



## CPS – Sample Design

(A MN Population Center/SHADAC Effort – Originally written by Michele Tertilt of the Minnesota Population Center and revised by Michael Davern and Noreen Arnold of SHADAC)

The Current Population Survey (CPS) is a joint project between the Bureau of Labor Statistics (BLS) and the US Census Bureau. It is designed primarily to produce reliable national and state estimates of **labor force characteristics**. Maximizing reliability for a wide range of other demographic statistics including health insurance status is recognized, but of secondary importance.

The CPS is a probability sample of the non-institutionalized **US civilian population**. The CPS collects data on three different levels of analysis: household, family, and individual. However, the sample design is based on selecting **households** or **dwelling units**.<sup>1</sup> During the CPS interview information is collected on every **family** and **individual** living within a sampled household. The sample size of the CPS has fluctuated over the years (see the table below) with the most recent change coming in 2001. The CPS currently interviews around 65,000 households (after the expansion in 2000).

### Sample Design:

The CPS sample is a **stratified multi-stage cluster sample**. The CPS draws its sampled housing units from lists of addresses that are continually verified and updated by the Census Bureau for use in its Decennial Census operations as well as its other demographic surveys. The CPS draws representative samples in each state and the District of Columbia allowing for analysts to develop state estimates. The first stage of sample clustering involves dividing the US into **primary sampling units** (PSU) – most of which comprise a metropolitan area, a large county, or a group of smaller adjacent counties. Each PSU falls within the boundaries of a particular state and PSUs that correspond to major Metropolitan Statistical Areas (MSAs) are selected into the CPS sample with certainty. The rest of the PSUs within a state are grouped into homogenous strata with respect to labor force and other social characteristics. Within each state, one PSU is selected from within each strata for inclusion in the sample. In the second stage of the CPS cluster sample a group of closely geographically grouped households (consisting of approximately four housing units) called Ultimate Sampling Units (USUs) are selected for inclusion in the survey.<sup>2</sup>

---

<sup>1</sup> A **dwelling unit** is a room or group of rooms intended for occupation as separate living quarters and having either a separate entrance or complete cooking facilities for the exclusive use of the occupants.

<sup>2</sup> Occasionally, a third stage of sampling is necessary when actual USU size is extremely large.

### **Sampled Household Rotation Schedule:**

The monthly CPS is a **rotating panel**, meaning that households are interviewed for 4 consecutive months, then are not in the sample for the next 8 months, and are then interviewed 4 more times. This means for each monthly CPS that there is a roughly 40% overlap of people from one year to the next – its not 50 percent because the same people may not be living in the household the next year due to deaths/births/moves, and some households are removed from the CPS sample frame over the year). There is no overlap for longer time intervals.

### **Annual Demographic Supplement:**

The Annual Demographic Supplement to the CPS (ADS-CPS) conducted every March has two sampling issues that are not relevant to the other months. First, the CPS includes an **oversample** of Hispanics in order to increase the reliability of estimates for this particular group. Therefore, approximately twice as many Hispanics are interviewed than would if the sample was exactly proportional to the US population. Second, while the ADS-CPS was traditionally fielded in March (and was referred to as the March Supplement), in order to increase the sample size of minorities and households with children in 2001 the Census Bureau began administering the ADS-CPS to households with minority members or children in February and April (if the household was not in sample in March).

### **Survey Weights:**

Because of the complex sampling design of the CPS, not every unit has the same probability of selection as other units. In such cases, it is extremely important to use appropriate **survey weights**. Survey weights are roughly equal to the number of people, families or households that the respondent person, family or household represents in the general population (it is also equal to the inverse probability of selection). Several different weights are supplied in the data file and the appropriate weight to use depends on the type of analysis being undertaken (see the **CPS weighting document** for details). Although the point estimates generated from statistics (rate of health insurance coverage, average income, etc.) are accurate, because of the complex sample design of CPS, adjustments need to be made to traditional statistical calculations for standard errors. These adjustments are outlined in the CPS Source and Accuracy Statement (cite). If the CPS were a simple random sample such adjustments would not be necessary.