to other counties in the nation in accordance with the locations indicated by the IRS/NCOA data. The resulting data were then used as inputs into the estimates process.

We repeated the new process of estimating the latest year's Medicare enrollment for the July 1, 2007 estimates except that we also allowed for the migration of people back into the 62 counties and parishes that had been specially processed for the 2006 estimates. The Medicare enrollment figures were modified to reflect 2006-2007 in-migrant and out-migrant data as measured from special tabulations of exemptions for the population aged 65 and older from the IRS data enhanced by the NCOA address information. The adjusted aged 65 and older migration was then applied to the 2006 estimates to produce a 2007 estimate of the aged 65 and older Medicare enrollment, which were then used as inputs into the final estimates process.

Group Quarters

Our standard method for producing estimates of the group quarters (GQ) population relies heavily on group quarters facility-level population provided to us by state members of the Federal-State Cooperative Program for Population Estimates (FSCPE). The data are often lagged by a year due to the timing of the data collection. To deal with unknown populations for a facility, we assume that the population remained unchanged from the latest available data. For the places affected by the hurricanes, this assumption is no longer acceptable. When the FSCPE members were able to collect and submit current GQ populations for facilities in the damaged area, we utilized their data. For facilities with no updated information in the affected areas, we adjusted the GQ population based on housing unit damage and IRS tax returns.

We assumed that most of the damaged GQ facilities would be located in the counties/parishes with the most severe housing unit damage. Therefore, we first selected those counties/parishes with major or severe damage to 10 percent or more of their housing units due to these hurricanes (as defined by FEMA).[2] Then we calculated a county GQ population adjustment factor for each selected county/parish by dividing the number of 2006 tax returns filed in each county/parish by the 2005 tax returns. We applied this factor to the July 1, 2005 GQ estimate for each subcounty area and GQ type within the county/parish, produced by the standard method, to calculate an adjusted July 1, 2006 GQ population estimate.

---

[1] These counties and parishes are: in Alabama: Baldwin, Marengo, Mobile; in Louisiana: Acadia, Ascension, Assumption, Beauregard, Calcasieu, Cameron, East Baton Rouge, East Feliciana, Iberia, Iberville, Jefferson, Lafayette, Lafourche, Livingston, Orleans, Plaquemines, Sabine, St. Bernard, St. Charles, St. Helena, St. James, St. John the Baptist, St. Tammany, Tangipahoa, Terrebonne, Vermilion, Washington, West Baton Rouge, West Feliciana; in Mississippi: Adams, Copiah, Covington, Forrest, George, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Lauderdale, Leake, Madison, Marion, Newton, Pearl River, Perry, Rankin, Smith, Stone, Wayne; in Texas: Galveston, Hardin, Jasper, Jefferson, Newton, Orange, Polk, San Augustine.

---

[2] These counties and parishes are: in Louisiana: Cameron, Jefferson, Orleans, Plaquemines, St. Bernard, St. Tammany, Vermilion; in Mississippi: Hancock, Harrison, Jackson, Stone.