National Adult Tobacco Survey

2012-2013 National Adult Tobacco Survey Weighting Specifications

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November 17, 2014

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1. INTRODUCTION

1.1 Background and Purpose of the National Adult Tobacco Survey

The 2012-2013 National Adult Tobacco Survey (NATS) is a stratified, random-digit dialed, telephone survey of noninstitutionalized adults aged 18 years or older. The study seeks to determine the prevalence of tobacco use and tobacco-related indicators among a nationally representative sample of adults in the 50 US states and the District of Columbia. NATS represents a partnership between the Centers for Disease Control and Prevention (CDC), Office on Smoking and Health (OSH), and the Center for Tobacco Products (CTP) within the Food and Drug Administration (FDA).

OSH created the National Tobacco Control Program (NTCP) in 1999 to encourage coordinated efforts nationwide to reduce tobacco-related diseases and deaths. The four goals of the NTCP are to (1) prevent initiation of tobacco use among youth; (2) eliminate nonsmokers' exposure to secondhand smoke; (3) promote quitting among adults and youth; and (4) identify and eliminate tobacco-related disparities. As sister departments in the US Department of Health and Human Services (DHHS), CDC and FDA activities related to tobacco control are integral to the Department's Strategic Action Plan for Ending the Tobacco Epidemic (DHHS, 2010). Using this common vision, the NATS will address Strategic Action #4, *Advancing Knowledge*, by leveraging an existing surveillance system to monitor the progress of national tobacco prevention and control efforts. As industry user fees are funding the upcoming administration of the NATS, the revised system is foremost designed to monitor the effect of FDA regulatory activities. However, because the short-, intermediate- and long-term public health impacts of FDA authorities are cross-cutting, the data collected via NATS will also help CDC to evaluate the effectiveness of the NTCP.

1.2 NATS Methodology at a Glance

The NATS was designed as a stratified, national, landline, and cellular telephone survey of noninstitutionalized adults aged 18 years or older. Each state was divided into three strata: a listed landline stratum, a not-listed landline stratum, and a cellular stratum. The minimum target number of landline completes per state was 600, and the minimum target number of cellular completes was 200, representing 25% of the total number of completes. Every state either achieved or came very close to achieving these target goals (**Appendix A**, **Table A-1**).

The 2012-2013 NATS was conducted from October 2012 through July 2013. Respondent selection varied by phone type. For landline telephone numbers, one adult aged 18 or older was randomly selected from households with at least one adult aged 18 or older. Adults aged 18 or older reached via a cellular phone were selected if a cellular phone was the only way they could be contacted by telephone at home; consequently, they were classified as "cell phone only." We assumed that a cell phone was used only by the person who answered. A total of 60,197 interviews—45,023 landline and 15,173 cellular—of

noninstitutionalized adults aged 18 or older were completed. After data collection terminated five respondents were determined to be ineligible and were excluded. A total of 60,192 cases were used for the weighting.

The landline data were first weighted by the inverse of the selection probability of the telephone number, and then adjusted for nonresponse, number of landlines in the household, and the number of eligible adults in the household. The cellular telephone data were initially weighted by the inverse of the selection probability of the telephone number and adjusted for nonresponse. The weights for both the landline and cellular phone respondents were raked by state to the distributions of various demographic variables and phone type.

2. SAMPLE DESIGN

The NATS's target population was noninstitutionalized adults aged 18 years or older who reside in the 50 states and the District of Columbia. The sample was designed with the objective of producing national estimates, overall and by gender, age, and race/ethnicity.

The sample design for the 2012-2013 NATS had specific semi-proportional goals by state and by sample frame. The sample used a dual frame non-overlap design. Each state and the overall sample targets included 25% cellular phone-only households and 75% landline households (regardless of whether they also had a cell phone). The state target included a minimum of 800 combined completes (600 landline and 200 cell phone only) from each state. Thirty states had targets of 800, accounting for 24,000 of the 60,000 target completes. The 20 most populous states targeted more than 800, with the remaining 36,000 completes distributed across these states in approximate proportion to their populations.

2.1 Sampling Frames

Respondents were selected from two sampling frames: one consisting of landline telephone numbers and one consisting of cellular telephone numbers. Each state was divided into three strata: (1) a listed landline stratum; (2) a non-listed landline stratum; and (3) a cellular phone stratum.

The listed landline stratum consisted of landline telephone numbers listed in residential directories or in other source databases. The non-listed stratum consisted of landline telephone numbers not listed as a residential number in any source database.

The NATS's landline sampling frame comprised all "one-plus block" telephone numbers in the United States obtained from "hundred blocks" with one or more listed telephone numbers. A "hundred block" is a set of 100 telephone numbers with the same area code, prefix, first two digits of the suffix, and all permutations of the last two digits of the suffix (from 00 to 99). A "one-plus block" telephone number is a telephone number from a "hundred block" with one or more listed household telephone numbers.

The cell phone sampling frame contained all possible telephone numbers from cellular-dedicated, "thousand block" sets of telephone numbers with the same area code and prefix. A "thousand block" is a set of 1,000 telephone numbers with the same area code, prefix, first three digits of the suffix, and all permutations of the last three digits of the suffix (from 000 to 999). The "thousand block" sets originated from the Telcordia® LERG™ data (Telcordia, 2012). The cellular-dedicated banks were then identified by coding provided on the LERG.

2.2 Oversampling Listed Landline Numbers

Telephone numbers listed in residential directories and other database sources are most often working residential numbers, whereas unlisted telephone numbers include a significant amount of nonworking and nonresidential telephone numbers. To account for this variation, the listed stratum was oversampled at a 1.5- to1-ratio relative to the not-listed stratum. This oversampling increases sampling efficiency by raising the percentage of working residential numbers selected in the sample.

3. WEIGHTING METHODOLOGY

3.1 Overview

The steps for calculating weights were as follows:

- Calculation of the initial weight as the inverse of the selection probability (**Section 3.2**).
- Adjustment for unknown eligibility status (**Section 3.3**).
- Adjustment for nonresponse (**Section 3.4**).
- Adjustment for household size and number of landlines (**Section 3.5**).
- Rake to known population totals (**Section 3.7**).
- Evaluation of the unequal weighting effect nationally and for each state (**Section 3.8**).

3.2 Calculation of Initial Weights

Samples are selected in multiple iterations because the frames get updated periodically and to control the quantity of respondents. Within each stratum, there were between 5 and 10 different samples selected. To calculate the total sample selected in each stratum, (n_i) the individual samples were summed. However, because the sample frame is updated periodically as phone numbers change between active and inactive, the total frame count (N_i) varied between the different samples. The maximum value over all the samples in a stratum was used to calculate the frame count. The initial design weight was calculated as follows:

$$W_{i,j}^{1} = \frac{N_i}{n_i}$$, where

$W_{i,j}^{1}$ = the initial weight for the j^{th} sample member in stratum *i.*

N_i = the number of records in stratum *i.*

n_i = the number of records selected in stratum *i*.

There are 153 strata. The 50 states and the District of Columbia define the geographical strata. These geographical strata are broken into listed landline, non-listed landline, and cellular phone numbers. The values for the sample selected, the frame count, and the initial weight for each stratum are listed in **Appendix A**.

3.3 Adjustment for Unknown Eligibility Status

A sample member was classified as a respondent, nonrespondent, or ineligible based on the result of the phone contact attempt. Respondents are individuals who answered the survey, and nonrespondents are individuals or households that were eligible but did not answer the survey. Sample members were deemed ineligible if the phone number did not connect to a working residential phone. Sample members who could not be identified as a respondent, nonrespondent, or ineligible were classified as "unknown." Within each stratum, we calculate the ratio of the quantity of sample members that are respondents and nonrespondents to the quantity that are respondent, nonrespondents, and ineligible. This ratio, which is between 0 and 1, is called the unknown eligibility adjustment. The weights of the sample members with unknown response status are multiplied by the unknown eligibility adjustment, thereby reducing the weights. A weighted logistic model was then used to predict response propensity and to adjust for nonresponse. Reducing the weights of the unknowns ultimately serves to reduce their effect in the model for response propensity.

An adjustment for unknown eligibility status was calculated as follows:

$$U_i^{adj} = \frac{n_i^r + n_i^n}{n_i^r + n_i^n + n_i^i}, \text{ where}$$

U_i^{adj} = the unknown eligibility weight adjustment.

n_i^r = the number of responders in stratum i.

n_i^n = the number of nonresponders in stratum i.

n_i^i = the number of ineligibles in stratum i.

Next, the telephone design weight for sampled frame members with unknown eligibility status was calculated as follows:

$$W_{i,j}^1 = \frac{U_i^{adj} * N_i}{n_i}.$$

Ineligible frame members were then removed. **Appendix A** displays the unknown adjustment for each stratum.

3.4 Adjustment for Nonresponse

3.4.1 Overview

The nonresponse adjustment for the landline sample consisted of the following steps:

- **Step1:** Ancillary data were appended to the sample frame (**Section 3.4.2 Step 1**).

- **Step2:** Logistic models were fit. For each landline stratum (102 state-by-frame type [listed landline/not-listed landline] combinations), a logistic model was fit using a backward selection procedure. The outcome is binary (respondent/ nonrespondent). The potential independent variables are the ancillary data described below.

- **Step 3:** The nonresponse adjustment was applied by multiplying the weight of the respondents, calculated up to this point, by the inverse of the predicted probability of response.

- **Step 4:** The weights were adjusted so that the sum of the respondent weights after the adjustment equals the sum of the weights (i.e., of the respondents, nonrespondents, and sample members with unknown response status) before the adjustment.

The nonresponse adjustment for the cellular sample consisted of the following step:

- Within each area code, the weights of the responders were multiplied by the ratio of the sum of the weights for all respondent, nonrespondents, and unknown response status in that area code to the sum of the weights for all responders in that area code.

3.4.2 Nonresponse Adjustment—Landline Data

Step 1: Append Ancillary Data to the Sample Frame

The sample frame contained geographical information for each sample member. This information was used to append ancillary data to model the probability of response. A block group was the most precise geographical information available for the listed landline sample, county was the most precise geographical information available for the non-listed landline sample.

The following data from the 2010 U.S. Census (US Census Bureau, 2012a) were used to fit the nonresponse model:

- Population count.
- Household count.
- Proportion African American.
- Proportion Hispanic.
- Proportion rural.
- Median age.
- Adults per household.
- Children per household.
- Proportion of households occupied.

- Proportion of occupied households with a mortgage.

The following data from the 2008–2012 American Community Survey (ACS) 5-year Summary File were also used in fitting the nonresponse model (US Census Bureau, 2012b):

- Proportion of population with less than a high school degree in the block group
- Proportion of population with a college degree or higher in the block group
- Proportion of the population that lived in the same house 1 year ago in the block group
- Proportion never married in the block group
- Proportion now married in the block group.

Step 2: Fit the Logistic Model

For each of the 102 state-by-frame type (listed landline/not listed landline) combinations, a weighted logistic model was used. The weights $\left(W_{i,j}^{1}\right)$ calculated up to this step and SAS software Version 9.3 (PROC SURVEYLOGISTIC) were used to fit the following model:

$$logit(p_i) = \beta_{i,0} + \beta_{i,1}X_{i,1} + \cdots + \beta_{i,n}X_{i,n}.$$

The index *i* refers to one of the 102 models. The dependent variable was defined according to whether the sample member responded (1) or not (0). The independent variables were the 15 variables in the lists of ancillary data in **Section 3.4.2**. A backwards selection procedure was used. First, a model was fitted with all 15 independent variables. The variable with the highest *p*-value, if it was greater than 0.05, was then removed. This process was continued until all the variables were significant at the 0.05 level or no variable was significant.

Once a final model was obtained for each state-by-frame type combination, the probability of response for each sample member was calculated as follows:

$$\mathrm{p}_{\mathrm{i,j}} = \frac{1}{1+e^{-\mathrm{logit}(p_{i,j})}}$$

The index *i* refers to one of the 102 models. The index *j* refers to one of the respondents within one of the 102 models.

Step 3: Apply the Nonresponse Adjustment

A new weight was calculated as follows:

$$\mathrm{W}_{\mathrm{i,j}}^{2} = \mathrm{W}_{\mathrm{i,j}}^{1} * \frac{1}{\mathrm{P}_{\mathrm{i,j}}}$$, where

$W_{i,j}^{1}$ = inverse of the probability of selection with an unknown eligibility adjustment for the j^{th} respondent.

$W_{i,j}^{2}$ = nonresponse adjusted probability for the j^{th} respondent.

$P_{i,j}$ = the predicted probability of response for the j^{th} respondent from the logistic model.

Step 4: Ratio Adjust the Weights

Since there is some correlation between the weights ($W_{i,j}^{1}$) and the predicted probability of response ($P_{i,j}$), the sum of the nonresponse adjusted weights ($\sum W_{i,j}^{2}$) are not exactly equal to the sum of ($\sum W_{i,j}^{1}$). To constrain the sum of the weights after the nonresponse adjustment to equal the sum of the weight before the number response adjustment, the following ratio adjustment was made:

$$W_{i,j}^{3} = \frac{\sum W_{i,j}^{1}}{\sum W_{i,j}^{2}} W_{i,j}^{2}.$$

3.4.3 Nonresponse Adjustment—Cell Phone Data

For cellular phone sample members, block group or county geographic identifiers were not available. Therefore, the ability to model response propensity is limited. However, the area code of each cell phone sample member is known and can be used to make the following adjustment:

$$W_{i,j}^{3} = W_{i,j}^{1} * \frac{\sum_{\forall r,n,u} W_{i,j}^{1}}{\sum_{\forall r} W_{i,j}^{1}}$$, where

$W_{i,j}^{3}$ = nonresponse adjusted weight probability for the j^{th} respondent in the i^{th} area code.

$W_{i,j}^{1}$ = weight before the nonresponse adjustment for the j^{th} respondent in the i^{th} area code.

$\sum_{\forall r,n,u} W_{i,j}^{1}$ = the sum of the weights for all respondents, nonrespondents, and sample members with unknown response status before the nonresponse adjustment in the i^{th} area code.

$\sum_{\forall r} W_{i,j}^{1}$ = the sum of the weights for all respondents before the nonresponse adjustment in the j^{th} area code.

3.5 Adjustment for Household Size and Number of Landlines per Household

The landline sample uses a two-stage selection process. First, the household is selected. Second, within a household, one subject is randomly chosen from all eligible household members. The probability of selecting a landline household is a function of the number of residential lines. Therefore, for respondents sampled on landline phones, the weight was adjusted for the number of eligible household members and for the number of residential phone lines in the household. The maximum number of eligible subjects in a household, and the maximum number of residential phone lines, was truncated to three to prevent sample members from extremely large households from having a large impact on the weights. Also, it is possible that households with more than three lines might have misinterpreted the question as inquiring about the number of physical phones in the house. The adjustment is made as follows:

$$W_{i,j}^{4} = \frac{W_{i,j}^{3} * a_{i,j}}{l_{i,j}}$$, where

$a_{i,j}$ = the number of adults in the respondent household for the j^{th} landline frame member in stratum i.

$l_{i,j}$ = the number of landlines in the respondent household for the j^{th} landline frame member in stratum i.

The cell phone frame uses a one-stage selection process. Cell phones are generally considered as single-user devices and were treated in this manner for weighting. This was expressed in the sampling methodology by sampling the person who answered the cell phone. Consequently, there is no adjustment for cell phones at this stage. For cell phone respondents, the fourth weight is equal to the third weight:

$$W_{i,j}^{4} = W_{i,j}^{3}.$$

3.6 Weight Trimming

Weight trimming was not applied because the variation in the weights was small for a dual frame telephone survey as indicated by the relatively small (for a telephone survey) unequal weighting effect (UWE). See **Section 3.8** for a discussion on the UWE. For most states the UWE was less than two (see **Table B-1**).

The variability in the weights were investigated in further detail by first looking at outliers. Outliers were defined as follows:

Q_1-3*IQR or Q_3+3*IQR.

Where Q_1 is the first quartile, Q_3 is the third Quartile, and IQR is the interquartile range,IQR=Q_3-Q_1.

The occurrence of outliers was minimal and we concluded that the increase in bias caused by applying weight trimming was not warranted.

3.7 Raking

The purpose of raking is to constrain the sum of the weights to known population totals, thereby matching the sample to the population for the distributions to which the sample is raked. This could remove nonresponse and coverage bias. For example, in the NATS, 57.8% of all respondents were female, whereas 51.4% of the US population aged 18 years or older is female. The NATS likely has a higher percentage of females than the US population due to differential nonresponse and different selection probabilities for landline and cellular telephone frames. Males are more likely to be nonrespondents than females, and males are more likely to be cell phone–only users; consequently, males are in the respondent sample at a lower rate than females. If gender is correlated with a study outcome, then these imbalances will result in bias in the parameter estimate for that outcome. Adjusting the weights to correspond to the population totals for gender (and other demographic categories that are correlated with study outcomes) can reduce these sources of bias.

Table 1 contains the seven distributions used in the raking process.

Table 1. Seven Distributions Used in Raking

Variable	Quantity of Categories	Categories
State	51	50 states and the District of Columbia
Age Category	6	18-24, 25-34, 35-44, 45-54, 55-64, 65+
Gender	2	Male, female
Race/Ethnicity	4	Hispanic, white alone (non-Hispanic), black alone (non-Hispanic), other race
Marriage Status	3	Married, never married, divorced , widowed, or separated
Educational Attainment	4	Less than high school graduate, high school graduate, some college but not bachelor's degree, bachelor's degree or higher
Phone Category	3	Cell phone only, dual phone users, landline only

The sums of the weights were constrained to the following cross-classification of the seven distributions in **Table 1**:

- State by age by gender—612 categories (see **Tables B-2** and **B-3**).
- State by race/ethnicity—204 categories (see **Table B-4**).
- State by marriage status—153 categories (see **Table B-5**).
- State by educational attainment—204 categories (see **Table B-6**).
- State by phone category—153 categories (see **Table B-7**).

The values for state by age by gender, as well as state by race, were obtained from the US Census Bureau's Vintage 2012 State Population Dataset. The reference date for these estimates is July 1, 2012. (US Census Bureau, 2012a)

The state population totals for the distributions of educational attainment and marital status were obtained from the 2012 ACS 1-Year Summary File. (US Census Bureau, 2012b)

The state population estimates from the 2012 ACS are slightly different from the estimates from the US Census Bureau's Vintage 2012 State Population Dataset because the studies cover different time periods and error in each estimate. The estimates are mostly within 1%. However, for the raking to work correctly, the population totals need to be exactly equal. To accommodate this requirement, the state population totals from the ACS totals were ratio adjusted to equal the state population totals from the Census.

Phone usage data were derived using data from three National Health Statistics Reports (Blumberg et al., 2011; Blumberg et al., 2012; Blumberg & Luke, 2013). From Blumberg 2012, state-level phone distribution estimates for 2011 were obtained. The state estimates in Blumberg 2012 were suppressed for four states (Iowa, Montana, South Dakota, and Wyoming) because the estimates failed to meet precision targets. Blumberg, 2011 was used to obtain the estimates for these four states, which corresponded to the period July 2009 to June 2010.

Two adjustments were made to the estimates for these four states. First, phone distributions in the Blumberg articles contain an estimate for "no telephone service." Consequently, the sum of the cell phone-only, dual users, and landline only do not add to 100%. Therefore, these estimates were ratio adjusted to sum to 100% without the "no telephone service" category. The second adjustment was to account for changes in the phone distribution. Table 1 of Blumberg and Luke (2013) contains national estimates in 6-month intervals from January 2009 to December 2012. The changes in the national distributions were applied to the state distributions to estimate the state distribution from July 2012 to December 2012, the last time point that data were available.

A SAS macro was used to apply raking to constrain the sum of the weights to known population totals (Izrael, Battaglia, and Frankel, 2009). This is the same macro used by the Behavioral Risk Factors Surveillance System.

3.7.1 Imputing the Raking Variables

Single imputation was used to replace missing values for the survey responses for the variables used in raking. **Table 2** shows the variables and the number of respondents with missing values.

Table 2. Survey Variables and Number of Respondents with Missing Values

Variable	Categories	Number of Missing Values
State	50 states and the District of Columbia	0 (0.0%)
Age	18-24, 25-34, 35-44, 45-54, 55-64, 65+	665 (1.1%)
Gender	Male, female	1,429 (2.4%)
Race/Ethnicity	Hispanic, white alone (non-Hispanic), black alone (non-Hispanic), other race	1,807 (3.0%)
Marriage Status	Married, never married, divorced, widowed, or separated	1,685 (2.8%)
Educational Attainment	Less than high school graduate, high school graduate, some college but not bachelor's degree, bachelor's degree or higher	1,799 (3.0%)
Phone Category	Cell phone only, dual phone users, landline only	1,752 (2.9%)

To impute for missing values in the raking distributions, the distributions in the sample were calculated by state for each variable. The missing values were then randomized to one of the categories with probability proportional to each level of distribution in the corresponding state sample.

The weights that were raked to the population totals are the final analytic weights. The weights calculated up to the raking procedure are the design weights. In addition to these two weights, the imputed raking categories are included in the weight file.

3.8 Unequal Weighting Effect

The unequal weighting effect (UWE) is an upper bound of the variance ratio of an estimate, calculated from a survey to the variance one would obtain from a simple random sample with the same sample size. The concept of UWE is described by Biemer and Christ in the International Handbook of Survey Methodology (2008).

> *"Kish (1965, p.427) derived a formula for determining the maximum increase in variance of an estimate of a population mean due to a weight variation. His*

formula assumes there is no correlation between the survey weights and the characteristic whose mean is to be estimated. This may be a good approximation for many survey variables because the survey design and weight adjustments are optimized for only a few key characteristics out of hundreds that may be collected in a survey. The actual variance increase will vary across characteristics in the survey and will be smaller for characteristics where the covariance between the observations and the weights are larger. Under these assumptions, Kish obtained the following expression for the unequal weighting effect (UWE) defined as the ratio of the variances of the weighted mean to the variance of the unweighted mean:

$$\text{UWE} = 1 + cv^2$$

"Where cv is the coefficient of variance of the weights or the sample standard deviation of the weights divided by the sample average weight."

The effective sample size (ESS) is the sample size divided by the UWE. The ESS is the sample size that a simple random sample needs to be in order to have an equal variance for variables uncorrelated with the weight.

The UWE does not take into account the effect of the stratification on the estimates. Stratification usually reduces variance. **Table B-1** contains the UWE and ESS for each state.

3.9 Variables Included in the Dataset Containing the Weights

The following 11 variables are used in the weighting process:

1) SEQNO: This is the ID variable, a unique identifier for each respondent.

2) STATEFIPS_I: This is the state FIPS code. If the respondent provided the state we used this value; otherwise, we used the value on the sample file.

3) STATE: This is the state FIPS code.

4) STRATUM: Identifies the stratum. The strata are combinations of county group and phone type.

5) _phone_use_imp: This is the imputed phone usage variable used in raking.

6) _education_imp: This is the imputed education variable used in raking.

7) _marital_imp: This is the imputed marital variable used in raking.

8) _race_imp: This is the imputed race variable used in raking.

9) _gender_age_imp: This is the imputed age by gender variable used in raking.

10) WT_Design: This is the design weight and is the weight that goes into the raking procedure.

11) WT_NATIONAL: The weight used in the analysis.

3.10 Formats

The weights are contained in the NATS SAS dataset that has one record for each respondent. In addition to weight variables, the imputed raking categories are also included.

The following are the formats for the various levels of the imputed raking variables:

```
proc format;

value _gender_age_impf
    1="Male Age 18-24"
    2="Male Age 25-34"
    3="Male Age 35-44"
    4="Male Age 45-54"
    5="Male Age 55-64"
    6="Male Age 65 plus"
    7="Female Age 18-24"
    8="Female Age 25-34"
    9="Female Age 35-44"
    10="Female Age 45-54"
    11="Female Age 55-64"
    12="Female Age 65 plus";
value race_impf
    1="White"
    2="AA"
    3="Hispanic"
    4="Other";
value marital_impf
    1="Married"
    2="Never married"
    3="Divorced, widowed or separated";
value education_impf
    1="Less than HS"
    2="HS"
    3="Some college no BS"
    4="BS or higher";
value phone_use_impf
    1="Cell phone only"
    2="Dual phone users"
    3="Landline only";
run;
```

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APPENDIX A:
INITIAL WEIGHTS AND ELIGIBILITY ADJUSTMENTS

Table A-1. Initial Weights and Eligibility Adjustments

State FIPS	Phone Stratum	Sample Selected	Frame Count	WT1	WT1 with Unknown Adjustment
01	Listed landline	6,341	1,229,978	194.0	75.8
01	Not-listed landline	12,619	3,641,668	288.6	3.7
01	Cell phone only	4,151	7,787,000	1,875.9	198.6
02	Listed landline	5,251	207,951	39.6	12.0
02	Not-listed landline	12,929	756,750	58.5	1.0
02	Cell phone only	4,693	1,460,000	311.1	23.3
04	Listed landline	6,741	1,182,120	175.4	69.3
04	Not-listed landline	16,269	4,261,515	261.9	6.0
04	Cell phone only	4,234	7,694,000	1,817.2	275.2
05	Listed landline	5,500	605,685	110.1	47.5
05	Not-listed landline	12,650	2,080,746	164.5	1.7
05	Cell phone only	3,414	4,668,000	1,367.3	171.3
06	Listed landline	50,040	7,494,066	149.8	49.2
06	Not-listed landline	112,530	25,118,797	223.2	4.9
06	Cell phone only	25,299	47,246,000	1,867.5	286.5
08	Listed landline	4,698	1,108,063	235.9	103.5
08	Not-listed landline	11,172	3,964,692	354.9	5.5
08	Cell phone only	2,918	6,506,000	2,229.6	393.1
09	Listed landline	5,299	989,624	186.8	92.0
09	Not-listed landline	9,191	2,606,230	283.6	6.9
09	Cell phone only	5,275	4,392,000	832.6	118.3
10	Listed landline	6,203	258,362	41.7	19.1
10	Not-listed landline	9,907	628,449	63.4	1.2
10	Cell phone only	4,499	1,236,000	274.7	37.9
11	Listed landline	4,432	139,586	31.5	13.6
11	Not-listed landline	16,628	786,729	47.3	0.7
11	Cell phone only	4,184	1,875,000	448.1	58.4
12	Listed landline	19,846	4,419,442	222.7	85.7
12	Not-listed landline	44,594	14,870,768	333.5	6.7
12	Cell phone only	13,871	25,319,000	1,825.3	268.0
13	Listed landline	11,013	2,213,053	200.9	79.9

(continued)

Table A-1. Initial Weights and Eligibility Adjustments (continued)

State FIPS	Phone Stratum	Sample Selected	Frame Count	WT1	WT1 with Unknown Adjustment
13	Not-listed landline	24,057	7,178,994	298.4	3.5
13	Cell phone only	6,577	14,378,000	2,186.1	315.6
15	Listed landline	8,831	234,870	26.6	6.6
15	Not-listed landline	27,049	1,068,430	39.5	0.7
15	Cell phone only	3,555	1,742,000	490.0	81.6
16	Listed landline	4,275	277,205	64.8	30.8
16	Not-listed landline	12,345	1,189,142	96.3	1.4
16	Cell phone only	2,427	1,822,000	750.7	155.9
17	Listed landline	13,834	2,729,373	197.3	80.8
17	Not-listed landline	36,176	10,806,885	298.7	4.6
17	Cell phone only	9,560	19,054,000	1,993.1	256.9
18	Listed landline	5,704	1,565,937	274.5	131.3
18	Not-listed landline	11,786	4,873,033	413.5	5.6
18	Cell phone only	4,079	8,051,000	1,973.8	307.2
19	Listed landline	3,997	758,793	189.8	96.9
19	Not-listed landline	9,683	2,770,995	286.2	3.8
19	Cell phone only	3,242	4,223,000	1,302.6	196.1
20	Listed landline	4,536	644,516	142.1	67.8
20	Not-listed landline	10,464	2,304,498	220.2	2.5
20	Cell phone only	3,234	4,197,000	1,297.8	172.7
21	Listed landline	4,777	1,071,836	224.4	102.8
21	Not-listed landline	9,593	3,199,240	333.5	4.7
21	Cell phone only	4,124	5,932,000	1,438.4	191.5
22	Listed landline	6,120	1,071,933	175.2	77.6
22	Not-listed landline	14,760	3,863,171	261.7	2.5
22	Cell phone only	5,390	8,089,000	1,500.7	144.8
23	Listed landline	4,931	446,541	90.6	36.9
23	Not-listed landline	8,329	1,138,604	136.7	2.4
23	Cell phone only	3,537	1,803,000	509.8	77.1
24	Listed landline	5,131	1,463,844	285.3	141.8
24	Not-listed landline	10,079	4,339,595	430.6	9.3
24	Cell phone only	4,514	8,794,000	1,948.2	279.7
25	Listed landline	6,986	1,984,074	284.0	135.5

(continued)

Table A-1. Initial Weights and Eligibility Adjustments (continued)

State FIPS	Phone Stratum	Sample Selected	Frame Count	WT1	WT1 with Unknown Adjustment
25	Not-listed landline	10,354	4,429,051	427.8	8.7
25	Cell phone only	7,241	9,700,000	1,339.6	144.5
26	Listed landline	10,030	2,569,427	256.2	103.2
26	Not-listed landline	22,160	8,511,163	384.1	4.2
26	Cell phone only	7,800	15,767,000	2,021.4	262.7
27	Listed landline	4,122	1,362,095	330.4	175.6
27	Not-listed landline	9,228	4,609,850	499.6	8.6
27	Cell phone only	3,615	7,065,000	1,954.4	303.6
28	Listed landline	5,740	603,392	105.1	43.0
28	Not-listed landline	13,190	2,061,725	156.3	1.6
28	Cell phone only	3,894	4,285,000	1,100.4	133.3
29	Listed landline	5,823	1,409,681	242.1	115.5
29	Not-listed landline	12,627	4,523,834	358.3	5.2
29	Cell phone only	4,127	7,844,000	1,900.7	285.3
30	Listed landline	4,184	236,587	56.5	27.0
30	Not-listed landline	11,086	945,798	85.3	1.3
30	Cell phone only	3,753	1,707,000	454.8	74.8
31	Listed landline	4,557	416,588	91.4	48.7
31	Not-listed landline	11,403	1,566,779	137.4	1.8
31	Cell phone only	2,840	2,437,000	858.1	136.1
32	Listed landline	7,367	570,889	77.5	27.3
32	Not-listed landline	14,263	1,658,854	116.3	1.9
32	Cell phone only	3,493	3,419,000	978.8	164.9
33	Listed landline	5,282	432,883	82.0	34.6
33	Not-listed landline	7,888	979,122	124.1	2.3
33	Cell phone only	3,610	1,752,000	485.3	59.7
34	Listed landline	9,236	2,147,127	232.5	101.3
34	Not-listed landline	21,544	7,525,952	349.3	13.0
34	Cell phone only	9,725	12,384,000	1,273.4	141.7
35	Listed landline	4,705	387,211	82.3	35.4
35	Not-listed landline	11,855	1,462,057	123.3	2.1
35	Cell phone only	3,490	2,707,000	775.6	112.5

(continued)

Table A-1. Initial Weights and Eligibility Adjustments (continued)

State FIPS	Phone Stratum	Sample Selected	Frame Count	WT1	WT1 with Unknown Adjustment
36	Not-listed landline	43,589	15,032,615	344.9	9.9
	Cell phone only	17,823	27,545,000	1,545.5	192.6
37	Listed landline	9,061	2,283,498	252.0	113.3
	Not-listed landline	17,819	6,739,091	378.2	6.8
37	Cell phone only	7,202	12,816,000	1,779.5	248.8
	Listed landline	4,486	167,972	37.4	19.3
	Not-listed landline	12,164	683,514	56.2	0.6
	Cell phone only	4,099	1,523,000	371.6	35.2
	Listed landline	10,307	2,692,111	261.2	124.9
	Not-listed landline	25,033	9,804,062	391.6	6.5
	Cell phone only	8,121	16,635,000	2,048.4	279.2
	Listed landline	6,071	960,911	158.3	60.4
	Not-listed landline	11,389	2,695,516	236.7	2.9
	Cell phone only	4,229	6,393,000	1,511.7	172.2
	Listed landline	4,177	823,086	197.1	91.7
	Not-listed landline	10,343	3,060,165	295.9	6.7
	Cell phone only	2,403	4,392,000	1,827.7	360.3
	Listed landline	11,580	3,528,860	304.7	156.1
	Not-listed landline	19,740	9,108,520	461.4	11.1
	Cell phone only	10,573	16,621,000	1,572.0	201.3
	Listed landline	5,434	294,937	54.3	28.0
	Not-listed landline	8,186	665,757	81.3	1.5
	Cell phone only	5,507	1,418,000	257.5	31.2
	Listed landline	4,803	1,077,054	224.2	106.7
	Not-listed landline	9,927	3,333,544	335.8	6.1
	Cell phone only	3,578	6,141,000	1,716.3	257.3
	Listed landline	5,290	203,518	38.5	15.9
	Not-listed landline	15,170	876,917	57.8	0.4
	Cell phone only	3,639	1,391,000	382.2	44.0
	Listed landline	6,515	1,487,113	228.3	100.4
	Not-listed landline	13,825	4,687,908	339.1	4.4
	Cell phone only	4,125	9,154,000	2,219.2	337.6
	Listed landline	32,500	4,823,175	148.4	51.4

(continued)

Table A-1. Initial Weights and Eligibility Adjustments (continued)

State FIPS	Phone Stratum	Sample Selected	Frame Count	WT1	WT1 with Unknown Adjustment
48	Not-listed landline	77,150	17,026,983	220.7	2.4
48	Cell phone only	15,844	34,571,000	2,182.0	327.2
49	Listed landline	4,135	463,879	112.2	50.3
49	Not-listed landline	10,055	1,693,742	168.4	3.2
49	Cell phone only	2,651	3,598,000	1,357.2	248.3
50	Listed landline	3,876	237,842	61.4	30.6
50	Not-listed landline	6,294	583,160	92.7	1.6
50	Cell phone only	4,730	750,000	158.6	19.0
51	Listed landline	7,733	1,973,599	255.2	129.5
51	Not-listed landline	14,917	5,726,039	383.9	9.3
51	Cell phone only	5,541	11,044,000	1,993.1	293.6
53	Listed landline	6,603	1,568,626	237.6	93.1
53	Not-listed landline	14,367	5,113,731	355.9	6.5
53	Cell phone only	3,212	7,927,000	2,467.9	508.9
54	Listed landline	5,091	555,226	109.1	56.8
54	Not-listed landline	6,399	1,051,840	164.4	4.4
54	Cell phone only	5,101	2,401,000	470.7	51.7
55	Listed landline	4,662	1,471,887	315.7	157.2
55	Not-listed landline	9,498	4,503,050	474.1	6.5
55	Cell phone only	3,398	7,445,000	2,191.0	331.7
56	Listed landline	4,318	108,611	25.2	11.3
56	Not-listed landline	12,062	453,561	37.6	0.6
56	Cell phone only	4,728	1,439,000	304.4	21.4

APPENDIX B:
UNEQUAL WEIGHTING EFFECT AND CROSS-CLASSIFICATIONS

Table B-1. Unequal Weighting Effect

State FIPS	State Name	Respondents			Cell Phone Percentage	UWE	Effective Sample Size
		Total	Landline	Cell Phone			
N/A	National	60,192	45,022	15,517	25.8	2.02	29,750
1	Alabama	840	620	220	26.2	1.77	476
2	Alaska	781	593	188	24.1	1.88	415
4	Arizona	991	723	268	27.0	1.70	584
5	Arkansas	771	573	198	25.7	1.92	401
6	California	5,783	4,362	1,421	24.6	1.93	3,004
8	Colorado	845	606	239	28.3	1.65	513
9	Connecticut	774	598	176	22.7	1.58	489
10	Delaware	781	613	168	21.5	1.86	419
11	Dist of Columbia	656	534	122	18.6	3.06	215
12	Florida	2,841	2,053	788	27.7	1.74	1,633
13	Georgia	1,532	1,143	389	25.4	1.76	872
15	Hawaii	776	598	178	22.9	2.31	336
16	Idaho	806	582	224	27.8	1.79	451
17	Illinois	1,954	1,480	474	24.3	1.80	1,088
18	Indiana	969	718	251	25.9	1.57	618
19	Iowa	814	602	212	26.0	1.62	501
20	Kansas	781	592	189	24.2	1.71	457
21	Kentucky	781	589	192	24.6	1.82	429
22	Louisiana	805	604	201	25.0	1.91	421
23	Maine	774	578	196	25.3	1.52	509
24	Maryland	921	639	282	30.6	1.55	594
25	Massachusetts	1,038	757	281	27.1	1.87	556
26	Michigan	1,540	1,164	376	24.4	1.70	906
27	Minnesota	856	624	232	27.1	1.56	549
28	Mississippi	815	593	222	27.2	1.93	422
29	Missouri	906	653	253	27.9	1.66	547
30	Montana	778	593	185	23.8	1.65	471
31	Nebraska	804	606	198	24.6	1.71	471
32	Nevada	823	629	194	23.6	1.82	453

(continued)

Table B-1. Unequal Weighting Effect (continued)

State	Respondents					Effective
	Total	Landline	Cell Phone			
New Hampshire	756	590	166	22.0	1.62	467
New Jersey	1,246	975	271	21.7	1.89	659
New Mexico	809	600	209	25.8	1.90	426
New York	2,867	2,168	699	24.4	1.78	1,614
North Carolina	1,523	1,097	426	28.0	1.57	972
North Dakota	778	606	172	22.1	2.59	301
Ohio	1,705	1,287	418	24.5	1.62	1,051
Oklahoma	783	576	207	26.4	1.63	480
Oregon	862	629	233	27.0	1.58	547
Pennsylvania	1,903	1,430	473	24.9	1.52	1,248
Rhode Island	772	608	164	21.2	2.16	357
South Carolina	788	585	203	25.8	1.93	408
South Dakota	790	598	192	24.3	2.81	281
Tennessee	951	713	238	25.0	1.83	521
Texas	3,772	2,801	971	25.7	1.79	2,113
Utah	786	578	208	26.5	1.74	453
Vermont	756	592	164	21.7	1.98	382
Virginia	1,264	909	355	28.1	1.57	806
Washington	1,134	838	296	26.1	1.54	736
West Virginia	767	587	180	23.5	1.56	490
Wisconsin	869	639	230	26.5	1.60	544
Wyoming	775	597	178	23.0	3.02	256

Table B-2. Population Totals—State by Gender by Age Category (Male)

State	Total	Male					
		18–24	25–34	35–44	45–54	55–64	65+
Alabama	1,764,947	243,775	304,129	296,236	327,318	293,865	299,624
Alaska	284,850	43,914	58,634	47,669	55,350	48,658	30,625
Arizona	2,430,968	338,724	451,136	417,254	414,995	363,552	445,307
Arkansas							
	14,193,366	2,082,918	2,815,647	2,592,886	2,604,728	2,078,087	2,019,100
	1,972,782	264,329	393,864	362,874	361,245	315,006	275,464
	1,344,244	173,981	217,824	223,683	276,005	225,711	227,040
	339,836	46,689	57,943	54,135	63,780	55,243	62,046
	243,833	37,565	65,620	42,714	37,878	31,012	29,044
	7,402,648	917,915	1,212,478	1,194,007	1,346,718	1,161,317	1,570,213
	3,579,354	520,203	679,147	674,007	680,089	536,288	489,620
	546,242	75,327	105,575	88,954	93,332	89,482	93,572
	579,932	79,625	107,171	98,179	100,950	94,830	99,177
	4,755,747	641,386	897,005	844,341	898,594	752,349	722,072
	2,404,341	336,846	419,442	413,266	455,884	395,812	383,091
	1,154,293	161,520	199,447	182,107	211,770	195,789	203,660
	1,064,760	155,329	198,375	173,214	192,619	173,150	172,073
	1,635,907	216,764	286,962	283,879	309,174	272,271	266,857
	1,681,396	238,540	327,429	276,927	309,374	273,079	256,047
	513,922	59,179	73,452	79,340	102,822	98,094	101,035
	2,164,641	290,279	395,755	374,088	430,285	348,031	326,203
	2,504,121	342,724	441,090	417,189	490,450	407,095	405,573
	3,690,569	508,013	588,996	605,252	717,101	641,467	629,740
	2,019,934	258,601	373,065	337,332	393,130	335,480	322,326
	1,068,489	156,827	191,425	180,041	194,678	173,377	172,141
	2,233,034	300,914	395,557	363,194	422,316	367,336	383,717
	391,184	51,772	64,935	57,351	69,403	73,286	74,437
	685,080	94,995	128,680	112,004	124,774	112,122	112,505
	1,051,839	131,134	201,302	194,240	192,276	162,197	170,690
	511,655	63,912	75,564	82,879	108,753	93,547	87,000
	3,287,772	406,775	569,641	589,898	666,598	528,133	526,727
	770,669	107,544	142,012	122,382	136,664	128,417	133,650
	7,310,109	1,013,620	1,366,250	1,246,162	1,380,230	1,148,476	1,155,371
	3,584,604	499,871	627,081	645,118	665,126	567,962	579,446
North Dakota	276,675	47,163	52,848	40,089	47,218	45,059	44,298
	4,280,975	561,665	715,729	709,194	822,738	741,182	730,467

(continued)

Table B-2. Population Totals—State by Gender by Age Category (Male) (continued)

State		18–24	25–34	35–44	45–54	55–64	65+
Oklahoma	1,409,850	201,989	265,252	233,135	250,571	223,679	235,224
Oregon	1,490,126	185,980	269,332	256,455	257,499	258,638	262,222
Pennsylvania	4,828,572	639,489	793,390	770,966	925,653	830,939	868,135
Rhode Island	397,244	60,063	65,756	62,932	76,143	65,868	66,482
South Carolina	1,746,912	247,489	301,541	291,178	315,525	286,831	304,348
South Dakota	313,533	43,473	57,052	48,333	56,892	53,695	54,088
Tennessee	2,385,538	315,092	418,124	416,677	443,877	392,459	399,309
Texas	9,379,226	1,386,757	1,908,496	1,762,890	1,714,652	1,354,552	1,251,879
Utah	979,802	165,251	226,674	182,021	152,995	128,806	124,055
Vermont	245,067	34,298	35,495	36,675	47,806	46,539	44,254
Virginia	3,074,163	422,860	576,039	541,219	587,692	482,681	463,672
Washington	2,630,218	346,208	499,362	461,824	481,507	431,400	409,917
West Virginia	718,796	87,528	111,733	117,087	130,870	133,420	138,158
Wisconsin	2,168,998	282,205	373,793	353,555	424,938	371,285	363,222
Wyoming	224,866	30,725	42,655	35,715	40,002	40,345	35,424
Total	**116,802,459**	**16,065,251**	**21,338,792**	**20,173,607**	**21,806,870**	**18,602,894**	**18,815,045**

Table B-3 Population Totals—State by Gender by Age Category (Female)

State		18–24	25–34	35–44	45–54	55–64	65+
Alabama	1,932,670	241,166	313,628	310,431	346,146	321,543	399,756
Alaska	259,499	35,753	52,476	44,324	50,916	44,158	31,872
Arizona	2,501,393	314,227	426,695	408,920	424,044	401,281	526,226
Arkansas	1,153,420	141,186	191,345	182,788	201,052	189,157	247,892
California	14,607,845	1,938,325	2,666,993	2,568,548	2,627,208	2,225,786	2,580,985
Colorado	1,983,442	242,341	367,806	344,472	364,174	326,872	337,777
Connecticut	1,452,545	163,087	216,726	234,766	290,532	241,762	305,672
Delaware	372,206	46,972	58,355	57,346	68,633	62,472	78,428
DC	279,010	44,927	74,302	42,598	37,812	36,526	42,845
Florida	7,912,440	873,070	1,188,756	1,209,060	1,399,591	1,302,461	1,939,502
Georgia	3,850,466	496,079	687,460	704,166	714,459	598,223	650,079
Hawaii	543,060	61,543	93,730	85,790	93,050	91,718	117,229
Idaho	589,143	77,222	103,356	95,745	102,084	97,335	113,401
Illinois	5,055,443	613,261	889,321	849,475	925,489	805,532	972,365
Indiana	2,541,516	325,634	416,561	412,028	464,419	416,817	506,057
Iowa	1,196,940	152,770	190,753	177,162	211,767	197,843	266,645
Kansas	1,096,841	141,613	189,076	169,824	196,172	177,960	222,196
Kentucky	1,726,270	207,123	280,700	282,257	317,887	290,507	347,796
Louisiana	1,802,694	237,316	325,528	282,579	324,305	293,808	339,158
Maine	549,352	56,514	74,647	82,226	107,270	103,354	125,341
Maryland	2,376,122	277,461	406,347	401,067	465,735	388,696	436,816
Massachusetts	2,740,608	342,837	450,421	436,908	514,585	442,936	552,921
Michigan	3,925,921	490,662	589,034	616,299	736,582	680,370	812,974
Minnesota	2,083,057	247,775	364,030	329,887	393,985	339,939	407,441
Mississippi	1,171,104	154,294	197,184	189,906	207,891	189,895	231,934
Missouri	2,385,479	292,612	396,182	367,588	434,213	395,420	499,464
Montana	391,977	46,742	61,332	55,576	70,928	73,547	83,852
Nebraska	707,040	90,686	123,333	108,645	124,603	114,924	144,849
Nevada	1,043,509	123,613	190,834	185,348	184,277	169,213	190,224
New Hampshire	534,223	61,841	73,760	84,456	111,398	95,965	106,803
New Jersey	3,550,434	378,436	564,460	608,644	699,636	575,430	723,828
New Mexico	800,427	99,681	135,258	122,833	142,519	138,953	161,183
New York	7,996,998	984,026	1,390,836	1,293,432	1,460,100	1,266,403	1,602,201
North Carolina	3,880,941	472,291	640,353	667,286	701,236	631,352	768,423
North Dakota	268,345	40,230	46,099	36,826	45,933	42,889	56,368
Ohio	4,599,576	547,009	718,785	718,907	851,784	788,436	974,655

(continued)

Table B-3 Population Totals—State by Gender by Age Category (Female) (continued)

State	Total	Female					
		18–24	25–34	35–44	45–54	55–64	65+
Oklahoma	1,467,607	189,515	255,644	229,602	255,903	237,920	299,023
Oregon	1,548,603	179,024	263,749	249,293	263,080	274,060	319,397
Pennsylvania	5,195,578	624,279	783,141	778,926	955,183	879,323	1,174,726
Rhode Island	436,574	60,398	65,428	66,015	81,572	71,014	92,147
South Carolina	1,896,721	236,922	305,867	301,716	337,213	323,892	391,111
South Dakota	315,652	40,139	53,220	45,563	55,826	52,809	68,095
Tennessee	2,576,689	309,136	425,942	425,238	466,998	430,177	519,198
Texas	9,694,338	1,296,267	1,855,795	1,772,834	1,736,163	1,445,863	1,587,416
Utah	987,513	161,736	218,374	174,678	152,792	132,569	147,364
Vermont	256,993	32,025	35,566	37,463	49,921	47,828	54,190
Virginia	3,254,967	400,333	567,232	550,841	613,961	523,767	598,833
Washington	2,681,827	321,671	476,498	449,185	482,787	453,186	498,500
West Virginia	752,576	83,611	108,487	115,254	133,128	138,305	173,791
Wisconsin	2,239,843	271,864	360,680	345,539	425,964	374,518	461,278
Wyoming	216,056	27,419	38,444	32,553	38,962	38,594	40,084
Total	**123,383,493**	**15,294,664**	**20,970,529**	**20,342,813**	**22,461,868**	**19,983,308**	**24,330,311**

Table B-4. Population Totals by State: Race Category (18+)

State					
Alabama	3,697,617	2,547,610	927,972	122,115	99,920
Alaska	544,349	364,797	18,824	29,478	131,250
Arizona	4,932,361	3,074,050	186,547	1,270,359	401,405
Arkansas	2,238,250	1,721,160	321,940	120,251	74,899
California	28,801,211	12,494,689	1,696,410	9,749,930	4,860,182
Colorado	3,956,224	2,901,931	148,954	706,294	199,045
Connecticut	2,796,789	2,049,553	257,683	344,419	145,134
Delaware	712,042	485,338	141,318	49,903	35,483
DC	522,843	202,382	241,048	47,660	31,753
Florida	15,315,088	9,211,187	2,166,811	3,342,351	594,739
Georgia	7,429,820	4,317,717	2,178,970	572,723	360,410
Hawaii	1,089,302	277,435	21,189	84,035	706,643
Idaho	1,169,075	1,006,583	6,321	110,614	45,557
Illinois	9,811,190	6,506,634	1,346,091	1,367,403	591,062
Indiana	4,945,857	4,128,350	421,839	251,522	144,146
Iowa	2,351,233	2,122,762	62,101	96,340	70,030
Kansas	2,161,601	1,744,253	121,909	190,577	104,862
Kentucky	3,362,177	2,942,725	252,505	88,233	78,714
Louisiana	3,484,090	2,170,733	1,054,766	148,511	110,080
Maine	1,063,274	1,013,171	10,152	11,949	28,002
Maryland	4,540,763	2,557,618	1,287,009	349,636	346,500
Massachusetts	5,244,729	4,101,724	322,608	455,529	364,868
Michigan	7,616,490	5,985,458	1,018,429	282,348	330,255
Minnesota	4,102,991	3,505,408	189,114	158,434	250,035
Mississippi	2,239,593	1,351,948	784,692	57,118	45,835
Missouri	4,618,513	3,815,227	502,993	141,530	158,763
Montana	783,161	700,108	3,837	19,956	59,260
Nebraska	1,392,120	1,178,488	57,766	106,309	49,557
Nevada	2,095,348	1,204,216	164,643	485,554	240,935
New Hampshire	1,045,878	973,869	11,136	25,954	34,919
New Jersey	6,838,206	4,143,821	859,083	1,161,757	673,545
New Mexico	1,571,096	697,810	28,934	677,444	166,908
New York	15,307,107	9,134,953	2,168,974	2,561,303	1,441,877
North Carolina	7,465,545	5,064,052	1,545,754	520,940	334,799

(continued)

Table B-4. Population Totals by State: Race Category (18+) (continued)

State	Total	White Alone Non-Hispanic	Black Alone Non-Hispanic	Hispanic	Other Race
North Dakota	545,020	491,582	6,832	10,765	35,841
Ohio	8,880,551	7,351,563	1,019,545	236,293	273,150
Oklahoma	2,877,457	2,070,887	202,987	216,068	387,515
Oregon	3,038,729	2,472,040	50,036	289,609	227,044
Pennsylvania	10,024,150	8,132,541	994,734	505,727	391,148
Rhode Island	833,818	660,260	42,250	91,512	39,796
South Carolina	3,643,633	2,425,133	959,794	162,028	96,678
South Dakota	629,185	546,373	9,330	15,684	57,798
Tennessee	4,962,227	3,846,621	784,105	193,729	137,772
Texas	19,073,564	9,272,358	2,208,917	6,538,157	1,054,132
Utah	1,967,315	1,614,897	18,601	229,339	104,478
Vermont	502,060	476,329	4,269	7,156	14,306
Virginia	6,329,130	4,206,236	1,174,992	465,911	481,991
Washington	5,312,045	3,993,067	183,348	493,813	641,817
West Virginia	1,471,372	1,377,785	49,865	16,610	27,112
Wisconsin	4,408,841	3,782,277	243,428	213,560	169,576
Wyoming	440,922	381,666	6,260	35,836	17,160
Total	**240,185,952**	**158,799,375**	**28,487,615**	**35,430,276**	**17,468,686**

Table B-5. Population Totals by State: Marriage Categories (18+)

State	Total	Married	Never Married	Divorced, Widowed, or Separated
Alabama	3,697,617	1,793,277	1,082,483	821,857
Alaska	544,349	259,743	185,446	99,160
Arizona	4,932,361	2,330,961	1,614,765	986,635
Arkansas	2,238,250	1,130,472	603,070	504,708
California	28,801,211	13,285,844	10,550,797	4,964,570
Colorado	3,956,224	2,000,338	1,224,156	731,730
Connecticut	2,796,789	1,347,231	945,769	503,789
Delaware	712,042	337,177	232,765	142,100
DC	522,843	139,747	300,436	82,660
Florida	15,315,088	7,041,483	4,767,133	3,506,472
Georgia	7,429,820	3,498,667	2,469,896	1,461,257
Hawaii	1,089,302	538,831	363,729	186,742
Idaho	1,169,075	643,013	304,202	221,860
Illinois	9,811,190	4,674,359	3,396,205	1,740,626
Indiana	4,945,857	2,461,200	1,488,055	996,602
Iowa	2,351,233	1,240,047	666,380	444,806
Kansas	2,161,601	1,129,390	608,570	423,641
Kentucky	3,362,177	1,685,183	933,921	743,073
Louisiana	3,484,090	1,522,802	1,201,103	760,185
Maine	1,063,274	539,982	291,078	232,214
Maryland	4,540,763	2,118,283	1,585,020	837,460
Massachusetts	5,244,729	2,415,625	1,886,397	942,707
Michigan	7,616,490	3,656,038	2,479,250	1,481,202
Minnesota	4,102,991	2,150,827	1,282,348	669,816
Mississippi	2,239,593	991,766	748,630	499,197
Missouri	4,618,513	2,265,548	1,379,546	973,419
Montana	783,161	412,498	216,264	154,399
Nebraska	1,392,120	734,454	410,971	246,695
Nevada	2,095,348	955,643	676,227	463,478
New Hampshire	1,045,878	537,189	309,416	199,273
New Jersey	6,838,206	3,364,826	2,326,942	1,146,438
New Mexico	1,571,096	724,959	520,280	325,857
New York	15,307,107	6,759,711	5,823,814	2,723,582

(continued)

Table B-5. Population Totals by State: Marriage Categories (18+) (continued)

State	Total	Married	Never Married	Divorced, Widowed, or Separated
North Carolina	7,465,545	3,662,912	2,293,767	1,508,866
North Dakota	545,020	282,986	171,516	90,518
Ohio	8,880,551	4,265,025	2,772,436	1,843,090
Oklahoma	2,877,457	1,441,265	791,240	644,952
Oregon	3,038,729	1,490,195	917,796	630,738
Pennsylvania	10,024,150	4,817,137	3,328,297	1,878,716
Rhode Island	833,818	373,324	296,990	163,504
South Carolina	3,643,633	1,721,982	1,162,413	759,238
South Dakota	629,185	320,329	192,032	116,824
Tennessee	4,962,227	2,437,455	1,447,826	1,076,946
Texas	19,073,564	9,429,190	6,027,518	3,616,856
Utah	1,967,315	1,094,910	580,796	291,609
Vermont	502,060	250,191	154,396	97,473
Virginia	6,329,130	3,172,886	2,010,481	1,145,763
Washington	5,312,045	2,683,178	1,629,391	999,476
West Virginia	1,471,372	734,720	402,761	333,891
Wisconsin	4,408,841	2,238,621	1,376,920	793,300
Wyoming	440,922	233,034	119,800	88,088
Total	**240,185,952**	**115,336,454**	**78,551,440**	**46,298,058**

Table B-6. Population Totals by State: Educational Attainment (18+)

State	Less than HS Degree	HS Degree	Some College but No Bachelor's Degree	Bachelor's Master's or Professional Degree
Alabama	596,624	1,144,546	1,174,742	781,705
Alaska	49,006	162,619	198,148	134,576
Arizona	726,185	1,234,820	1,755,571	1,215,785
Arkansas	339,535	784,039	686,427	428,249
California	5,178,910	6,255,744	9,350,251	8,016,306
Colorado	400,851	895,596	1,314,924	1,344,853
Connecticut	291,145	782,333	768,378	954,933
Delaware	87,233	223,302	210,406	191,101
DC	59,755	99,936	110,233	252,919
Florida	2,116,757	4,573,797	4,861,616	3,762,918
Georgia	1,147,397	2,123,737	2,276,533	1,882,153
Hawaii	102,846	323,395	364,932	298,129
Idaho	125,404	332,209	443,388	268,074
Illinois	1,237,763	2,656,534	3,060,310	2,856,583
Indiana	651,995	1,707,112	1,528,760	1,057,990
Iowa	207,415	739,302	835,637	568,879
Kansas	223,738	592,961	755,199	589,703
Kentucky	538,191	1,150,800	1,003,400	669,786
Louisiana	605,887	1,178,889	1,003,478	695,836
Maine	93,067	366,103	328,266	275,838
Maryland	503,611	1,199,872	1,300,684	1,536,596
Massachusetts	546,752	1,374,766	1,431,784	1,891,427
Michigan	854,564	2,300,711	2,654,091	1,807,124
Minnesota	334,560	1,079,483	1,434,022	1,254,926
Mississippi	396,985	680,134	750,458	412,016
Missouri	566,398	1,452,111	1,486,980	1,113,024
Montana	65,335	233,444	275,898	208,484
Nebraska	137,859	380,430	504,059	369,772
Nevada	331,997	612,651	723,870	426,830
New Hampshire	88,346	308,356	317,919	331,257
New Jersey	806,850	1,964,243	1,768,984	2,298,129
New Mexico	256,753	419,108	529,489	365,746

(continued)

Table B-6. Population Totals by State: Educational Attainment (18+) (continued)

State	Less than HS degree	HS degree	Some College but No Bachelor's Degree	Bachelor's Master's or Professional Degree
New York	2,214,515	4,079,364	4,278,405	4,734,823
North Carolina	1,126,351	2,039,967	2,440,598	1,858,629
North Dakota	45,609	151,615	212,555	135,241
Ohio	1,034,426	3,021,185	2,764,699	2,060,241
Oklahoma	394,599	913,400	949,931	619,527
Oregon	316,512	780,679	1,113,329	828,209
Pennsylvania	1,131,121	3,630,660	2,681,132	2,581,237
Rhode Island	112,793	232,182	250,681	238,162
South Carolina	556,364	1,090,687	1,168,910	827,672
South Dakota	64,975	201,503	213,226	149,481
Tennessee	723,258	1,653,788	1,478,003	1,107,178
Texas	3,519,216	4,931,294	6,037,904	4,585,150
Utah	188,945	472,834	778,101	527,435
Vermont	42,968	149,925	146,698	162,469
Virginia	760,876	1,646,774	1,877,646	2,043,834
Washington	550,684	1,301,262	1,923,254	1,536,845
West Virginia	224,787	588,911	402,283	255,391
Wisconsin	426,183	1,415,352	1,468,270	1,099,036
Wyoming	40,632	134,041	168,097	98,152
Total	**33,144,528**	**67,768,506**	**75,562,559**	**63,710,359**

Table B-7. Population Totals by State: Phone Usage

State	Cell Phone Only (%)	Dual Phone Users (%)	Landline Only (%)	Cell Phone Only	Dual Phone Users	Landline Only
Alabama	40.7	52.5	6.8	1,504,953	1,941,080	251,584
Alaska	36.1	54.3	9.5	196,605	295,767	51,977
Arizona	45.0	46.1	8.9	2,221,218	2,272,012	439,131
Arkansas	51.6	41.3	7.2	1,154,090	923,877	160,283
California	33.3	60.2	6.5	9,601,477	17,339,929	1,859,805
Colorado	45.2	48.8	6.1	1,786,578	1,929,757	239,889
Connecticut	22.8	68.3	8.9	638,603	1,909,748	248,438
Delaware	32.0	63.0	5.0	227,805	448,445	35,792
DC	51.0	46.4	2.6	266,599	242,453	13,791
Florida	40.7	52.1	7.2	6,237,376	7,972,195	1,105,517
Georgia	40.6	53.9	5.5	3,018,239	4,003,099	408,482
Hawaii	31.4	60.3	8.3	342,199	656,825	90,278
Idaho	51.4	43.5	5.1	600,533	508,835	59,707
Illinois	38.9	56.2	4.9	3,817,332	5,512,978	480,880
Indiana	39.2	51.2	9.7	1,936,985	2,530,157	478,715
Iowa	43.2	52.8	4.0	1,015,074	1,241,238	94,921
Kansas	44.5	47.9	7.6	961,480	1,035,334	164,787
Kentucky	40.2	50.8	9.1	1,350,076	1,706,777	305,324
Louisiana	39.9	53.4	6.7	1,390,110	1,861,102	232,878
Maine	37.6	53.4	9.0	399,600	568,173	95,501
Maryland	31.8	61.9	6.3	1,444,968	2,808,674	287,121
Massachusetts	25.8	65.7	8.5	1,353,513	3,446,540	444,676
Michigan	42.2	52.1	5.8	3,210,617	3,964,706	441,167
Minnesota	38.1	56.3	5.6	1,563,734	2,311,166	228,091
Mississippi	49.2	44.4	6.4	1,101,135	994,171	144,287
Missouri	38.6	55.0	6.4	1,782,707	2,539,371	296,435
Montana	33.8	41.0	25.2	264,825	321,308	197,028
Nebraska	44.8	49.8	5.4	623,896	692,999	75,225
Nevada	41.0	50.8	8.2	859,915	1,063,735	171,698
New Hampshire	28.4	65.4	6.2	297,221	684,086	64,571
New Jersey	20.3	71.7	8.0	1,389,848	4,899,765	548,593
New Mexico	43.4	46.4	10.2	682,389	728,482	160,225

(continued)

Table B-7. Population Totals by State: Phone Usage (continued)

State	Cell Phone Only (%)	Dual Phone Users (%)	Landline Only (%)	Cell Phone Only	Dual Phone Users	Landline Only
New York	24.3	65.2	10.5	3,718,446	9,980,092	1,608,569
North Carolina	38.8	54.8	6.4	2,897,911	4,090,165	477,469
North Dakota	48.2	42.0	9.7	262,877	229,167	52,976
Ohio	39.7	55.2	5.2	3,521,855	4,898,435	460,261
Oklahoma	40.7	53.0	6.3	1,172,042	1,524,698	180,717
Oregon	44.8	46.1	9.1	1,362,532	1,399,413	276,784
Pennsylvania	28.3	63.4	8.3	2,840,761	6,350,680	832,709
Rhode Island	19.0	71.8	9.1	158,809	598,779	76,230
South Carolina	42.7	49.5	7.8	1,555,455	1,804,574	283,604
South Dakota	29.0	34.2	36.8	182,402	215,086	231,697
Tennessee	42.1	52.6	5.3	2,086,753	2,612,232	263,242
Texas	46.4	48.3	5.3	8,854,050	9,204,781	1,014,733
Utah	43.4	49.7	7.0	853,133	976,793	137,389
Vermont	34.5	53.1	12.4	173,287	266,441	62,332
Virginia	32.0	61.5	6.4	2,027,310	3,895,219	406,601
Washington	39.9	54.0	6.1	2,119,068	2,867,193	325,784
West Virginia	31.6	53.9	14.5	464,347	792,960	214,065
Wisconsin	40.0	50.9	9.2	1,762,183	2,242,090	404,568
Wyoming	37.4	39.3	23.2	165,055	173,370	102,497
Total				**89,419,976**	**133,476,952**	**17,289,024**