Weighting the Data (2011 Weighting Formula)

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Following is a general description of the process that reflects factors taken into account in weighting the 2011 BRFSS data. Where a factor does not apply its value is set to one for calculation.

The Raking weighting methodology is comprised of two sections: Design weight and raking.

Design Weight = STRWT * (1/NUMPHON2) * NUMADULT

The stratum weight accounts for differences in the basic probability of selection among strata (subsets of area code/prefix combinations). It is the inverse of the sampling fraction of each stratum. There is rarely a complete correspondence between strata, which are defined by subsets of area code/prefix combinations, and regions, which are defined by the boundaries of government entities.

- The stratum weight **(STRWT)** is calculated using:
  - Number of available records **(NRECSTR)** and the number of records selected **(NRECSEL)** within each geographic strata and density strata
  - Geographic strata **(GEOSTR)** which may be the entire state or a geographic subset such as , counties, census tracts, etc.
  - Density strata **(_DENSTR)** indicating the density of the phone numbers for a given block of numbers as listed or not listed.

Within each **_GEOSTR*_DENSTR** combination the stratum weight **(_STRWT)/** is calculated from the average of the **NRECSTR** and the sum of all sample records used to produce the **NRECSEL**. The stratum weight is equal to **NRECSTR / NRECSEL**.

- **1/ NUMPHON2** is the inverse of the number of residential telephone numbers in the respondent's household.
- **NUMADULT** is the number of adults 18 years and older in the respondent's household.

FINAL WEIGHT = The design weight is raked to 8 margins (age group by gender, race/ethnicity, education, marital status, tenure, gender by race/ethnicity, age group by race/ethnicity, phone ownership). If geographic regions are included there are four additional margins (region, region by age group, region by gender, region by race/ethnicity) are included.

_LLCPWT is the final weight assigned to each respondent.

Weight trimming is used to increase the value of extremely low weights and decrease the value of extremely high weights. The objective of weight trimming is to reduce errors in the outcome estimates caused by unusually high or low weights in some categories.

Calculation of a Child Weight

The design weight for the child weighting is calculated from the stratum weight times the inverse of the number of telephones in the household and then multiplied by the number of children

Child Design Weight = STRWT * (1/NUMPHON2) * CHILDREN

CHIILDWT = The child design weight is raked to 5 margins including age by gender, race/ethnicity, gender by race/ethnicity, age by race/ethnicity, and phone ownership.

_CLLCPWT is the weight assigned for each child interview.

Please note prior to 2011 the data weighting formula used post-stratification as the weighting method.

Last Reviewed: July 19, 2013
Source: National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health