2014 NATIONAL SURVEY ON DRUG USE AND HEALTH

METHODOLOGICAL RESOURCE BOOK SECTION 11: PERSON-LEVEL SAMPLING WEIGHT CALIBRATION

Substance Abuse and Mental Health Services Administration
Center for Behavioral Health Statistics and Quality
Rockville, Maryland

March 2016

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Prepared for the 2014 Methodological Resource Book (Section 11)

Contract No. HHSS283201300001C
RTI Project No. 0213757.004.106.005
Deliverable No. 49

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March 2016

Recommended Citation: Center for Behavioral Health Statistics and Quality. (2016). *2014 National Survey on Drug Use and Health: Methodological Resource Book (Section 11, Person-Level Sampling Weight Calibration)*. Substance Abuse and Mental Health Services Administration, Rockville, MD.

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Preface and Acknowledgments

This report contains a brief review of the sampling weight calibration methodology used for the 2014 National Survey on Drug Use and Health (NSDUH), which was known as the National Household Survey on Drug Abuse (NHSDA) prior to 2002. This report also lists detailed documentation on the implementation steps and evaluation results from the weight calibration application. The constrained exponential modeling (CEM) method used in the surveys prior to 1999 (referred to in this report as the generalized exponential model [GEM]) was modified to provide more flexibility in dealing internally with the extreme weights and for setting bounds directly on the weight adjustment factors so they can become suitable for nonresponse (nr) and poststratification (ps) adjustments. The highlights of the method are summarized below.

- The inherent two-phase nature of the NSDUH design (viewing the large screener sample as the first phase and the actual questionnaire sample as the second phase) allows for the additional step of poststratifying the selected people to estimated controls from the large first-phase sample of people. This additional step results in stable controls for the later step of nonresponse adjustment at the respondent-person level. These two steps had been combined as one step in surveys prior to 1999, but they have been kept separate from 1999 onward.
- A poststratification step at the respondent-household level in the first phase of the screening interview reduced coverage bias resulting from the first-phase sampling and produced controls for use in poststratification at the selected-person level, respondent person-pair level, and respondent-household level in the second phase of the main interview. This step again takes advantage of the inherent two-phase design of the study.
- The built-in control on extreme weights in GEM can be supplemented by a separate step of extreme value adjustment after the final poststratification whenever the extreme weight percentage in the initial unadjusted weights is considered to be too large. This can be accomplished by using GEM so that the sample demographic distribution is preserved. This method represents an improvement over the trimming method implemented before the nonresponse adjustment in surveys prior to 1999 and the extreme value adjustment before the nonresponse adjustment used for the 1999 NHSDA. For the 2014 NSDUH, this final extreme value adjustment was judged to be unnecessary.

The GEM calibration method provides a unified approach to handling problems of extreme weights, nonresponse, and poststratification, and it uses current state-of-the-art technology.

Several chapters in this report describe the implementation and evaluation of GEM, and the appendices contain mainly tables. In the interest of reducing the size of the report, detailed domain-specific evaluation results are presented in the supplement to this report, which is available upon request.

This report was prepared for the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Behavioral Health Statistics and Quality, by RTI International (a registered trademark and a trade name of Research Triangle Institute). Contributors to this report at RTI include Claudia Clark, Debbie Bond, and Margaret Smith. The authors are grateful to Eunice Park-Lee of SAMHSA for her useful comments and suggestions.

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List of Terms and Abbreviations

C	Center point.
CAI	Computer-assisted interviewing.
DU	Dwelling unit.
ev	Extreme weight adjustment. See Section 4.1 for more detail.
FI	Field interviewer.
GEM	Generalized exponential model. See Chapter 2 for more detail.
half-step	This refers to halving the increment in the Newton-Raphson iterative process for fitting GEM.
IQR	Interquartile range.
L	Lower bound on adjustment factor.
MPMN	Multivariate predictive mean neighbor.
nr	Nonresponse adjustment.
Outwinsor	Signifies the percentages of weights trimmed after extreme weight adjustment via winsorization.
PMN	Predictive mean neighborhood.
ps	Poststratification adjustment.
res.sdu.nr	Respondent screener dwelling unit nonresponse adjustment step. See Section 5.1.2 for more detail.
res.sdu.ps	Respondent screener dwelling unit poststratification adjustment step. See Section 5.1.3 for more detail.
res.sdu.ev	Respondent screener dwelling unit extreme weight adjustment step. See Section 5.1.4 for more detail.
sel.per.ps	Selected person-level poststratification adjustment step. See Section 5.2.2 for more detail.
res.per.nr	Respondent person-level nonresponse adjustment step. See Section 5.2.3 for more detail.
res.per.ps	Respondent person-level poststratification adjustment step. See Section 5.2.4 for more detail.
res.per.ev	Respondent person-level extreme weight adjustment step. See Section 5.2.5 for more detail.
SAE	Small area estimate.
SDU	Screener dwelling unit.
SE	Standard error.
SES	Socioeconomic status indicator. See Exhibit 3.1 for more detail.
SS	State sampling.
U	Upper bound on adjustment factor.
UPMN	Univariate predictive mean neighbor.
UWE	Unequal weighting effect. It refers to the contribution in the design effect due to unequal selection probability and is defined as $1 + [(n-1)/n]*CV^2$ where CV = coefficient of variation of weights, and n is the sample size.
VESTR	Variance estimation stratum.
VEREP	Variance estimation replicates.
Winsorization	A method of extreme weight adjustment that replaces extreme weights with the critical values used for defining low and high extreme weights.

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1. Introduction

The target population for the 2014 National Survey on Drug Use and Health (NSDUH) was the civilian, noninstitutionalized population aged 12 years or older residing within the United States. A coordinated sample design was developed for the 2014 through 2017 NSDUHs. The coordinated design facilitates 50 percent overlap in third-stage units (area segments) within each successive 2-year period from 2014 through 2017. This designed sample overlap slightly increases the precision of estimates of year-to-year trends because of the expected small but positive correlation resulting from the overlapping sampled area segments between successive survey years. The 50 percent overlap of segments significantly reduces segment listing costs because only one-half of the segments will need to be listed for the 2015 through 2017 surveys.

The 2014 design provides for estimates by state in all 50 states plus the District of Columbia. States may therefore be viewed as the first level of stratification as well as a reporting variable. Unlike the previous designs, such as the 2005 through 2013 NSDUH design, where the sample was divided into 8 "large" states and 43 "small" states (which include the District of Columbia) with the large and small sample states designed to yield 3,600 and 900 respondents per state, respectively, the 2014 survey's sample was designed to yield

- 4,560 completed interviews in California;
- 3,300 completed interviews each in Florida, New York, and Texas;
- 2,400 completed interviews each in Illinois, Michigan, Ohio, and Pennsylvania;
- 1,500 completed interviews each in Georgia, New Jersey, North Carolina, and Virginia;
- 967 completed interviews in Hawaii; and
- 960 completed interviews in each of the remaining 37 states and the District of Columbia.

The target national sample size for the 2014 NSDUH was 67,507 people, and the achieved sample for the 2014 NSDUH was 67,901 people—corresponding to 49,672 responding dwelling units [DUs] selected at the second phase out of 127,583[1] DUs screened at the first phase, in which the first phase is screening and the second phase is interviewing.

In addition to having a different sample allocation by state, the 2014 through 2017 survey design places more sample in the 26 or older age groups to estimate drug use and related mental health measures more accurately among the aging population that uses drugs. For the 2014 through 2017 NSDUHs, each state sample will be allocated to age groups as follows: 25 percent for youths aged 12 to 17, 25 percent for young adults aged 18 to 25, 15 percent for adults aged 26 to 34, 20 percent for adults aged 35 to 49, and 15 percent for adults aged 50 or older. In the

[1] The number of DUs that completed the first-phase screening was 127,605, but some DUs did not have eligible people, so they were removed from the DU poststratification and person-level calibration steps. The number of DUs that had eligible people in them was 127,583.

2005 through 2013 NSDUHs, the sample was allocated equally across the 12 to 17, 18 to 25, and 26 or older age groups.

Similar to the 2005 through 2013 NSDUHs, the first stage of selection for the 2014 through 2017 NSDUHs is census tracts. This stage was included to contain sample segments within a single census tract to the extent possible.

The 2014 through 2017 survey design includes the selection of census block groups at the second stage of selection. This additional stage of selection was included to facilitate moving to an address-based sampling (ABS) design in the future, if desired. The selection of census tracts at the first stage of selection and census block groups at the second stage has the potential to reduce sampling variance by controlling the distribution of selected areas and reducing the chance of selecting neighboring and possibly similar areas within tracts and block groups.

Finally, as mentioned in Section 1.5, the 2014 through 2017 NSDUH fourth-stage sampling frames are supplemented with new DUs on the premises of sampled DUs that were missed during the original counting and listing activities (e.g., garage apartments).

The first stage of selection began with the construction of an area sample frame that contained one record for each census tract in the United States. If necessary, census tracts were aggregated within state sampling (SS) regions until each first-stage sampling unit met the minimum size requirement. In California, Florida, Georgia, Illinois, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Texas, and Virginia, this minimum size requirement was 250 DUs in urban areas and 200 DUs in rural areas. In the remaining states and the District of Columbia, the minimum requirement was 150 DUs in urban areas and 100 DUs in rural areas. There were 48 census tracts per SS region selected with probabilities proportionate to a composite size measure and with minimum replacement (Chromy, 1979).

For the second stage of selection, adjacent census block groups were aggregated within selected census tracts as necessary to meet the minimum DU requirements (150 or 250 DUs in urban areas and 100 or 200 DUs in rural areas according to state). After the resulting second-stage sampling units were formed, they were sorted in the order they were formed (i.e., geographically), and one census block group was selected per sampled census tract with probability proportionate to a composite size measure and with minimum replacement (Chromy, 1979). Compared with prior years, the selection of census block groups is an additional stage of selection that was included to facilitate possible transitioning to an ABS design in the future.

Because census block groups generally exceed the minimum DU requirement, one smaller geographic region was selected within each sampled census block group. For this third stage of sampling, each selected census block group was partitioned into compact clusters[2] of DUs by aggregating adjacent census blocks. Consistent with the terminology used in previous NSDUHs, these geographic clusters of blocks are referred to as "segments." A sample DU in NSDUH refers to either a housing unit or a group quarters listing unit, such as a dormitory room

[2] Although the entire cluster is compact, the final sample of DUs represents a noncompact cluster. Noncompact clusters (selection from a list) differ from compact clusters in that not all units within the cluster are included in the sample. Although compact cluster designs are less costly and more stable, a noncompact cluster design was used because it provides for greater heterogeneity of dwellings within the sample. Also, social interaction (contagion) among neighboring dwellings is sometimes introduced with compact clusters (Kish, 1965).

or a shelter bed. Similar to census tracts and census block groups, segments were formed to contain a minimum of 150 or 250 DUs in urban areas and 100 or 200 DUs in rural areas according to state. This minimum DU requirement will support the overlapping sample design and any special supplemental samples or field tests that SAMHSA may wish to conduct.

One segment was selected within each sampled census block group with probability proportionate to size. The 48 selected segments in each SS region were then randomly assigned to a survey year and quarter of data collection.

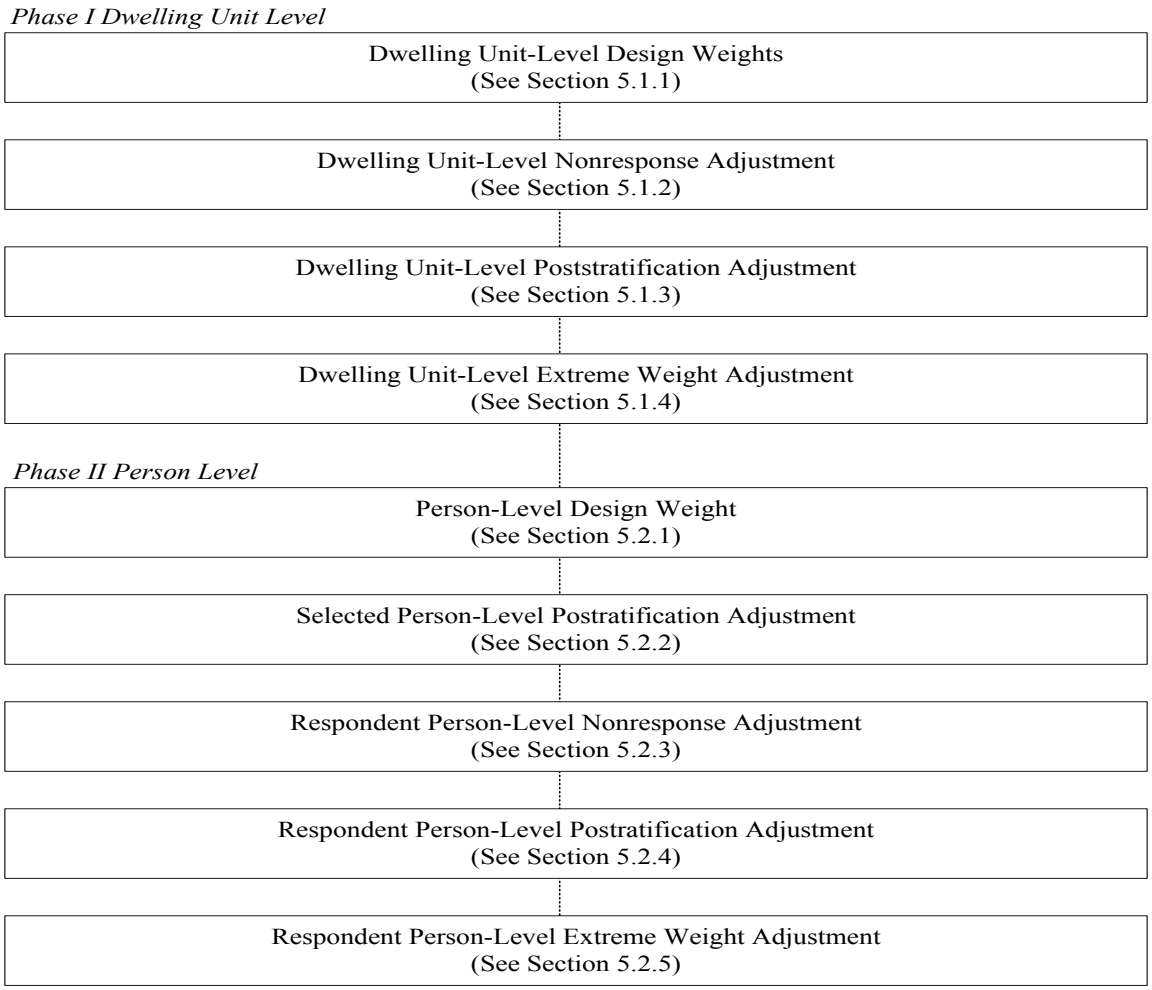
After sample segments for the 2014 NSDUH were selected, specially trained field household listers visited the areas and obtained complete and accurate lists of all eligible DUs within the sample segment boundaries. These lists served as the frames for the fourth stage of sample selection. Using a random start point and interval-based (systematic) selection, the actual listing units were selected from the segment frame. After DU selections were made, an interviewer visited each selected DU to obtain a roster of all people residing in the DU. Using the roster information obtained from an eligible member of the selected DU, zero, one, or two people were selected for the survey. Sampling rates were preset by age group and state. Roster information was entered directly into the electronic screening instrument, which automatically implemented this fifth stage of selection based on the state and age group sampling parameters.

As in previous years of the survey,[3] the 2014 NSDUH sample weighting posed challenges because of the sheer magnitude of the number of state-specific predictors used for nonresponse (nr) and poststratification (ps) adjustments. With the 51-state survey, using a single model for each of the adjustments was not practical; however, treating each state separately was not desirable because individual state sample sizes were not large enough to support reliable estimation of a number of parameters. Therefore, the 51 states were grouped into nine model groups corresponding to the nine U.S. Census Bureau divisions. This helped to keep a substantial number of predictor variables in each model and reduced the computing time that would be associated with fitting a larger model.

As with each survey after 1999, an important feature of the 2014 NSDUH sample weighting was to capitalize on the inherent two-phase nature of the NSDUH design (although the design was primarily viewed as multistage) by adding a step to poststratify the household weights in the first phase of the screening interview (see Exhibit 1.1). This reduced coverage bias resulting from the first phase of sampling and produced estimated controls for use in poststratification of person-pair weights and household weights in the second phase of the main interview. No other suitable source was available for obtaining these controls for poststratification. Note also that screener DU weights were poststratified to population counts by adjusting the DU's weighted contribution of person counts to various demographic domains. The second important feature was to add a step to poststratify selected people (including respondents and nonrespondents) to estimated controls from the large first-phase sample of people for various predictor variables at the segment, DU, and person levels. This provided stable controls for the step involving the nonresponse adjustment of respondent weights. Incorporating this important feature would not have been possible without screener data on the sociodemographics of members of the selected households.

[3] The survey was known as the National Household Survey on Drug Abuse (NHSDA) prior to 2002.

Exhibit 1.1 Sampling Weight Calibration Steps



As in previous NSDUHs, a modification of the earlier methodology of scaled constrained exponential modeling (CEM) (Folsom & Witt, 1994) was used to meet the new demands on the weighting mentioned previously (i.e., the two-phase design and large number of available predictors). The modified methodology, called the generalized exponential model (GEM) (Folsom & Singh, 2000), has several features:

- Like CEM, GEM can use a large number of predictor variables, such as those obtained from the first-phase screener sample for the 50 states plus the District of Columbia, and some of their interactions.
- GEM allows unit-specific bounds for the weights initially identified as extreme, which provide tight controls on the extreme weights. This built-in control is often adequate, in that the frequency of extreme weights, after the nonresponse and poststratification adjustments, is not usually high. However, if this is not the case, GEM can be used for a separate extreme weight adjustment after poststratification. This extra adjustment, which uses tighter bounds, will preserve the demographic population controls used in the poststratification step.

- GEM provides a unified approach to nonresponse, poststratification, and extreme weight adjustments. The differences are only in terms of the bounds and control totals that are used.
- GEM can be implemented efficiently using software developed at RTI.
- GEM is a generalization of the commonly used raking-ratio method in which a distance function is minimized such that (1) the initial weights are perturbed only a little and lie within certain bounds, and (2) control totals are met. It is also a generalization of Deville and Särndal's (1992) logit method in that the bounds on weights are not required to be uniform. Moreover, the lower bound can be set to one, which is desirable for the nonresponse adjustment. Like the previously mentioned methods, fitting GEM requires iterations (such as Newton-Raphson).

The report is organized as follows. In Chapter 2, GEM is reviewed, and a heuristic description outlines how GEM provides a unified approach to all three procedures' adjustments for nonresponse, poststratification, and extreme weight adjustment. In Chapter 3, potential predictor variables for use with nonresponse, poststratification, and extreme weight are discussed, and the strategy for dealing with many predictors via modeling groups of states is reviewed. In Chapter 4, practical steps for implementing GEM for the 2014 NSDUH are presented, and in Chapter 5, details of the weight calibrations, including all weight components corresponding to Phases I and II, are given. Chapter 6 presents the evaluation measures of calibrated weights and a sensitivity analysis of point estimates and standard errors (adjusted for calibration) of selected drug prevalence estimates. The sensitivity analysis compares the estimates and standard errors from final models to those of the baseline models (which consist of only main effects). Nine appendices also are included. Appendix A presents technical details about GEM, Appendix B documents the creation and source of the poststratification control totals, and Appendix C contains information on the imputation methodology. Appendix D summarizes the GEM modeling, and the remaining five appendices contain various tables on weighted response rates, percentages of extreme weights and outwinsors, slippage rates, and weight adjustment summary statistics.

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2. Generalized Exponential Model for Weight Calibration

In survey practice, design weights are typically adjusted in three steps via the following methods: (1) weighting class adjustments for nonresponse, (2) raking-ratio adjustments for poststratification, and (3) winsorization for extreme weights. The bias introduced by winsorization is alleviated to some extent through poststratification. The nonresponse (nr) adjustment is a correction for bias that is introduced when estimates are based only on responding units; poststratification is an adjustment for coverage (typically undercoverage) bias, as well as for variance reduction (which is possibly due to correlation between the study and control, usually demographic, variables). If weights are not treated for extreme weight adjustment, the resulting estimates, although unbiased, will tend to have low precision.

There are limitations in the existing methods of weight adjustment for nonresponse, poststratification, and extreme weight. For the nonresponse step, there are general raking-type methods, such as the scaled constrained exponential model developed by Folsom and Witt (1994), where the lower and upper bounds can be suitably chosen by using a separate scaling factor. The factor is set as the inverse of the overall response propensity. It would be beneficial to have a model for the nonresponse adjustment factor that incorporates the desired lower and upper bounds on the factor as part of the model. Note that the lower bound on the nonresponse adjustment factor should be 1 because it is interpreted as the inverse of the probability of response for a particular unit. For the poststratification step, the general calibration methods of Deville and Särndal (1992), such as the logit method, allow for built-in lower (L) and upper (U) bounds (for poststratification, typically $L < 1 < U$). However, it would be useful to have nonuniform bounds (L_k, U_k) depending on the unit k, such that the final adjusted weights, w_k, could be controlled within certain limits. An important application of this feature would be weight adjustments to allow the user to have some control over the final adjustment of weights initially identified as extreme weights. It would be advantageous to adjust for bias introduced in the extreme weight adjustment step (such as when extreme weights are treated via winsorization) so that the sample distribution for various demographic characteristics is preserved.

A modification of the earlier method of the scaled constrained exponential model of Folsom and Witt (1994), termed the generalized exponential model (GEM) and proposed by Folsom and Singh (2000), provides a unified approach to the three weight adjustments for nonresponse, poststratification, and extreme weight, and it has the valuable features mentioned previously. The functional form of the GEM adjustment factor is given in Appendix A. It generalizes the logit model of Deville and Särndal (1992), typically used for poststratification, such that the bounds (L, U) may depend on k. Thus, it provides a built-in control on extreme weights, during both nonresponse adjustments and poststratification. In addition, the bounds are internal to the model and can be set to chosen values (e.g., $L_k = 1$ in the nonresponse step). If the frequency of extreme weights is low after the final poststratification, a separate extreme weight adjustment step may not be necessary.

Note that in view of the nonresponse adjustment factor being defined as the inverse of response propensity, GEM requires it to be greater than 1. However, the built-in extreme weight

control feature of GEM essentially defines adjustment factors with regard to the critical value under winsorization. Therefore, although the adjustment factor with regard to the cutoff point is always greater than 1, with regard to the original weight, it can be less than 1. (See the example in Section 4.2 for details.)

In fitting GEM to a particular problem, choosing a large number of predictor variables along with tight bounds will have an impact on the resulting unequal weighting effect (UWE) and the percentage of extreme weights. In practice, this leads to somewhat subjective evaluations of trade-offs between the target set of bounds for a given set of factor effects, the target UWE, and the target proportions of extreme weights. The percentage of "outwinsors" (a term coined to signify the extent of residual weights after extreme weight adjustment via winsorization) is probably a more realistic benchmark in determining the robustness of estimates in the presence of extreme weights. Chapter 4 provides details about the GEM process and some practical guidelines about fitting such a model. In particular, an adaptive method based on realized minimum and maximum bounds after setting loose initial bounds is recommended for choosing bounds more objectively.

A large increase in the number of predictor variables in GEM typically would result in a higher UWE, indicating a possible loss in precision. By looking at the change in variance calculated for a model run with the minimal number of predictor variables versus the final model we reached during the weighting process, a more precise measure of loss (or gain) in precision can be obtained for variance of selected study variables. The results are presented in Chapter 6.

3. Predictor Variables in GEM for the 2014 NSDUH

For the 2014 National Survey on Drug Use and Health (NSDUH), the initial set of predictor variables was identical to the set used for the 2013 NSDUH. Exhibit 3.1 shows the definitions and levels of these predictor variables. Typical predictors used for the screener dwelling unit (DU) nonresponse adjustment were State, Quarter, Group Quarters Indicator, Population Density, Percentage Hispanic or Latino in Segment, Percentage Black or African American in Segment, Percentage Owner-Occupied DUs in Segment, and Segment-Combined Median Rent and Housing Value, which is also called the Socioeconomic Status (SES) indicator. The SES indicator was a composite measure based on (standardized) median rent, median housing value, and the percentage of dwellings that are owner occupied. Typical predictors for the person-level nonresponse adjustments were, in addition to those stated previously, Age, Gender, Race, Hispanicity, and Relation to Householder (i.e., the head of the household). For poststratification, predictors typically used were State, Age, Race, Gender, Hispanicity, and Quarter. In all cases, the model consisted of main effects and some interactions of these predictors. For a separate extreme weight adjustment with the generalized exponential model (GEM) after poststratification, the predictors were the same as those used in the poststratification (ps) adjustment.

Generally, it is desirable to include, whenever possible, poststratification predictors (correlated with the outcome variable) as part of nonresponse predictors (correlated with the response variable) because of the potential variance reduction; this works to offset the variance inflation, which is due to the random controls used in the nonresponse (nr) adjustment. In general, this is not possible because demographic information (often used for poststratification) is not available for nonrespondents. However, with a two-phase design, such as NSDUH's, this problem does not exist because the screener data contain the necessary information. There is, of course, the cost in time and effort required to edit and impute the screener-based predictors in advance of this nonresponse adjustment. Many times, the need to edit, impute, or both edit and impute nonresponse predictors for the full sample, which consists of respondents and nonrespondents, is eliminated because the poststratification and nonresponse adjustments are combined into a single poststratification step. However, the processes leading to nonresponse and coverage errors are likely to be different enough to benefit from separate modeling. The nonresponse-adjustment models also can benefit from bias reduction when segment-level variables, such as the percentage of owner-occupied DUs, are included in the model. Population totals for these segment-level variables have not been developed for use as poststratification controls.

Exhibit 3.1 Definition of Levels for Variables

Age (years)
1: 12-17, 2: 18-25, 3: 26-34, 4: 35-49, 5: 50+[1,4]

Gender
1: Male, 2: Female[1]

Group Quarters Indicator
1: College Dorm, 2: Other Group Quarter, 3: Non-Group Quarter[1]

Hispanicity
1: Hispanic or Latino, 2: Non-Hispanic or Latino[1]

Percent of Owner-Occupied Dwelling Units in Segment (% Owner-Occupied)
1: 50-100%,[1] 2: 10-<50%, 3:0-<10%

Percent of Segments That Are Black or African American
1: 50-100%, 2: 10-<50%, 3: 0-<10%[1]

Percent of Segments That Are Hispanic or Latino
1: 50-100%, 2: 10-<50%, 3: 0-<10%[1]

Population Density
1: MSA 1,000,000 or More, 2: MSA Less than 1,000,000, 3: Non-MSA Urban, 4: Non-MSA Rural[1]

Quarter
1: Quarter 1, 2: Quarter 2, 3: Quarter 3, 4: Quarter 4[1]

Race (3 levels)
1: White,[1] 2: Black or African American, 3: Other

Race (5 levels)
1: White,[1] 2: Black or African American, 3: American Indian or Alaska Native, 4: Asian, 5: Two or More Races

Relation to Householder
1: Householder or Spouse,[1] 2: Child, 3: Other Relative, 4: Nonrelative

Segment-Combined Median Rent and Housing Value (Rent/Housing)[2]
1: First Quintile, 2: Second Quintile, 3: Third Quintile, 4: Fourth Quintile, 5: Fifth Quintile[1]

States[3]

Model Group 1:	1: Connecticut, 2: Maine, 3: New Hampshire, 4: Rhode Island, 5: Vermont, 6: Massachusetts[1]
Model Group 2:	1: New Jersey,[1] 2: New York, 3: Pennsylvania
Model Group 3:	1: Illinois, 2: Indiana,[1] 3: Michigan, 4: Wisconsin, 5: Ohio
Model Group 4:	1: Iowa, 2: Kansas, 3: Minnesota, 4: Missouri,[1] 5: Nebraska, 6: South Dakota, 7: North Dakota
Model Group 5:	1: Delaware, 2: District of Columbia, 3: Georgia,[1] 4: Maryland, 5: North Carolina, 6: South Carolina, 7: Virginia, 8: West Virginia, 9: Florida
Model Group 6:	1: Alabama, 2: Kentucky, 3: Mississippi, 4: Tennessee[1]
Model Group 7:	1: Arkansas,[1] 2: Louisiana, 3: Oklahoma, 4: Texas
Model Group 8:	1: Colorado, 2: Idaho, 3: Montana, 4: Nevada, 5: New Mexico, 6: Utah, 7: Wyoming, 8: Arizona[1]
Model Group 9:	1: Alaska, 2: Hawaii, 3: Oregon, 4: Washington,[1] 5: California

MSA = metropolitan statistical area.

[1] The reference level for this variable. This is the level against which effects of other factor levels are measured.

[2] Segment-Combined Median Rent and Housing Value (also known as the Socioeconomic Status [SES] indicator) is a composite measure based on rent, housing value, and percent owner occupied.

[3] The states or district assigned to a particular model are based on census divisions.

[4] The age group 50+ was further broken down into 50-64 and 65+ for Person-Level Poststratification Adjustment and Person-Level Extreme Weight Adjustment, for which 65+ was used as the reference level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Heuristically, the suitable number of state-specific controls should depend on the size of the realized sample in each state; because of this, the nature of the problem of too many controls in nonresponse- and poststratification-adjustment models is state specific. Therefore, for the 2014 NSDUH, the strategy proposed by Singh, Penne, and Gordek (1999) was followed and is discussed in the following paragraphs. Also using Singh et al. (1999), some general guidelines were used to choose an initial set of state-specific controls, and the initial set was modified iteratively as problems in maintaining them arose. The process began with the baseline model of one-factor effects and then proceeded with the addition of second- and third-order effects; collapsing was performed as necessary, depending on the individual state sample sizes. To obtain more precise state-level estimates, every effort was made to include as many important state-specific covariates as possible in models for nonresponse and poststratification weight adjustments. These covariates typically were defined by sociodemographic domains. However, keeping a multitude of state-specific covariates, especially higher order interactions, was not possible because individual state sample sizes were not large enough to support stable estimation of an adequate number of model parameters. Therefore, a hierarchical order was used for including covariates in the model; the order started with covariates at the national level, followed by covariates at the census division level within the nation, then covariates at the combined state level within the census division, and finally, whenever possible, covariates at the state level within the combined states.

When adding certain covariates to the model resulted in parameters that could not be estimated or were unstable, the hierarchy strategy mentioned previously was used to combine states within a census division so that covariates at the combined level could be included. However, this problem typically arose with state-specific higher order interactions, and states were collapsed only when combining levels of covariates within a state was not a reasonable alternative. This was thought to be beneficial in obtaining more reliable state-level estimates using small area estimation (SAE) techniques. The eight largest states were not combined with other smaller states, to the extent possible, so that direct state-level estimates could be obtained without relying on SAE.

As an objective check for the suitability of the number of factors, once a satisfactory convergent model was obtained (see Section 6.5 for details), the relative efficiency of a more complex model (with many effects) versus a simpler model (with fewer effects) was measured. In addition to the relative efficiency, the increase in the unequal weighting effect was checked.

For the 2014 NSDUH data, as for the previous years' data, it became apparent that the number of controls could be very high (in excess of 1,000). This many controls would be computationally prohibitive because the implementation of GEM involves iterative steps, and a matrix (whose dimension corresponds to the number of controls) must be inverted in each of these iterations. A solution would be to use separate models within groups of states rather than a single overall model. It can be shown that, if effects (two-factor or higher order) are always collapsed within a group of states, then fitting an overall model of GEM is equivalent to fitting separate models for each group. In this way, the computational problems associated with too many controls could be reduced. Therefore, in the 2014 NSDUH, as in the 1999 through 2013 surveys, nine model groups corresponding to the nine census divisions were used.

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4. Practical Aspects of Implementing GEM for the NSDUH

As explained in Chapter 2, the generalized exponential model (GEM) can be used for nonresponse (nr) adjustment, poststratification (ps), and extreme weight (ev) adjustment (see Exhibit 4.1 for a schematic presentation of the steps). These steps were implemented using the GEM macro developed at RTI. A detailed discussion can be found in Chen, Penne, and Singh (2000).

4.1 Definition of Extreme Weights of Sampling Weights

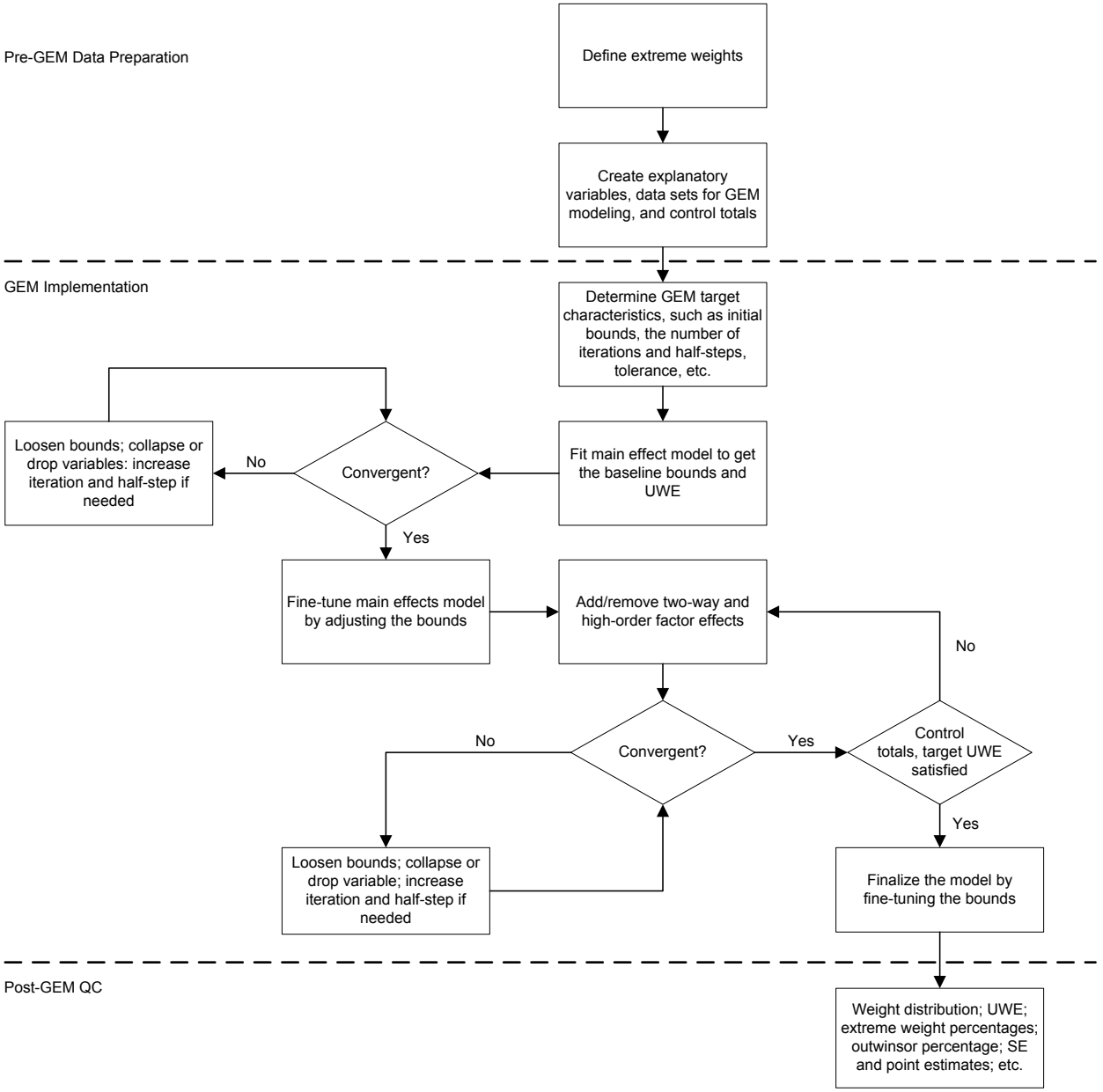
An important aspect of GEM is the built-in provision of extreme weight adjustment. Sampling weights for the survey generally were classified as extreme (high or low) if they fell outside the commonly used interval defined by the median $\pm 3 \times$ interquartile range (IQR) for some prespecified domains; these domains were usually defined by design strata, taking into account deep stratification. For example, the dwelling unit (DU)-level weight for the 2014 National Survey on Drug Use and Health (NSDUH) used the state sampling (SS) region as the domain. The person-level weight adjustments used a hierarchy of four domains: (1) SS region × Age group, (2) State × Age group, (3) SS region, and (4) State. A minimum of 30 observations was required for defining the boundaries, or critical values, for extreme weights. If this minimum was not met at the lower level, the next level up in the hierarchy was used.

Although the SS region × Age group domain corresponded to a deep stratum, it could be unsuitable for defining extreme weights because of insufficient sample sizes. So, collapsing SS regions within a state gave rise to such domains as State × Age group. Even at this level, sample sizes could be insufficient, so SS regions and, later, states themselves could be used as domains to define extreme weights. The critical values for low and high extreme weights are denoted by $b_{k(l)}$ and $b_{k(u)}$, respectively. The critical points for extreme weights within GEM modeling were defined as the median $\pm 2.5 \times$ IQR, which was conservative when compared with the commonly used standard of the median $\pm 3 \times$ IQR. This is because, to better prevent the adjusted weights from crossing the standard boundary and those at or beyond the boundary, weights near but below it (which have the most potential to become extreme) were treated as extreme by GEM.

4.2 Definition of Lower and Upper Bounds for Weight Adjustment Factors

For implementing extreme weight control via GEM, the variable m_k was defined as $b_{k(u)} / w_k$ for high extreme weights, and $b_{k(l)} / w_k$ for low extreme weights, where w_k represents the sampling weight before adjustment, and $b_{k(u)}, b_{k(l)}$ denote the critical values for the extreme weights. (Note that under this definition, nonextreme weights have a value of 1 for m_k; for high extreme weights, the more extreme the weight is, the smaller m_k will be; conversely for low extreme weights, the more extreme the weight is, the bigger m_k will be.)

Exhibit 4.1 Generalized Exponential Model Steps



GEM = generalized exponential model; SE = standard error; UWE = unequal weighting effect.

The upper and lower bounds for the adjustment factors were defined, respectively, as the product of m_k and the upper and lower boundary parameters specified in the modeling of GEM. GEM allows inputs of three different upper (U) and lower (L) boundary parameters (L_1, and U_1, L_2, and U_2, L_3, and U_3, respectively) for high, non-, and low extreme weights. By applying a small upper boundary parameter for high extreme weights and a large lower boundary parameter for low extreme weights, the extreme weights could be controlled in the modeling.

GEM also requires specification of centers (C), such that L < C < U. For nonresponse adjustment, it was constructive to require all adjustments to be greater than 1 because the adjustments represented the inverse of response propensities. The value of C in this case was chosen as the inverse of the overall response propensity. For poststratification, centers were set to 1 so the adjusted weights would not be too far away from the original design weights. Here, lower bounds were chosen to be less than 1 and upper bounds were greater than 1 because the control totals could be larger or smaller than the estimated totals based on the design weights. The extreme weight adjustment is analogous to the poststratification adjustment (see Appendix A) in that it is a repeated poststratification with tighter bounds for extreme weights identified after the poststratification step. Section 4.7 gives guidelines for the choice of lower, center, and upper parameters.

The following example shows how the build-in extreme weight works. Table 4.1 lists 30 respondents from the person-level nonresponse (PLNR) adjustment step for Model Group 1. Outlier level 0 is for nonextreme weight, 1 for high extreme weight, and 2 for low extreme weight. PRE_WT is the weight before PLNR adjustment, which is the product of weight 1 to weight 13. The critical values $b_{k(l)}$ and $b_{k(u)}$ are defined as median $\pm 2.5 \times$ IQR. L and U are nominal bounds that we specified in GEM modeling. m_k is defined as 1 for nonextreme weights, $b_{k(u)}$/PRE_WT for high extreme weights, and $b_{k(l)}$/PRE_WT for low extreme weights. L_k is the actual lower bound for a certain respondent, which is the product of nominal lower bound L and m_k, whereas U_k is the upper bounds for the respondent, which is the product of nominal upper bound U and m_k. Alpha is the final nonresponse adjustment calculated from GEM, and POST_WT is weight after nonresponse adjustment, which is the product of PRE_WT and adjustment factor alpha.

Although GEM requires the nonresponse adjustment factor to be greater than 1, the actual adjustment could be less than 1 because of m_k. For example, respondent Case 14 has a high extreme weight of 4,073.30. The nominal lower bounds for GEM is 1.00, the actual lower and upper bounds are 0.9019 and 2.6156, and the adjustment factor is 0.9113, which is less than 1. Meanwhile, GEM also requires the nonresponse adjustment factor to be less than 5 (less than 3 for high extreme weights), but the actual adjustment could be greater than 5 because of m_k. For example, Case 22 has a low extreme weight of 229.24. The nominal higher bounds for GEM is 5.00, the actual lower and upper bounds are 2.2599 and 9.4164, and the adjustment factor is 5.4909, which is greater than 5.

We applied tighter upper bounds for the high extreme weights and tighter lower bounds for the low extreme weights so that the high extreme weights will not have a large adjustment factor to make them more extreme, and the low extreme weights will not have a small adjustment factor to make them more extreme.

Table 4.1 List of 30 Respondents with Pre- and Post-Weights, Critical Values, Bounds, and Adjustment Factors from the Person-Level Nonresponse Adjustment Step for Model Group 1

Case ID	Outlier	PRE_WT	$b_{k(l)}$	$b_{k(u)}$	m_k	L	U	L_k	U_k	Alpha	POST_WT
1	0	1,401.71	-849.83	2,897.95	1.0000	1.00	5.00	1.0000	5.0000	1.3730	1,924.59
2	0	1,241.59	-718.14	2,075.72	1.0000	1.00	5.00	1.0000	5.0000	1.5568	1,932.90
3	0	2,959.61	-792.32	4,485.45	1.0000	1.00	5.00	1.0000	5.0000	1.7549	5,193.85
4	0	10,880.38	-771.76	11,087.83	1.0000	1.00	5.00	1.0000	5.0000	1.5946	17,349.40
5	0	671.43	-718.14	2,075.72	1.0000	1.00	5.00	1.0000	5.0000	1.2847	862.58
6	0	1,290.17	-861.62	3,673.77	1.0000	1.00	5.00	1.0000	5.0000	1.7031	2,197.29
7	0	1,508.83	-861.62	3,673.77	1.0000	1.00	5.00	1.0000	5.0000	2.2195	3,348.78
8	0	2,990.14	-792.32	4,485.45	1.0000	1.00	5.00	1.0000	5.0000	2.5501	7,625.05
9	0	839.17	-718.14	2,075.72	1.0000	1.00	5.00	1.0000	5.0000	1.7047	1,430.56
10	0	870.17	-718.14	2,075.72	1.0000	1.00	5.00	1.0000	5.0000	1.2847	1,117.90
11	1	6,171.51	-792.32	4,485.45	0.7268	1.00	2.90	0.7268	2.1077	1.6082	9,924.75
12	1	13,099.43	-771.76	11,087.83	0.8464	1.00	2.90	0.8464	2.4547	1.4057	18,413.61
13	1	8,078.83	-861.62	3,673.77	0.4547	1.00	2.90	0.4547	1.3187	1.3188	10,653.92
14	1	4,073.30	-861.62	3,673.77	0.9019	1.00	2.90	0.9019	2.6156	0.9113	3,711.88
15	1	3,684.85	-861.62	3,673.77	0.9970	1.00	2.90	0.9970	2.8913	1.2980	4,783.07
16	1	3,919.03	-861.62	3,673.77	0.9374	1.00	2.90	0.9374	2.7185	0.9390	3,680.12
17	1	12,160.73	-771.76	11,087.83	0.9118	1.00	2.90	0.9118	2.6441	1.8997	23,101.13
18	1	3,099.97	-849.83	2,897.95	0.9348	1.00	2.90	0.9348	2.7110	0.9379	2,907.32
19	1	2,472.83	-718.14	2,075.72	0.8394	1.00	2.90	0.8394	2.4343	0.8398	2,076.79
20	1	2,663.39	-718.14	2,075.72	0.7794	1.00	2.90	0.7794	2.2601	1.2018	3,200.87
21	2	163.00	169.70	1,266.55	1.0411	1.20	5.00	1.2493	5.2052	5.2052	848.48
22	2	229.24	431.73	1,653.76	1.8833	1.20	5.00	2.2599	9.4164	5.4909	1,258.74
23	2	67.49	169.70	1,266.55	2.5143	1.20	5.00	3.0171	12.5713	3.0171	203.63
24	2	152.40	211.91	3,185.11	1.3905	1.20	5.00	1.6686	6.9525	1.6686	254.29
25	2	191.30	202.29	1,942.75	1.0574	1.20	5.00	1.2689	5.2871	1.3180	252.14
26	2	154.12	202.29	1,942.75	1.3125	1.20	5.00	1.5751	6.5627	1.5751	242.75
27	2	106.45	149.74	313.33	1.4067	1.20	5.00	1.6880	7.0334	1.6889	179.78
28	2	39.25	149.74	313.33	3.8153	1.20	5.00	4.5783	19.0763	4.5783	179.69
29	2	33.54	149.74	313.33	4.4649	1.20	5.00	5.3579	22.3244	5.3579	179.69
30	2	114.22	149.74	313.33	1.3110	1.20	5.00	1.5732	6.5551	1.7760	202.85

4.3 Definition of Control Totals

GEM modeling for nonresponse adjustment, poststratification, and extreme weight adjustment involved estimation of parameters of the adjustment factor model, such that specified control totals were satisfied. There were two types of control totals. For nonresponse adjustment, the control totals were from the full sample (i.e., respondents and nonrespondents), while for poststratification, control totals were obtained from external sources, such as the Census Bureau or a large first-phase screener sample. Specifically, for the 2014 NSDUH, the control totals for various domains for the selected person-level poststratification adjustment (sel.per.ps, see Section 5.2.2) were obtained from the first-phase sample containing roster information, and the control totals for the respondent person-level poststratification (res.per.ps, see Section 5.2.4) were obtained from the Census Bureau's Postcensal Population Estimates for various demographic domains. Controls used for extreme weight adjustment were the same as those for poststratification because they were based on the poststratified weight. (See Appendix B for more information.)

4.4 Efficient Computation Using Grouped Data

Because adjustment factors remained the same for units (DUs or people) having common values for all explanatory variables used in the model, the size of the sample data was reduced by grouping units having common values of these variables. Also, within the groupings, the units with extreme weights were further grouped such that, in addition to the common values of the explanatory variables, they also had common values of m_k . This significantly saved computation time, especially because the original sample size was large. Modeling GEM with grouped data was implemented by treating each group as a single record, with the associated weight defined as the sum of the individual weights in the group. Note that when using GEM with grouped data, the unequal weighting effect (UWE) and *t*-test statistics normally produced in the output would be misleading because the weights in grouped data are sums of the weights for the individual units within each group. Also, the definition of variance estimation stratum (VESTR) and replicates (VEREP) required for variance calculation would not be correct. To avoid these misleading results from using the grouped data, the final model was rerun with the full (ungrouped) data.

4.5 Steps in GEM Fitting

Exhibit 4.1 depicts the GEM steps. After specifying the GEM parameters, such as the initial upper and lower bounds, the number of the Newton-Raphson iterations and half-steps, and the type of weight adjustment (nonresponse adjustment, poststratification, or extreme weight adjustment), a forward selection method for modeling was used. A model with only main effects and loose bounds was first fit to obtain a set of realized baseline upper and lower bounds for extreme and nonextreme weights and to calculate a baseline UWE. Next, using the realized bounds, as many higher order interactions as possible were added to the model to help reduce bias, without unduly increasing the UWE and the extreme weight percentages. Convergence problems were addressed by loosening lower bounds and upper bounds and collapsing or dropping variables. In GEM, *t* tests and *p* values for significance of various effects could be computed for a previously converged model, which would be helpful in deciding about the collapsing of effects when convergence problems arose with realized bounds.

For this application, "collapsing" implies combining the "levels" of variables with other levels explicitly present in the model, while "dropping" implies combining with the reference levels, which are not explicitly represented in the model. Collapsing or dropping lower order interactions had a direct impact on the inclusion of the number of higher order interactions. For the 2014 NSDUH, when adding higher order terms, all previously selected explanatory variables were retained in the model. Possible reasons for nonconvergence included explanatory variables corresponding to domains with small sample sizes, or domains with large discrepancies between estimated totals based on the initial weights and the target control totals. The variables causing problems with convergence were identified by the high magnitude of the estimated model parameters. Once the explanatory variables were finalized, finer adjustments of upper bounds and lower bounds could optimize the model by reducing UWE and the extreme weight percentages.

4.6 Quality Control Checks

The distributions of the weights before and after each adjustment were compared to uncover any unusual impact of the weight adjustment on the initial weights. In addition to the weight distributions, the ratios of the maximum weight to the mean weight and the UWEs were compared across various domains both before and after each adjustment. The percentages of extreme weights were checked after each adjustment to see how effective the modeling was in controlling extreme weights. Coverage bias analysis based on the slippage (the distance between the total sample weighted count and the target population count) rates also was conducted to check the impact of poststratification on various noncontrolled domains (i.e., those factors that were dropped or collapsed in the model).

4.7 Practical Guidelines in Using GEM

1. Collapsing checks for domains with small sample sizes. The number of observations in various domains defined by levels of the factor effects was examined. If the domain sample size was 0 and the control total corresponding to this domain also was 0, the factor generally was dropped. This automatically collapsed the factor level with the reference level; however, if the control total was not 0, the factor could not be dropped because collapsing the domains together for the sample also would collapse the population domains together. The result would be that control totals could not be met for the reference levels involved. In these cases, the factor level corresponding to a 0 domain sample size should be collapsed with another level for which we are willing to compromise on satisfying the control total.

In general, domains with small sample sizes may cause problems during GEM modeling and prevent the model from converging. For the 2014 NSDUH, if the model did not converge because a domain sample size was small, the corresponding factor effect was collapsed with another effect based on substantive considerations. For example, if State was involved, then it was better, in general, to collapse within states; collapsing of geographically adjacent states was done only when there was no other reasonable alternative (see Section 4.8 for more details). The necessity of collapsing was checked at each stage of model enlargement in the forward selection of factors. If variables were collapsed at a previous stage, the corresponding factor levels were also collapsed using the hierarchy principle at succeeding stages involving higher order factor effects.

2. Singularity checks. As in the case of collapsing checks, singularity checks (i.e., linear dependence checks of realized value columns of the predictors) were performed for the baseline model; in addition, they were performed at each stage of model enlargement because singularities depended on what other predictors were in the model. (Note that, although all variables were linearly independent of each other, it was possible for the columns of their realized values to have been linearly dependent.) For nonresponse adjustment, any variable that was a linear combination of other variables was either dropped from the model or collapsed with other variables. To decide whether to drop or to collapse, a singularity check was performed for both respondents only and the full sample. If both samples showed the same set of variables causing singularity, then these singularity variables could be dropped; if not, collapsing needed to be performed. For poststratification adjustment, any variable that was a linear combination of other variables had to be collapsed with other variables because the variables corresponding to poststratification controls typically were linearly independent.

3. Finding the initial factor set. After the collapsing and singularity checks, the remaining factor effects at a given stage of model enlargement formed the initial factor set.

4. Baseline model. Starting with the model consisting of all one-factor effects from the initial factor set, a convergent version was found (after any required collapsing) under no restrictions on the bounds. The model was optimized by trying to reduce the UWE and tighten the bounds. If necessary (to obtain convergence), factors corresponding to large parameter estimates were collapsed. As an option, *p* values could have been used to determine which factors to collapse.

5. Baseline plus two-factor effects. All two-factor interactions from the initial factor set were added to the baseline model. A convergent version under no bound restrictions then was found, and the model was optimized using criteria described in Guideline 4. The non-state two-factor effects were added first, and then, in a separate step, the state two-factor effects were added.

6. Baseline with two and higher order factor effects. Starting with the optimized model from Guideline 5, the higher order factor effects were added—first the non-state three-factor effects, then, in a separate step, the state three-factor effects. Again, criteria from Guideline 4 were followed to obtain an optimal model.

7. Optimizing a model with respect to the target model characteristics. These are summarized in the following points:

- For each step of model enlargement, the UWE for the initial weights was computed. It was allowed to increase up to 20 percent, or the maximum allowable UWE (generally under six), whichever was lower.
- The following guidelines, based on empirical considerations, were used for setting the bounds. In the case of poststratification and separate extreme weight adjustments, the center was set as $C_1 = C_2 = C_3 = 1$. Instead of tightening the bounds to as close to 1 as possible, as was done for surveys prior to 2002, we used an adaptive approach to choose the bounds starting from the 2003 NSDUH; that is, starting with loose bounds of (0.1, 10), we performed GEM iteratively four times, each with the realized bounds from the previous iteration. The final bounds for nonextreme weights were desired to be around (0.2, 5). The iterations based on the adaptive approach generally met this desired criterion. If this was not the case, then collapsing of some model variables was allowed to meet this criterion. Finally, the bounds U_1 and L_3 were further tightened to be as close to 1 as possible to better control high and low extreme weights, while maintaining $L_3 \geq L_2$ and $U_1 \leq U_2$.
- In the case of nonresponse, the centers were set equal to the common value of the overall inverse response propensity, and all the three lower bounds (L_1, L_2, and L_3) were set to 1. Next, starting with the loose bounds of (1, 10), the bounds were chosen iteratively as mentioned above using the realized bounds from the previous GEM iteration. The bounds U_1 and L_3 were further tightened to as close to center as possible, while maintaining $L_3 \geq L_2$ and $U_1 \leq U_2$.

- Targets for the maximum acceptable percentages of extreme weights and outwinsors within GEM for nonresponse and poststratification were as follows: 3 percent for the unweighted extreme weights, 15 percent for weighted extreme weights, and 5 percent for outwinsors. These percentages are liberal and serve as guidelines only. In practice, reducing them by half is preferable. If these guidelines were not met after all stages of calibration, a separate GEM for adjustment of extreme weights was implemented after poststratification.

8. Evaluation measures. After each stage of model enlargement, various characteristics were examined for large values. These included the UWE, the ratio of the maximum to the mean for adjusted weight, the percentage of extreme weights and outwinsors, the distance between the total sample weighted count and the target population count (i.e., slippage rates for different domains), and other characteristics, such as weight summary statistics. In addition, the distributions of adjustment factors were checked for highly asymmetric tails. With the set of realized bounds for the final model, the baseline model was rerun, and then point estimates and standard errors (SEs) for selected outcome variables for the two models were compared. Generally, the two estimates were likely to be close, but not the SEs. The SEs for the final model were expected to be smaller but, at times, could be larger. Larger SEs were identified and examined because they could be an indication of instability of the model parameter estimates because of possible overfitting or insufficient sample sizes. In such situations, the final model was revised to get a more parsimonious model.

4.8 Variable Collapsing Guide

As discussed in Section 4.5, convergence problems in GEM were solved by either loosening bounds or collapsing model variables. Grouping proposed levels into a smaller number of categories could be done in several ways, but care was taken so that they remained meaningful. When constructing the model and attempting to obtain convergence, maintenance of logical groupings was a top priority. The following are some general guidelines that were followed when collapsing variables.

- *Ordinal variables*. Most of the proposed explanatory variables were ordinal. Thus, collapsing was done in a meaningful way, following the order. For example, the combined Rent/Housing quintile had five levels (i.e., 1st, 2nd, 3rd, 4th, and 5th quintile) with the 5th quintile set for the reference. If the 4th quintile needed to be collapsed, it would be collapsed with either the 3rd or 5th quintile.
- *Age groups*. Age group had five levels: 12 to 17, 18 to 25, 26 to 34, 35 to 49, and 50 or older (50 or older was further broken down into 50 to 64 and 65 or older for the person-level poststratification adjustment and the person-level extreme weight adjustment to increase the accuracy of estimates for these age groups). For the main effects, the age covariate with five or six levels was easy to incorporate in the model. For the interactions, every effort was made to maintain the age group, and, therefore, collapsing was performed within age groups first. Collapsing across age groups occurred only if the age groups could not be maintained separately.
- *Large and adjacent states*. In the main effects, fitting states separately in the model was not a problem. For the state-specific interactions, collapsing was done within the state first; collapsing with other adjacent states was done only if needed. For the eight

states with the largest sample sizes (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas), every effort was made to preserve all factor levels within states so that direct estimates could be made for the large states.

- *Race*. In the main effects and state-specific two-factor interactions, Race had five levels (white, black or African American, American Indian or Alaska Native, Asian, and two or more races), while in non-state-specific two- and three-factor effects, Race had three levels (white, black or African American, and other). If maintaining all five levels was difficult in the main effects or State × Race interactions, the following guidelines were followed: (1) collapse American Indian or Alaska Native and Asian if either of them caused a convergence problem; (2) collapse black or African American with two or more races if black or African American caused a convergence problem; (3) collapse two or more races with American Indian or Alaska Native or Asian, whichever had a smaller sample size, if two or more races caused a convergence problem; and (4) collapse American Indian or Alaska Native, Asian, and two or more races, or collapse all nonwhite Race groups if necessary. In the State × Race interactions, collapsing Race was done within State. If the three-level Race could not be maintained, the levels were collapsed to white and nonwhite.

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5. Weight Calibration at Phase I Dwelling Unit and Phase II Person Levels

The 2014 National Survey on Drug Use and Health (NSDUH) was based on probability sampling so that valid inferences could be made from survey findings to the target population. Probability sampling refers to sampling in which every unit on the frame is given a known, nonzero probability of inclusion in the survey. This is required for unbiased estimation of the population total. The assumption of nonzero inclusion probability for every pair of units in the frame also is required for unbiased variance estimation. The basic sampling plan involved five stages of selection across two phases of design (see Exhibit 5.1). The first phase of the design was the dwelling unit (DU) level, and the second phase was the person level. The four stages of selection were as follows: within Phase I, (1) the selection of census tracts within the state sampling (SS) region; (2) the selection of census block groups from census tracts; (3) the selection of segments within each sampled census block group; (4) the selection of DUs within these segments, and within Phase II, and (5) the selection of eligible individuals within DUs (Table 5.1). Specific details of the sample design and sample selection procedures can be found in the 2014 sample design report in the *NSDUH Methodological Resource Book* (Center for Behavioral Health Statistics and Quality, 2015).

As part of the postsurvey data-processing activities, analysis weights were calculated for the 2014 NSDUH respondents that reflected the selection probabilities from various stages of the sample design. These sample weights were adjusted at both the DU level (screening sample) and person level (main interview sample) to account for bias due to extreme weights, nonresponse, and coverage.

The final Phase I DU-level and Phase II person-level sample weights for the 2014 NSDUH sample are products of several factors (see Exhibit 5.1), each representing either a probability of selection at some particular stage or some form of extreme weight, nonresponse, or poststratification adjustment. In the following sections, these components are described in greater detail. In summary, the first 11 factors are defined for all screener-complete DUs and reflect the fully adjusted DU-level weight. The latter five components reflect the person-level selection within each screened DU, as well as any additional adjustments for person-level extreme weight, nonresponse, and poststratification error. Note that the unconditional, final person-level weights for the 2014 NSDUH sample are the product of all 16 weight components, as illustrated in Exhibit 5.1.

Exhibit 5.2 shows the U.S. Census Bureau divisions and model groups used in the 2014 NSDUH person-level weight calibration.

Exhibit 5.1 Summary of 2014 NSDUH Sample Weight Components

Phase I Dwelling Unit Level

	2014 Design Weight Components	Corresponding 2005-2013 Design Weight Components
#1	Inverse Probability of Selecting Census Tract	#1
#2	Inverse Probability of Selecting Census Block Group	
#3	Inverse Probability of Selecting Segment	#2
#4	Quarter Segment Weight Adjustment	#3
#5	Subsegmentation Inflation Adjustment	#4
#6	Inverse Probability of Selecting Dwelling Unit	#5
#7	Inverse Probability of Added/Subsampled Dwelling Unit	#6
#8	Dwelling Unit Release Adjustment	#7

	2014 Weight Adjustment Components	Corresponding 2005-2013 Weight Adjustment Components
#9	Dwelling Unit Nonresponse Adjustment ***(res.sdu.nr)****	#8
#10	Dwelling Unit Poststratification Adjustment ***(res.sdu.ps)****	#9
#11	Dwelling Unit Extreme Weight Adjustment ***(res.sdu.ev)****	#10

Phase II Person Level

	2014 Design Weight Component	Corresponding 2005-2013 Design Weight Component
#12	Inverse Probability of Selecting a Person within a Dwelling Unit	#11

	2014 Weight Adjustment Components	Corresponding 2005-2013 Weight Adjustment Components
#13	Selecting Person-Level Poststratification Adjustment to Screener Data Controls ***(sel.per.ps)****	#12
#14	Person-Level Nonresponse Adjustment ***(res.per.nr)****	#13
#15	Person-Level Poststratification Adjustment ***(res.per.ps)****	#14
#16	Person-Level Extreme Weight Adjustment ***(res.per.ev)****	#15

* These adjustments use the generalized exponential model (GEM), which also involves pre- and postprocessing in addition to running the GEM macro. See Exhibit 4.1. For computational feasibility, all weight adjustments were done using the nine model groups based on U.S. census divisions defined in Exhibit 5.2.

Exhibit 5.2 U.S. Census Bureau Divisions/Model Groups

Model Group	Census Division
1	**New England (6 States)** Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
2	**Middle Atlantic (3 States)** New Jersey, New York, Pennsylvania
3	**East North Central (5 States)** Illinois, Indiana, Michigan, Ohio, Wisconsin
4	**West North Central (7 States)** Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
5	**South Atlantic (8 States and the District of Columbia)** Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
6	**East South Central (4 States)** Alabama, Kentucky, Mississippi, Tennessee
7	**West South Central (4 States)** Arkansas, Louisiana, Oklahoma, Texas
8	**Mountain (8 States)** Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming
9	**Pacific (5 States)** Alaska, California, Hawaii, Oregon, Washington

Table 5.1 Sample Size, by Model Group for Each Stage of Sampling

Model Group	Eligible DUs	Completed DUs	Eligible People	Selected People	Completed People
1	14,730	12,315	25,667	7,987	5,791
2	19,335	14,429	30,978	10,188	7,208
3	21,133	17,312	36,332	12,720	9,142
4	14,562	12,877	25,934	8,803	6,683
5	31,292	25,694	53,213	16,833	12,740
6	7,816	6,731	14,025	4,930	3,765
7	11,875	10,363	22,549	8,429	6,276
8	15,392	13,335	28,167	10,063	7,790
9	18,398	14,549	33,387	11,687	8,506
Total	154,533	127,605	270,252	91,640	67,901

DU = dwelling unit.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

In the 2014 NSDUH, as in the 2000 through 2013 surveys, the order of the extreme weight adjustment step at both the DU and person level was different from the order used in the 1999 National Household Survey on Drug Abuse (NHSDA) computer-assisted interviewing (CAI). In the 1999 NHSDA CAI, the extreme weight adjustment step was introduced before nonresponse and poststratification, which was analogous to the traditional trimming step before nonresponse and poststratification. In the 1999 NHSDA, the initially identified extreme weights were held fixed at their winsorized values, and the nonextreme weights were adjusted so that the original sample distribution of the weights for various domains was preserved. As a better alternative for the surveys after 1999, the generalized exponential model (GEM) first was allowed to control the extreme weights during the nonresponse and poststratification steps, and then a separate extreme weight adjustment step was performed after poststratification, if necessary. This step would be like a repeated poststratification, except that the extreme weights identified after poststratification would have tighter bounds, thus preserving the sample distributions in various domains (equivalent to satisfying the poststratification controls). For the 2014 NSDUH, the extreme weight adjustment step was not necessary either at the DU level or at the person level.

5.1 Phase I Household-Level Weight Components

5.1.1 Weight Components #1 to #8: Selection of a Dwelling Unit

The first eight components in the Phase I sample weights reflect the probability of selecting the DUs. These components were derived from (1) the probability of selecting the census tract within each SS region, (2) the probability of selecting the census block group, (3) the probability of selecting the segment within each census tract, (4) a quarter segment weight adjustment, (5) a subsegmentation inflation factor, (6) the probability of selecting a DU from within each counted and listed sampled segment, (7) the probability of inclusion of added DUs, and (8) DU percent release adjustment.

Segments were selected with probabilities representing a full year's sample; therefore, Weight Component #4 was set to 1 in the 12-month analysis and was set to 2 in the 6-month analysis (because only half of the segments were used in the analysis). Also, when the field staff, who were responsible for counting and listing, traveled to a specified segment, occasionally they may have found the number of potential DUs to be much greater than what the sample frame (constructed from 2010 U.S. Census Bureau data adjusted for more recent Claritas projections) indicated. This happened either because of errors in the frame or, more commonly, because of rapid growth in a particular geographic area. When this occurred, the original segment was partitioned and a subsegment was randomly selected. There was an occasional second subsegmentation step when the initial partitioning of segments was insufficient due to out-of-date census counts or the segment was still too large to list after the original subsegmentation. Weight Component #5 (i.e., subsegmentation inflation factor) is an adjustment that accounts for this selection process.

As noted in the 2014 and earlier sample design reports, a lengthy process of determining the optimal DU sample was used during the design of the survey. Weight Component #6 is a result of this process and is equal to the inverse of the DU sample size divided by the total number of DUs counted and listed within a selected segment.

Furthermore, the list of DUs, which includes housing units and group quarters, was constructed by the counting and listing staff during the summer and fall of 2013. Because the listing was done a short time before the 2014 screening and interviewing activities began, no major discrepancies were expected. However, such factors as new construction, demolition, and inaccurate listing were present in some cases. More commonly, DUs may have been "hidden" and, therefore, overlooked by the counter and lister. For all DUs to be given a chance of being selected, the NSDUH has a procedure for locating and adding missed DUs. If the number of added DUs linked to any particular DU did not exceed 5, or if the number for the entire segment was less than or equal to 10, the FI was instructed to consider these DUs as part of his or her assignment. However, if either of these limits was exceeded, the FI would contact RTI for subsampling to be considered. Weight Component #7 accounts for any subsampling that occurred because of added DUs.

To account for corrections, modifications, or both that occurred during the process of design optimization, an additional sample was included throughout all four quarters. Weight Component #8 is the adjustment for the percentage of the DU sample released to FIs in these quarters.

For more detailed information on Weight Components #1 through #8, refer to the 2014 sample design report (Center for Behavioral Health Statistics and Quality, 2015).

5.1.2 Weight Component #9: Dwelling Unit–Level Nonresponse Adjustment

After DUs were selected, an FI was sent to the DU to screen the residence. Failure to obtain the screening interview from eligible DUs represented the first type of nonresponse encountered in the survey. To account for this nonresponse, as in previous surveys, the (unconditional) sample weights up to this point (equal to the product of Weight Components #1 through #8) were adjusted using a multiplicative adjustment factor derived from modeling response propensity via GEM.

5.1.3 Weight Component #10: Dwelling Unit–Level Poststratification Adjustment

The screener data provided a large sample with information on some demographic variables for the households; therefore, as in two-phase sampling, the screener dwelling unit (SDU) weights first were adjusted for nonresponse and poststratification. Later, estimates for household variables (which were based on screener data) were used as control totals for weight adjustments at the second phase and for person pair-level weights. This was useful because, unlike census controls that were available for individual people, no controls were available for person pairs. Note that for SDU poststratification, census controls still could be used because each SDU's contribution was computed as the number of people in the SDU who had certain demographic characteristics multiplied by the SDU weight. It follows that, although explanatory variables used for modeling the weight adjustment were counts instead of binary (0/1), as is often the case, person-level census controls still could be used. For example, age group had five categories (12 to 17, 18 to 25, 26 to 34, 35 to 49, and 50 or older); in SDU poststratification, category 12 to 17 was the number of the people in this age category within a DU, and so on. The intercept was the total number of people in the DU, which varied by SDU because SDU size was not constant. Note that when defining interaction control variables for count variables, the

corresponding count variables were not simply multiplied, as was done for the binary case; instead, the counts for the category defined by the interaction term (say, Age × Gender) were used.

In addition, the screening process only required the reporting of age for each person rostered; as a result, some fields of demographic information (e.g., race, Hispanic or Latino origin, gender, and two or more races) were missing. Missing data for race and Hispanic or Latino origin were imputed using the predictive mean neighborhood (PMN) methodology (see Appendix C). The probability of observing race (white, black or African American, American Indian or Alaska Native, Asian, and two or more races) was modeled using PROC MULTILOG in SUDAAN®, and the probability of observing Hispanic or Latino origin was modeled using PROC LOGISTIC in SAS. Those probabilities were used in computing predictive means and delta neighborhoods. The "hot deck" method then was used to randomly pick a donor from the neighborhood to impute a missing value for each case. Missing data for gender were imputed using an unweighted hot-deck methodology (see Appendix C). The data file was sorted by auxiliary variables that were considered relevant to the variable being imputed. The sort order of these auxiliary variables was chosen to reflect the degree of importance of the auxiliary variables in relation to the variable being imputed. Exhibit 5.3 displays the order in which demographic variables were imputed, along with explanatory variables used in the model or in hot-deck sorting.

Exhibit 5.3 Imputed Demographic Variables and Corresponding Explanatory or Auxiliary Sort Variables

Imputed Variable	Methodology	Explanatory or Auxiliary Sort Variables
Race	Multivariate predictive mean neighborhood (MPMN)	Census region, household type (white, black or African American, Hispanic or Latino), percentage of segments that are black or African American, percentage of segments that are Hispanic or Latino, percentage of owner-occupied dwelling units in segment, segment-combined median rent and housing value, age group
Hispanic or Latino Origin	Univariate predictive mean neighborhood (UPMN)	Census region, imputed race, household type (white, black or African American, Hispanic or Latino), percentage of segments that are black or African American, percentage of segments that are Hispanic or Latino, percentage of owner-occupied dwelling units in segment, segment-combined median rent and housing value, age group
Gender	Hot deck	Census division, imputation-revised Hispanic or Latino origin, imputation-revised race and a random sort number

5.1.4 Weight Component #11: Dwelling Unit–Level Extreme Weight Adjustment

The product of Weight Components #1 through #10 was checked to see if the extreme weight adjustment step was needed. Using the SS region as the domain for the extreme weight definition, weights were defined as extreme if they were outside the range defined by the median $\pm 3 \times$ interquartile range. Because the unweighted, weighted, and winsorized extreme weight percentages were not high, the extreme weight adjustment was not necessary (see results in

Appendix F). Therefore, Weight Component #11 was set to 1 for every DU for which roster information was collected (i.e., every DU with a completed screener).

After this adjustment was completed, the final DU weight was calculated as the product of Weight Components #1 through #11 described previously. This adjusted weight was used to compute household-level estimates from the screener data. It also was used to compute person-level estimates derived from the full roster sample. In addition, these 11 weight components became the first 11 components of the final interview respondent sample weight. The remaining five weight components discussed in the next section account for the person-level probability of selection for those people for whom a NSDUH interview was sought; they also account for person-level nonresponse, extreme weights, and coverage errors resulting from the last stages of the sample design.

Details on the final models used for DU nonresponse (nr) and poststratification (ps) adjustment for each respective model group can be found in Appendix D.

Table 5.2 presents the weight distribution for design-based weight and unequal weighting effect (UWE) before the implementation of any weight adjustment and after the DU-level nonresponse adjustment and poststratification.

Table 5.2 Weight Distribution for Design-Based Weight and Weight after DU-Level Adjustments

	Minimum	25% Percentile	Median	75% Percentile	Maximum	Mean	*n*	UWE
Design-Based Weight	5	442	751	958	4,235	723	154,533	1.30
Weight after DU-Level Adjustments	14	467	950	1,288	9,667	955	127,583	1.41

DU = dwelling unit; UWE = unequal weighting effect.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

5.2 Phase II Person-Level Weight Components

5.2.1 Weight Component #12: Selection of a Person within a Dwelling Unit

The rate at which people were selected within each DU depended on the age group and was determined during the design of the 2014 study; this also was done for the probabilities of selecting DUs (i.e., Weight Component #6). Note that, similar to the previous surveys, all possible pairs of eligible rostered people were given some nonzero probability of selection to facilitate unbiased variance estimation. With the use of the Hewlett-Packard iPAQ Enterprise handheld computer used by FIs, selection probabilities were adjusted to reflect the total household composition. The survey design restricted the number of interviews to two per DU. With this restriction, a modified Brewer's selection method was used to select either zero, one, or two people from the DU. (Three ghost units were defined for each DU to allow for the selection of no people and to avoid division by 0 in Brewer's algorithm.) In short, if the sum of the selection probabilities for all eligible DU members was greater than 2, then the probabilities were ratio-adjusted to sum to 2; sums less than 2 were unadjusted. These adjusted rates then were retained as the final selection probabilities. An additional design change was made in 2002 and continued through 2014. A new pair-sampling strategy was implemented that increased the

number of person pairs selected in DUs with older people on the roster (Chromy & Penne, 2002). Weight Component #12 represents the inverse of this probability of selection.

5.2.2 Weight Component #13: Selected Person-Level Poststratification Adjustment

The selected person-level poststratification step was started during the 1999 NHSDA. In NHSDAs prior to 1999, a combined step of person-level nonresponse and poststratification to estimated totals from the screener person data was used as a compromise to this step. As was done for the previous surveys, the combined step was divided into two separate steps; the first step was poststratification of the selected people (i.e., respondents and nonrespondents) to estimate control totals from the screener person data; the second step was respondent person-level nonresponse adjustment (see Component #14) to reproduce control totals from the selected person data (i.e., the full sample). Using two separate steps takes advantage of the inherent two-phase nature of the survey design (although the design is viewed primarily as multistage). With this step, more stable controls for the nonresponse adjustment were obtained (as compared with the traditional nonresponse adjustment) because of the additional selected-person poststratification. Note that this would not have been possible in the absence of screener data on the member demographics of the selected DUs. See Appendix D for details on the final models.

5.2.3 Weight Component #14: Respondent Person-Level Nonresponse Adjustment

The next step was to adjust the sample weights of the interview respondents to the weighted distributions over various demographic domains based on the full sample.

Demographic information for the main interview respondents was available from two sources—screener data and questionnaire data—while only screener data were available for the large first-phase sample of rostered individuals of all the screened DUs. However, to be consistent with respect to the data source, screener data for both respondents and nonrespondents were used for the person-level nonresponse adjustment. It may be noted that during screening, the only required demographic was the age of each person who was rostered. Thus, such demographics as race/ethnicity and gender of all the rostered eligible people were not required, and imputation procedures were needed to replace missing data for race/ethnicity and gender. For race/ethnicity, imputations were created using PMN methodology, and for gender, imputations were created using hot-deck methodology. It should be noted that answers from the questionnaire respondents potentially could cause discrepancies between screener values of demographics and their final imputation-revised values. Details on the final models used for the person nonresponse adjustment for each model group can be found in Appendix D.

5.2.4 Weight Component #15: Respondent Person-Level Poststratification Adjustment

This adjustment was to calibrate the weighted respondent-sample data for various demographic domains to the specified control totals obtained from the Census Bureau's estimates of the civilian, noninstitutionalized population aged 12 or older for the year 2014 based on the 2010 census. See Appendix B for details on the derivation of control totals.

After computing the various control totals that were needed, appropriate poststratification factors were applied to the sample weights using GEM to (1) control the resulting UWE and thereby reduce the potential variance inflation that could result from this weight adjustment, and (2) control for a larger number of main effect and lower order interaction control variables. Details on the final models used for the person-level poststratification adjustment for each model group can be found in Appendix D.

5.2.5 Weight Component #16: Respondent Person-Level Extreme Weight Adjustment

The weights for the product of Weight Components #1 through #15 were checked to see if the extreme weight adjustment step was needed, with extreme weights defined as described in Section 4.1. As in the case of Weight Component #11, unweighted, weighted, and winsorized extreme weight percentages were acceptably low. Therefore, it was decided that the extreme weight adjustment was not required at this stage either. See Appendix G for results. Therefore, Weight Component #16 was set to 1 for each responding person.

Table 5.3 presents the weight distribution and UWE before the implementation of any person-level weight adjustment and after selected person-level poststratification and person-level nonresponse adjustment and poststratification.

Table 5.3 Weight Distribution for Weight before Any Person-Level Adjustment and after Person-Level Adjustments

	Minimum	25% Percentile	Median	75% Percentile	Maximum	Mean	*n*	UWE
Weight before Any Person-Level Adjustment	16	1,000	1,923	3,687	54,829	2,886	91,640	2.02
Weight after Person-Level Adjustments	1	1,127	2,379	4,890	72,502	3,905	67,901	2.30

UWE = unequal weighting effect.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

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6. Evaluation of Calibration Weights

During the weight calibration process, several criteria for quality control were implemented to assess model adequacy. This chapter describes the individual procedures and presents a summary of their results. All tables referred to in this chapter can be found in Appendices E, F, G, H, I, and J. More details can be found in the supplement to the appendices.

6.1 Response Rates

Table E.1 in Appendix E displays the final sample sizes for the categories "selected," "eligible," and "completed" at the dwelling unit (DU) level, and for "selected" and "respondents" at the person level from the 2014 National Survey on Drug Use and Health (NSDUH), for both the national and state levels. This table also shows the weighted eligibility rates and weighted response rates for DU screeners and person-level interviews. Table E.1, at the national level, indicates an overall eligibility rate of 83.67 percent as compared with 84.04 percent for 2013. This similarity in overall rates held in nearly all states, with a few notable exceptions: the eligibility rate decreased from 89.37 to 83.07 percent for Massachusetts and increased from 73.98 to 78.92 percent for Alaska. The screening rate at the national level decreased from 83.93 percent for 2013 to 81.94 percent for 2014. The national interview response rate was 71.12 percent, a decrease of 0.55 percentage points compared with 71.67 percent for 2013, with the biggest decrease for West Virginia (from 76.79 percent for 2013 to 67.82 percent for 2014) and the biggest increase for Arizona (from 67.84 percent for 2013 to 74.56 percent for 2014). Table 6.1 presents summary statistics of overall response rates across individual states.

Table 6.1 Summary Statistics of Overall Weighted Response Rates across Individual States

Domain	National Level	Minimum	Median	Maximum
Dwelling Unit Level				
Eligibility Rate	83.67%	67.74% (Maine)	83.07% (Massachusetts)	90.43% (Maryland)
Screener Response Rate	81.94%	68.76% (New York)	85.14% (Ohio)	94.87% (Utah)
Person Level				
Interview Response Rate	71.12%	64.25% (New York)	72.75% (District of Columbia)	80.17% (New Mexico)

6.2 Percentages of Extreme Weights and Outwinsors

During the stages of modeling adjustments (i.e., nonresponse and poststratification), a major factor in deciding the adequacy of a particular model was the extent of resulting extreme weights among the weights. As explained in Section 4.1, the percentages of extreme weights for the input weight were calculated for some domains of interest prior to adjustment. These values then were compared with the resulting percentages of extreme weights using the product of weight components that included the new adjustment.

Table F.1 in Appendix F and Tables G.1 and G.2 in Appendix G present percentages of extreme weights at both the DU level for the nation and the person level for the individual states. Unweighted percentages are based on the actual counts of units and are defined as the ratio of extreme weights relative to the total sample size. Weighted percentages reflect the percentage of total extreme value weights relative to the total sample weight, while outwinsor percentages represent the total amount of residual weight (given that the weights are trimmed to the critical values that were used for extreme weight definition) relative to the total sample weight. For evaluation purposes, the outwinsor percentage is considered the most important of the three percentages. This assessment stems from the fact that its value reflects only the actual amount of weight that would be affected if trimming were implemented.

For the 2014 NSDUH sample, domains for extreme weight definitions were defined as follows for various weight adjustments via the generalized exponential model (GEM) (see Section 4.1):

- DU nonresponse by state sampling (SS) region;
- DU poststratification by SS region;
- selected person-level poststratification by SS region and age group,[4] state and age group, SS region, and state;
- person-level nonresponse by SS region and age group, state and age group, SS region, and state; and
- person-level poststratification by SS region and age group, state and age group, SS region, and state.

Before any weight adjustment was implemented, the percentage of unweighted extreme weights was 2.13 percent and the outwinsor was 0.29 percent for the product of design Weight Components #1 to #8. After DU-level nonresponse adjustment and poststratification, the percentage of unweighted extreme weights decreased to 1.70 percent and the outwinsor increased to 0.88 percent. When the design Weight Component #12 (inverse probability of selecting a person within a dwelling unit) was introduced, the percentage of unweighted extreme weights increased to 2.97 percent and the outwinsor increased to 1.80 percent. The person-level adjustments, which consisted of selected person-level poststratification, person-level nonresponse adjustment, and person-level poststratification, were able to bring down the percentage of unweighted extreme weights to 0.94 percent and the outwinsor to 0.53 percent.

6.3 Slippage Rates

The slippage rate for a given domain is defined as the percentage difference between the design-based domain population estimate and the census control total, relative to the census control, both before and after poststratification. The tables in Appendix H display national and state-level, domain-specific weight sums for both before and after poststratification. They also present the control totals to be met through poststratification and the relative percentage difference (or the amount of adjustment necessary [positive or negative] to meet the given totals). The first relative difference was used explicitly during the poststratification modeling

[4] Age group categories are 12 to 17, 18 to 25, 26 to 34, 35 to 49, and 50 or older.

procedure to identify potential problems for convergence; this was done because large differences in domains with relatively small sample sizes indicate potentially large adjustment factors, which may cause problems in convergence. The reason is that adjustments required for one domain may have an adverse effect for another domain when a unit belongs to both domains.

Consider Table H.11 for Florida, which indicates a sample size of 2,353 for race domain "white"; an initial total, also known as the design-based weight, of 12,704,316; a census total of 13,443,659; and an initial slippage rate of -5.50 percent. The ratio of the census total to the initial total gives the value of the weight adjustment: 1.06. Similar to this example, but in the opposite direction, is Table H.38 for Oklahoma. The domain "Age 65+" contains a sample size of 68 and an initial slippage rate of 6.57 percent. The initial total of 581,375 and the census total of 545,518 indicate that an adjustment of 0.94 would be required.

6.4 Weight Adjustment Summary Statistics

Tables I.1 to I.3 in Appendix I display summary statistics on the product of weight components for before and after all stages of adjustment, for both the DU and person levels. Tables J.1 to J.3 in Appendix J display these summary statistics for 2014 and 2013. Note that these tables have before and after categories for all adjustments except for the DU poststratification (res.du.ps); this is because the before and after statistics are the same and are, therefore, displayed only as the category after. Note also that there could be changes, although minimal, in person-level specific demographic distributions from screener data to questionnaire data, so the respondent sample unequal weighting effect prior to poststratification based on the questionnaire data (e.g., see Table I.3, under the heading "After res.per.nr") would be only slightly different from what would be obtained after the nonresponse adjustment (e.g., see Table I.3, under the heading "Before res.per.ps"). The sample size (n) for the demographic domains from res.per.nr tables also could be different from the res.per.ps tables.

6.5 Sensitivity Analysis of Drug Use Estimates to Baseline Models

In general, there is a trade-off between bias reduction and variance reduction. For instance, with GEM (for nonresponse or poststratification), enlarging a simple model (such as the one with only main effects) has the potential of further reducing the bias. At the same time, this enlargement may be associated with a corresponding increase in the variance of the estimate of the population total. The increased variability comes from estimating the additional parameters included in the model. To check for possible overfitting of the GEM, a sensitivity analysis was conducted for the final poststratification step, where a simple baseline model was fitted with the same bounds and maximum number of iterations as those used for the final, more complex model. Then, point estimates and standard errors (SEs) were examined for substantial changes. If the SE increased only slightly under the complex model or, even better, if it decreased (which is possible because of the correlation between the study and predictor variables), then we would feel comfortable fitting the more complex model.

The SE, a ratio-adjusted estimator denoted by SE1, computed under the DESCRIPT procedure in SUDAAN®, treats the calibration adjustment factors as nonrandom. A more complete method of estimation would take into account the variability present in the weight adjustment. The sandwich formula for the Taylor linearization (see Vaish, Gordek, & Singh, 2000) is designed to provide an estimate of the variance that adjusts for the random calibration

factors to sampling weights via GEM. This "sandwich variance," adjusting for the poststratification variability, is denoted by SE2. Both SE1 and SE2 were calculated, as well as point estimates for a few important drug recency variables (past year marijuana, alcohol, and cigarette use), across four age groups (12 to 17, 18 to 25, 26 to 34, and 35 or older), for the eight states with the largest sample sizes.

When referring to the standard SUDAAN variance estimator for a survey weighted prevalence estimator, we call it the "naïve Taylor Series" standard error. The sandwich variance, also referred to as the variance estimate from a bias corrected estimating function (BCEF) (Singh & Folsom, 2000), is the "correct" Taylor Series linearization for the survey weighted prevalence estimate when the weights have been calibrated for nonresponse or poststratification. The sandwich variance estimates account for the variance contribution from the weight calibration. It was found in a preliminary study that the naïve Taylor linearization variance is somewhat conservative in comparison with the sandwich variance. The variance estimates of selected outcomes in Tables 6.2 to 6.8 show that, in general, sandwich variances (SE2) are smaller than the naïve Taylor linearization variances (SE1), with a few exceptions. These results confirm the conjecture that BCEF variances, or sandwich variances, are smaller despite the possibility of inflating variance due to adding the weight adjustment variation.

As noted previously, to check for overfitting, the variances of the baseline and final models were compared. In Tables 6.2 to 6.8, there are cases where the SE from the final model is slightly larger than the SE from the baseline model, indicating possible overfitting. However, the variance estimates for the two models (baseline and final) are generally similar to each other. Note that smaller variance estimates for the final model would indicate that the complex model for the poststratification adjustment resulted in better variance reduction (because of correlation between study and predictor variables) and bias reduction (because of meeting control totals corresponding to a number of factor effects). Therefore, the evidence does not favor the view that fitting a large number of parameters in GEM creates instability in estimates.

Table 6.2 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Lifetime Cigarette and Alcohol Use Estimates: 2014 NSDUH

Variables		United States		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Lifetime											
Total	Point Estimates	61.13	61.02	54.01	54.09	58.86	58.74	61.48	61.47	64.21	64.06
	SE1	0.30	0.31	1.12	1.12	1.45	1.49	1.32	1.29	1.40	1.43
	SE2	0.27	0.26	0.96	0.92	1.40	1.39	1.25	1.21	1.38	1.32
12-17	Point Estimates	14.21	14.16	12.23	12.07	12.77	12.54	12.32	12.35	13.05	13.07
	SE1	0.36	0.36	1.27	1.27	1.26	1.26	1.72	1.73	1.58	1.60
	SE2	0.35	0.35	1.27	1.26	1.26	1.27	1.72	1.73	1.58	1.56
18-25	Point Estimates	56.16	56.13	51.68	51.91	49.73	50.10	59.53	59.34	57.59	57.70
	SE1	0.55	0.55	1.83	1.84	2.23	2.26	2.29	2.36	2.39	2.38
	SE2	0.54	0.51	1.82	1.70	2.21	2.00	2.27	2.42	2.37	2.32
26-34	Point Estimates	67.31	67.28	60.85	60.56	64.26	63.96	71.81	71.61	73.81	74.18
	SE1	0.64	0.65	2.52	2.45	2.29	2.33	2.59	2.62	2.56	2.56
	SE2	0.62	0.58	2.46	2.25	2.28	2.15	2.56	2.51	2.56	2.61
35+	Point Estimates	67.74	67.59	59.40	59.50	65.21	64.92	67.04	67.03	71.18	70.88
	SE1	0.41	0.43	1.57	1.59	2.00	2.06	1.90	1.83	2.06	2.11
	SE2	0.39	0.37	1.38	1.33	1.96	1.97	1.85	1.71	2.04	1.93
Alcohol Lifetime											
Total	Point Estimates	82.23	82.14	79.43	79.22	83.57	83.62	82.92	83.02	84.78	84.55
	SE1	0.22	0.23	0.86	0.90	0.88	0.89	1.01	1.02	0.94	0.98
	SE2	0.20	0.19	0.72	0.70	0.82	0.78	0.96	0.88	0.93	0.83
12-17	Point Estimates	29.84	29.65	31.62	31.16	30.23	29.86	27.92	28.36	28.89	28.68
	SE1	0.44	0.45	1.43	1.43	1.70	1.71	2.04	2.07	2.09	2.07
	SE2	0.44	0.44	1.44	1.44	1.70	1.75	2.03	2.08	2.08	2.04
18-25	Point Estimates	83.41	83.37	80.29	80.07	83.75	83.78	84.49	85.06	84.85	84.83
	SE1	0.41	0.41	1.52	1.54	1.55	1.58	1.63	1.65	1.80	1.82
	SE2	0.40	0.39	1.50	1.45	1.54	1.48	1.64	1.69	1.78	1.77
26-34	Point Estimates	91.16	91.18	89.92	90.00	90.02	89.75	91.34	91.34	95.47	95.68
	SE1	0.38	0.39	1.44	1.49	1.59	1.63	1.62	1.62	1.20	1.16
	SE2	0.37	0.36	1.44	1.42	1.57	1.54	1.60	1.56	1.20	1.16
35+	Point Estimates	87.74	87.63	84.12	83.79	88.96	89.01	89.08	88.99	90.86	90.51
	SE1	0.29	0.31	1.10	1.18	1.16	1.17	1.36	1.38	1.20	1.29
	SE2	0.27	0.27	0.99	0.96	1.12	1.09	1.33	1.20	1.20	1.17

(continued)

Table 6.2 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Lifetime Cigarette and Alcohol Use Estimates: 2014 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Lifetime									
Total	Point Estimates	58.79	58.44	67.66	67.47	65.61	65.47	55.62	55.48
	SE1	1.44	1.45	1.47	1.48	1.56	1.58	1.03	1.04
	SE2	1.33	1.22	1.43	1.29	1.57	1.48	0.93	0.86
12-17	Point Estimates	10.09	10.06	16.03	16.01	14.38	14.37	14.58	14.50
	SE1	1.23	1.20	1.75	1.76	1.73	1.69	1.33	1.37
	SE2	1.24	1.19	1.75	1.80	1.71	1.67	1.33	1.34
18-25	Point Estimates	51.91	51.60	61.14	60.77	61.58	61.03	55.56	55.66
	SE1	2.23	2.29	2.84	2.88	2.09	2.08	2.13	2.13
	SE2	2.16	1.97	2.84	2.84	2.10	2.00	2.15	2.05
26-34	Point Estimates	69.03	69.66	77.80	77.72	64.23	65.04	60.73	60.33
	SE1	2.59	2.66	2.21	2.23	2.70	2.72	2.41	2.47
	SE2	2.56	2.37	2.18	2.04	2.69	2.52	2.40	2.36
35+	Point Estimates	64.44	63.81	74.38	74.24	73.50	73.17	61.78	61.59
	SE1	1.91	1.95	1.89	1.90	2.10	2.12	1.53	1.53
	SE2	1.82	1.66	1.88	1.77	2.10	2.00	1.46	1.35
Alcohol Lifetime									
Total	Point Estimates	83.16	82.77	84.76	84.66	86.85	86.94	78.39	78.34
	SE1	0.80	0.85	0.92	0.95	1.00	0.99	0.94	0.96
	SE2	0.74	0.70	0.89	0.81	0.99	0.93	0.81	0.79
12-17	Point Estimates	30.46	30.30	29.72	29.78	32.98	33.18	29.55	29.30
	SE1	1.86	1.88	2.12	2.14	2.27	2.30	1.77	1.80
	SE2	1.87	1.88	2.12	2.22	2.26	2.17	1.76	1.80
18-25	Point Estimates	84.43	84.58	86.06	85.77	87.53	87.79	80.69	80.41
	SE1	1.43	1.49	2.10	2.15	1.57	1.48	1.71	1.73
	SE2	1.41	1.40	2.11	2.04	1.56	1.47	1.70	1.70
26-34	Point Estimates	93.74	93.80	94.08	93.84	93.90	94.19	88.80	88.68
	SE1	1.23	1.22	1.42	1.47	1.32	1.29	1.68	1.72
	SE2	1.20	1.18	1.40	1.38	1.34	1.25	1.67	1.70
35+	Point Estimates	87.59	86.90	90.62	90.61	92.41	92.42	83.99	84.03
	SE1	1.10	1.23	1.21	1.23	1.25	1.23	1.27	1.29
	SE2	1.07	1.08	1.20	1.15	1.26	1.23	1.16	1.12

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table 6.3 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Lifetime Illicit Drug Estimates, Marijuana and Cocaine: 2014 NSDUH

Variables		United States		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Lifetime											
Total	Point Estimates	44.34	44.21	44.31	43.67	42.48	42.18	44.12	43.90	49.94	49.61
	SE1	0.32	0.32	1.22	1.24	1.25	1.25	1.42	1.41	1.45	1.44
	SE2	0.27	0.27	1.04	1.03	1.14	1.03	1.36	1.29	1.42	1.29
12-17	Point Estimates	16.62	16.45	20.30	20.00	17.83	17.66	13.09	12.93	15.85	15.64
	SE1	0.38	0.38	1.53	1.53	1.40	1.42	1.67	1.69	1.69	1.65
	SE2	0.38	0.37	1.53	1.49	1.40	1.42	1.67	1.64	1.70	1.61
18-25	Point Estimates	52.70	52.64	54.61	54.28	50.70	51.51	51.15	51.32	56.54	56.38
	SE1	0.54	0.54	1.96	2.00	2.18	2.13	2.49	2.51	2.37	2.31
	SE2	0.53	0.51	1.91	1.87	2.16	2.04	2.48	2.63	2.36	2.22
26-34	Point Estimates	55.88	55.74	49.05	48.27	55.95	56.08	59.48	59.00	63.38	63.95
	SE1	0.65	0.67	2.49	2.51	2.39	2.39	2.92	2.97	2.86	2.87
	SE2	0.63	0.60	2.43	2.31	2.36	2.24	2.85	2.46	2.87	2.86
35+	Point Estimates	44.10	43.97	44.53	43.77	41.52	40.88	43.92	43.56	50.92	50.40
	SE1	0.43	0.44	1.59	1.61	1.72	1.72	1.94	1.92	2.00	2.01
	SE2	0.38	0.37	1.35	1.32	1.57	1.36	1.88	1.75	1.97	1.77
Cocaine Lifetime											
Total	Point Estimates	14.79	14.79	18.29	17.89	14.37	14.25	14.26	14.37	12.73	12.55
	SE1	0.24	0.24	1.01	1.02	1.02	1.00	1.00	1.01	0.88	0.88
	SE2	0.22	0.22	0.87	0.85	0.96	0.87	1.00	1.03	0.87	0.87
12-17	Point Estimates	0.89	0.89	1.66	1.60	0.69	0.72	0.41	0.38	0.54	0.61
	SE1	0.10	0.10	0.50	0.50	0.25	0.26	0.24	0.24	0.30	0.32
	SE2	0.10	0.10	0.50	0.51	0.25	0.27	0.24	0.23	0.30	0.32
18-25	Point Estimates	11.08	11.11	12.53	12.81	13.51	13.94	10.11	10.53	8.48	8.45
	SE1	0.33	0.34	1.18	1.23	1.63	1.68	1.46	1.55	1.26	1.25
	SE2	0.33	0.32	1.18	1.23	1.63	1.54	1.46	1.49	1.25	1.22
26-34	Point Estimates	17.80	17.89	15.56	15.50	15.92	16.15	16.10	16.25	14.25	14.29
	SE1	0.51	0.52	1.73	1.75	1.91	1.93	2.02	2.09	1.82	1.83
	SE2	0.50	0.49	1.71	1.61	1.91	1.84	2.03	1.99	1.82	1.92
35+	Point Estimates	16.95	16.92	22.94	22.19	15.93	15.60	16.82	16.85	15.09	14.81
	SE1	0.34	0.35	1.48	1.49	1.40	1.36	1.45	1.46	1.31	1.29
	SE2	0.32	0.31	1.31	1.25	1.33	1.20	1.46	1.51	1.30	1.29

(continued)

Table 6.3 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Lifetime Illicit Drug Estimates, Marijuana and Cocaine: 2014 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Lifetime									
Total	Point Estimates	45.37	45.28	45.81	46.07	46.30	45.68	37.22	36.88
	SE1	1.31	1.32	1.58	1.60	1.48	1.53	1.12	1.12
	SE2	1.19	1.08	1.55	1.40	1.47	1.41	1.02	1.00
12-17	Point Estimates	15.12	15.04	15.25	15.16	14.49	14.86	15.33	15.30
	SE1	1.40	1.40	1.58	1.59	1.62	1.65	1.43	1.46
	SE2	1.40	1.38	1.58	1.57	1.62	1.58	1.43	1.45
18-25	Point Estimates	51.28	50.26	52.35	52.21	53.47	52.95	47.26	46.97
	SE1	2.17	2.22	2.67	2.66	2.32	2.33	2.05	2.05
	SE2	2.15	1.92	2.67	2.67	2.33	2.17	2.04	1.95
26-34	Point Estimates	63.85	64.68	60.28	60.34	57.58	58.17	42.85	42.62
	SE1	2.65	2.77	2.58	2.58	2.55	2.56	2.17	2.21
	SE2	2.63	2.55	2.58	2.46	2.54	2.42	2.17	2.10
35+	Point Estimates	43.85	43.73	45.98	46.46	46.74	45.83	37.34	36.90
	SE1	1.79	1.80	2.13	2.14	2.05	2.12	1.63	1.64
	SE2	1.66	1.49	2.09	1.91	2.03	1.91	1.51	1.44
Cocaine Lifetime									
Total	Point Estimates	16.16	16.21	13.51	13.71	14.26	14.00	13.04	12.86
	SE1	1.15	1.12	1.07	1.09	1.07	1.06	0.82	0.81
	SE2	1.10	1.01	1.06	1.07	1.07	1.02	0.81	0.79
12-17	Point Estimates	1.44	1.49	0.17	0.17	0.64	0.63	1.13	1.16
	SE1	0.46	0.47	0.17	0.17	0.34	0.33	0.38	0.40
	SE2	0.46	0.47	0.17	0.17	0.34	0.33	0.38	0.40
18-25	Point Estimates	11.60	11.44	7.71	7.58	10.95	10.92	11.62	11.38
	SE1	1.09	1.12	1.24	1.24	1.57	1.62	1.55	1.50
	SE2	1.07	1.04	1.24	1.29	1.56	1.46	1.57	1.47
26-34	Point Estimates	19.22	19.59	19.45	19.42	17.72	18.31	19.54	19.37
	SE1	2.39	2.35	2.31	2.31	2.23	2.35	1.92	1.94
	SE2	2.35	2.07	2.30	2.16	2.22	2.21	1.93	1.88
35+	Point Estimates	18.40	18.42	15.36	15.72	16.04	15.49	13.80	13.62
	SE1	1.59	1.57	1.54	1.57	1.49	1.47	1.21	1.19
	SE2	1.53	1.42	1.54	1.57	1.50	1.43	1.20	1.17

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table 6.4 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Past Year Cigarette and Alcohol Use Estimates: 2014 NSDUH

Variables		United States		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Past Year											
Total	Point Estimates	24.83	24.84	19.60	19.33	25.05	25.02	26.17	26.23	27.32	27.39
	SE1	0.28	0.28	0.81	0.81	1.32	1.32	1.27	1.25	1.28	1.30
	SE2	0.26	0.26	0.80	0.79	1.28	1.17	1.24	1.33	1.27	1.17
12-17	Point Estimates	8.89	8.88	7.45	7.31	8.55	8.60	7.22	7.11	8.94	8.94
	SE1	0.28	0.29	1.01	1.01	1.04	1.06	1.23	1.22	1.31	1.31
	SE2	0.28	0.28	1.00	1.01	1.05	1.07	1.22	1.18	1.31	1.35
18-25	Point Estimates	37.68	37.66	33.10	33.12	31.77	32.15	40.67	40.59	38.43	38.53
	SE1	0.53	0.54	1.72	1.75	2.16	2.18	2.34	2.38	2.10	2.12
	SE2	0.53	0.51	1.69	1.65	2.14	2.03	2.32	2.22	2.09	2.09
26-34	Point Estimates	35.51	35.46	27.84	26.75	35.08	35.20	40.51	39.93	42.53	42.38
	SE1	0.65	0.66	2.32	2.32	2.43	2.41	2.97	2.99	2.53	2.52
	SE2	0.64	0.63	2.29	2.27	2.40	2.33	2.95	2.84	2.52	2.62
35+	Point Estimates	22.10	22.13	16.33	16.17	23.99	23.83	22.81	22.99	24.70	24.87
	SE1	0.36	0.37	1.03	1.05	1.86	1.86	1.71	1.69	1.61	1.65
	SE2	0.35	0.35	1.05	1.05	1.79	1.63	1.68	1.78	1.62	1.53
Alcohol Past Year											
Total	Point Estimates	66.78	66.59	65.22	64.78	68.44	68.32	69.98	70.14	68.25	67.91
	SE1	0.30	0.31	1.10	1.14	1.29	1.34	1.51	1.49	1.29	1.32
	SE2	0.28	0.28	0.99	0.96	1.27	1.20	1.46	1.38	1.29	1.25
12-17	Point Estimates	24.29	24.04	25.24	24.60	26.13	25.58	22.33	22.76	22.32	22.22
	SE1	0.43	0.43	1.51	1.50	1.44	1.44	1.88	1.95	1.78	1.77
	SE2	0.43	0.42	1.52	1.48	1.44	1.47	1.88	1.98	1.78	1.73
18-25	Point Estimates	76.53	76.47	72.73	72.56	77.15	77.35	78.60	78.85	78.54	78.50
	SE1	0.47	0.48	1.62	1.66	1.74	1.80	1.92	1.94	2.11	2.13
	SE2	0.46	0.45	1.59	1.60	1.73	1.69	1.91	1.92	2.09	2.03
26-34	Point Estimates	80.39	80.29	79.28	78.82	81.06	80.94	82.81	82.63	86.43	86.63
	SE1	0.52	0.53	1.95	2.02	2.14	2.12	2.11	2.11	2.17	2.17
	SE2	0.52	0.50	1.96	1.95	2.12	2.00	2.08	2.01	2.19	2.21
35+	Point Estimates	67.98	67.76	66.24	65.71	69.74	69.55	72.55	72.65	69.27	68.77
	SE1	0.42	0.44	1.46	1.52	1.77	1.81	2.12	2.11	1.97	1.98
	SE2	0.40	0.39	1.37	1.36	1.74	1.67	2.09	1.96	1.98	1.93

(continued)

Table 6.4 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Past Year Cigarette and Alcohol Use Estimates: 2014 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Past Year									
Total	Point Estimates	23.93	24.11	30.17	30.24	26.30	25.61	24.03	23.82
	SE1	1.38	1.42	1.46	1.46	1.34	1.33	0.96	0.95
	SE2	1.30	1.26	1.44	1.39	1.32	1.27	0.92	0.87
12-17	Point Estimates	5.55	5.34	10.25	10.27	8.76	8.90	8.85	8.88
	SE1	0.88	0.85	1.34	1.34	1.25	1.29	1.07	1.11
	SE2	0.88	0.85	1.33	1.36	1.24	1.29	1.08	1.12
18-25	Point Estimates	33.94	33.59	43.75	43.67	41.81	41.88	37.83	37.62
	SE1	2.42	2.42	2.58	2.60	2.29	2.32	2.34	2.36
	SE2	2.38	2.21	2.60	2.63	2.29	2.22	2.33	2.25
26-34	Point Estimates	38.68	39.12	44.39	44.43	38.30	38.40	31.22	31.22
	SE1	3.88	4.08	2.57	2.60	2.66	2.71	2.10	2.12
	SE2	3.87	3.75	2.57	2.49	2.66	2.67	2.11	2.08
35+	Point Estimates	20.83	21.07	27.46	27.61	23.01	22.08	21.60	21.33
	SE1	1.63	1.70	1.92	1.93	1.70	1.66	1.35	1.33
	SE2	1.57	1.56	1.89	1.86	1.70	1.61	1.31	1.21
Alcohol Past Year									
Total	Point Estimates	71.31	70.80	66.88	66.85	71.86	71.33	61.95	61.65
	SE1	1.06	1.12	1.29	1.32	1.37	1.47	1.24	1.25
	SE2	0.98	0.96	1.30	1.32	1.36	1.35	1.15	1.12
12-17	Point Estimates	26.12	25.75	23.25	23.29	28.05	28.09	23.86	23.74
	SE1	1.93	1.93	1.87	1.89	2.26	2.29	1.57	1.62
	SE2	1.93	1.88	1.87	1.97	2.26	2.19	1.56	1.64
18-25	Point Estimates	78.20	77.34	79.18	78.87	79.12	79.53	72.72	72.24
	SE1	1.66	1.77	2.58	2.61	1.93	1.86	1.93	1.97
	SE2	1.64	1.65	2.58	2.51	1.92	1.80	1.93	1.92
26-34	Point Estimates	86.40	86.31	79.49	79.38	85.55	85.73	76.12	76.05
	SE1	1.73	1.74	2.18	2.18	2.23	2.25	2.20	2.24
	SE2	1.70	1.70	2.17	2.15	2.24	2.26	2.19	2.23
35+	Point Estimates	72.45	71.86	68.23	68.30	73.38	72.55	62.57	62.24
	SE1	1.55	1.65	1.81	1.84	1.90	2.04	1.81	1.83
	SE2	1.49	1.50	1.81	1.81	1.89	1.90	1.71	1.67

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table 6.5 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Past Year Illicit Drug Estimates, Marijuana and Cocaine: 2014 NSDUH

Variables		United States		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Past Year											
Total	Point Estimates	13.29	13.25	15.35	15.13	12.05	11.93	12.34	12.23	15.15	15.27
	SE1	0.19	0.20	0.77	0.79	0.70	0.70	0.83	0.82	0.99	1.00
	SE2	0.18	0.18	0.74	0.73	0.67	0.62	0.80	0.75	0.99	0.89
12-17	Point Estimates	13.25	13.11	16.25	15.91	15.03	15.06	11.29	11.19	13.41	13.55
	SE1	0.33	0.34	1.27	1.27	1.33	1.34	1.59	1.61	1.57	1.55
	SE2	0.33	0.33	1.27	1.23	1.33	1.35	1.59	1.58	1.58	1.52
18-25	Point Estimates	31.99	31.93	32.93	33.09	32.86	33.21	30.72	30.43	33.69	34.12
	SE1	0.51	0.52	1.80	1.82	2.12	2.11	2.09	2.10	2.22	2.23
	SE2	0.51	0.49	1.77	1.76	2.11	2.05	2.08	2.12	2.22	2.20
26-34	Point Estimates	20.53	20.47	19.73	19.20	21.33	21.40	24.10	24.03	23.11	23.05
	SE1	0.56	0.56	1.95	1.94	2.31	2.33	2.86	2.91	2.50	2.52
	SE2	0.55	0.52	1.91	1.79	2.30	2.26	2.81	2.69	2.50	2.53
35+	Point Estimates	7.76	7.74	10.06	9.88	6.17	6.00	6.02	5.87	10.01	10.11
	SE1	0.22	0.23	0.91	0.92	0.76	0.75	0.89	0.85	1.22	1.25
	SE2	0.22	0.21	0.89	0.87	0.74	0.70	0.89	0.88	1.23	1.15
Cocaine Past Year											
Total	Point Estimates	1.70	1.72	2.16	2.15	2.35	2.38	1.63	1.73	1.03	1.05
	SE1	0.07	0.07	0.23	0.23	0.39	0.38	0.30	0.35	0.24	0.24
	SE2	0.07	0.07	0.23	0.22	0.39	0.38	0.30	0.35	0.24	0.24
12-17	Point Estimates	0.68	0.67	1.62	1.57	0.46	0.48	0.41	0.38	0.14	0.14
	SE1	0.09	0.09	0.50	0.50	0.25	0.26	0.24	0.24	0.14	0.14
	SE2	0.09	0.09	0.50	0.51	0.25	0.26	0.24	0.23	0.14	0.14
18-25	Point Estimates	4.53	4.59	6.15	6.48	6.80	6.96	4.81	5.00	3.87	3.94
	SE1	0.23	0.23	0.86	0.91	1.29	1.32	0.85	0.88	0.99	1.01
	SE2	0.22	0.23	0.86	0.91	1.28	1.27	0.85	0.85	0.99	1.00
26-34	Point Estimates	3.00	3.01	3.53	3.56	3.52	3.60	1.64	1.55	1.27	1.29
	SE1	0.23	0.23	0.95	0.95	0.86	0.88	0.66	0.64	0.65	0.66
	SE2	0.23	0.22	0.95	0.90	0.85	0.88	0.65	0.70	0.65	0.66
35+	Point Estimates	0.96	0.98	0.98	0.89	1.57	1.58	1.16	1.30	0.53	0.53
	SE1	0.08	0.08	0.25	0.22	0.51	0.50	0.43	0.50	0.29	0.29
	SE2	0.08	0.08	0.25	0.22	0.50	0.49	0.43	0.50	0.29	0.28

(continued)

Table 6.5 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Past Year Illicit Drug Estimates, Marijuana and Cocaine: 2014 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Past Year									
Total	Point Estimates	14.94	14.86	10.86	10.86	12.31	12.12	10.20	10.07
	SE1	0.85	0.84	0.74	0.74	0.81	0.83	0.62	0.60
	SE2	0.81	0.77	0.73	0.68	0.80	0.79	0.60	0.57
12-17	Point Estimates	12.87	12.60	10.29	10.20	12.05	12.58	11.40	11.52
	SE1	1.32	1.32	1.22	1.22	1.66	1.72	1.13	1.17
	SE2	1.32	1.30	1.22	1.21	1.66	1.61	1.12	1.16
18-25	Point Estimates	34.38	33.35	30.99	31.10	32.81	32.13	26.55	26.18
	SE1	2.21	2.25	2.32	2.34	2.18	2.14	1.93	1.93
	SE2	2.23	2.10	2.32	2.33	2.17	2.03	1.91	1.83
26-34	Point Estimates	29.37	29.34	16.30	16.39	18.24	18.38	10.98	11.05
	SE1	3.07	2.98	2.11	2.12	1.77	1.79	1.29	1.30
	SE2	3.06	2.85	2.11	2.06	1.77	1.79	1.30	1.27
35+	Point Estimates	7.72	7.78	5.86	5.84	6.96	6.92	5.91	5.75
	SE1	0.95	0.93	0.79	0.79	0.90	0.92	0.80	0.76
	SE2	0.93	0.85	0.79	0.80	0.90	0.91	0.79	0.75
Cocaine Past Year									
Total	Point Estimates	3.00	2.98	1.21	1.20	1.40	1.44	1.46	1.42
	SE1	0.34	0.34	0.25	0.26	0.26	0.27	0.32	0.31
	SE2	0.34	0.34	0.25	0.25	0.26	0.26	0.31	0.30
12-17	Point Estimates	1.07	1.09	0.17	0.17	0.35	0.34	0.74	0.77
	SE1	0.42	0.43	0.17	0.17	0.27	0.27	0.31	0.33
	SE2	0.42	0.43	0.17	0.17	0.27	0.26	0.32	0.33
18-25	Point Estimates	5.65	5.35	3.06	3.01	3.75	3.89	3.56	3.41
	SE1	0.98	0.95	0.77	0.77	1.17	1.25	0.91	0.87
	SE2	0.97	0.93	0.77	0.78	1.17	1.19	0.91	0.87
26-34	Point Estimates	7.18	7.03	3.09	3.06	3.69	3.70	1.76	1.82
	SE1	1.35	1.30	1.00	0.99	0.94	0.95	0.66	0.69
	SE2	1.34	1.26	1.00	0.99	0.95	0.98	0.66	0.67
35+	Point Estimates	1.71	1.77	0.61	0.61	0.59	0.66	1.01	0.96
	SE1	0.41	0.44	0.27	0.28	0.25	0.26	0.35	0.34
	SE2	0.41	0.42	0.27	0.27	0.25	0.25	0.35	0.33

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table 6.6 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Past Month Cigarette and Alcohol Use Estimates: 2014 NSDUH

Variables		United States		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Past Month											
Total	Point Estimates	20.82	20.84	14.70	14.58	21.69	21.69	22.01	22.16	23.46	23.53
	SE1	0.26	0.26	0.72	0.72	1.24	1.24	1.24	1.23	1.12	1.13
	SE2	0.25	0.25	0.72	0.71	1.20	1.12	1.22	1.15	1.11	1.06
12-17	Point Estimates	4.89	4.88	3.22	3.09	4.31	4.28	3.98	3.89	4.99	5.05
	SE1	0.20	0.21	0.63	0.63	0.81	0.82	0.85	0.84	0.92	0.93
	SE2	0.20	0.20	0.62	0.63	0.81	0.82	0.84	0.83	0.92	0.93
18-25	Point Estimates	28.43	28.35	21.76	21.90	24.62	25.05	29.99	30.18	30.25	30.14
	SE1	0.51	0.51	1.52	1.52	2.02	2.03	2.28	2.32	1.94	1.91
	SE2	0.50	0.49	1.50	1.43	2.01	1.93	2.26	2.20	1.94	1.91
26-34	Point Estimates	29.46	29.38	20.11	19.35	28.75	28.70	33.87	33.40	37.23	37.17
	SE1	0.59	0.59	1.91	1.92	2.34	2.35	2.98	2.97	2.46	2.45
	SE2	0.58	0.57	1.90	1.87	2.33	2.32	2.98	2.90	2.46	2.58
35+	Point Estimates	19.65	19.71	13.52	13.49	21.98	21.88	20.42	20.66	22.04	22.23
	SE1	0.35	0.35	0.97	0.99	1.74	1.74	1.61	1.62	1.47	1.49
	SE2	0.34	0.33	0.99	0.99	1.67	1.54	1.58	1.49	1.48	1.44
Alcohol Past Month											
Total	Point Estimates	52.85	52.68	52.17	51.97	54.36	54.13	55.46	55.68	54.76	54.42
	SE1	0.33	0.34	1.14	1.17	1.54	1.57	1.54	1.52	1.49	1.49
	SE2	0.31	0.30	1.02	1.01	1.52	1.43	1.48	1.41	1.48	1.43
12-17	Point Estimates	11.68	11.55	12.92	12.67	11.39	11.34	9.04	9.15	10.56	10.40
	SE1	0.33	0.33	1.18	1.18	1.19	1.19	1.17	1.20	1.35	1.33
	SE2	0.33	0.32	1.18	1.13	1.20	1.21	1.16	1.19	1.35	1.31
18-25	Point Estimates	59.59	59.58	58.46	58.80	58.64	58.84	59.62	59.63	61.53	61.56
	SE1	0.56	0.57	1.91	1.94	2.10	2.18	2.44	2.50	2.42	2.44
	SE2	0.54	0.53	1.87	1.88	2.09	2.08	2.41	2.47	2.42	2.50
26-34	Point Estimates	66.05	65.96	65.37	65.45	68.44	68.28	70.50	70.38	72.00	72.17
	SE1	0.66	0.67	2.53	2.55	2.40	2.38	2.77	2.79	2.73	2.69
	SE2	0.65	0.63	2.51	2.38	2.39	2.33	2.73	2.54	2.73	2.66
35+	Point Estimates	54.58	54.35	53.57	53.11	56.26	55.84	58.28	58.52	56.43	55.95
	SE1	0.45	0.46	1.46	1.49	2.13	2.16	2.15	2.13	2.11	2.13
	SE2	0.43	0.41	1.38	1.34	2.10	1.98	2.11	2.05	2.12	2.09

(continued)

Table 6.6 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Past Month Cigarette and Alcohol Use Estimates: 2014 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Past Month									
Total	Point Estimates	20.16	20.24	26.78	26.85	22.69	22.00	20.24	20.05
	SE1	1.24	1.29	1.39	1.39	1.28	1.26	0.94	0.92
	SE2	1.19	1.17	1.36	1.32	1.27	1.19	0.91	0.85
12-17	Point Estimates	3.32	3.39	6.56	6.56	5.60	5.67	3.78	3.78
	SE1	0.67	0.69	1.02	1.02	1.00	1.02	0.75	0.77
	SE2	0.67	0.70	1.01	1.03	1.00	1.03	0.74	0.76
18-25	Point Estimates	25.25	24.34	34.34	34.18	31.35	31.30	29.70	29.51
	SE1	2.16	2.14	2.48	2.49	2.02	2.03	2.31	2.33
	SE2	2.14	1.91	2.49	2.54	2.02	2.00	2.31	2.24
26-34	Point Estimates	30.38	30.79	38.59	38.69	33.67	33.25	26.30	26.21
	SE1	2.78	2.90	2.58	2.60	2.55	2.60	1.92	1.93
	SE2	2.78	2.82	2.58	2.53	2.56	2.56	1.93	1.89
35+	Point Estimates	18.95	19.15	25.79	25.95	20.94	20.08	19.38	19.15
	SE1	1.55	1.62	1.93	1.93	1.64	1.59	1.33	1.31
	SE2	1.50	1.50	1.89	1.85	1.63	1.53	1.31	1.23
Alcohol Past Month									
Total	Point Estimates	57.36	56.60	52.71	52.80	57.71	57.35	47.84	47.53
	SE1	1.30	1.37	1.46	1.50	1.41	1.50	1.29	1.29
	SE2	1.16	0.98	1.47	1.54	1.39	1.37	1.21	1.17
12-17	Point Estimates	13.71	13.06	10.86	10.90	13.12	13.35	11.13	10.88
	SE1	1.39	1.36	1.44	1.45	1.67	1.77	1.16	1.14
	SE2	1.38	1.30	1.43	1.45	1.67	1.72	1.14	1.15
18-25	Point Estimates	60.53	59.74	63.04	62.62	63.69	64.10	55.47	55.35
	SE1	2.17	2.24	2.97	3.00	2.30	2.29	2.12	2.12
	SE2	2.12	1.95	2.96	2.80	2.28	2.22	2.10	2.01
26-34	Point Estimates	74.09	74.34	67.77	67.72	70.67	70.64	61.21	60.96
	SE1	2.43	2.55	2.42	2.43	2.95	3.02	2.57	2.65
	SE2	2.40	2.36	2.42	2.34	2.97	3.03	2.57	2.63
35+	Point Estimates	58.66	57.63	53.68	53.95	59.75	59.18	49.16	48.79
	SE1	1.80	1.92	2.00	2.04	1.90	2.05	1.88	1.87
	SE2	1.67	1.46	2.00	2.07	1.89	1.89	1.78	1.67

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table 6.7 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Past Month Illicit Drug Estimates, Marijuana and Cocaine: 2014 NSDUH

Variables		United States		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Past Month											
Total	Point Estimates	8.40	8.37	9.86	9.70	7.89	7.81	7.85	7.89	10.25	10.25
	SE1	0.15	0.15	0.59	0.61	0.52	0.52	0.68	0.69	0.75	0.75
	SE2	0.15	0.14	0.57	0.57	0.50	0.47	0.66	0.63	0.75	0.72
12-17	Point Estimates	7.47	7.36	10.21	10.04	7.11	7.20	6.59	6.64	7.01	6.90
	SE1	0.26	0.27	1.17	1.17	0.91	0.94	1.21	1.25	1.15	1.13
	SE2	0.26	0.26	1.16	1.11	0.91	0.94	1.21	1.28	1.15	1.14
18-25	Point Estimates	19.59	19.57	20.67	20.81	21.29	21.45	18.73	18.63	23.82	23.93
	SE1	0.42	0.42	1.53	1.55	1.70	1.70	1.68	1.75	1.98	2.06
	SE2	0.42	0.41	1.50	1.47	1.68	1.67	1.67	1.86	1.97	2.04
26-34	Point Estimates	12.81	12.73	12.33	11.67	14.42	14.76	16.65	16.62	14.56	14.47
	SE1	0.45	0.45	1.49	1.42	2.04	2.08	2.57	2.60	1.91	1.90
	SE2	0.44	0.43	1.47	1.36	2.02	2.00	2.53	2.46	1.91	1.89
35+	Point Estimates	5.20	5.20	6.69	6.63	4.33	4.16	3.79	3.82	7.07	7.09
	SE1	0.18	0.18	0.72	0.74	0.58	0.57	0.74	0.73	0.93	0.93
	SE2	0.18	0.17	0.71	0.70	0.57	0.54	0.74	0.73	0.94	0.91
Cocaine Past Month											
Total	Point Estimates	0.57	0.58	0.83	0.81	0.95	0.92	0.59	0.66	0.42	0.41
	SE1	0.04	0.04	0.15	0.15	0.27	0.26	0.20	0.27	0.19	0.18
	SE2	0.04	0.04	0.15	0.14	0.27	0.25	0.21	0.26	0.19	0.18
12-17	Point Estimates	0.17	0.16	0.12	0.04	0.18	0.19	0.09	0.05	0.00	0.00
	SE1	0.04	0.04	0.12	0.04	0.18	0.19	0.07	0.04	0.00	0.00
	SE2	0.04	0.04	0.12	0.03	0.18	0.19	0.07	0.04	0.00	0.00
18-25	Point Estimates	1.36	1.35	2.09	2.10	2.66	2.66	1.70	1.76	0.97	0.94
	SE1	0.12	0.12	0.49	0.49	0.69	0.70	0.59	0.60	0.48	0.47
	SE2	0.12	0.11	0.49	0.49	0.69	0.69	0.59	0.60	0.48	0.47
26-34	Point Estimates	0.99	0.99	1.73	1.73	1.27	1.29	0.13	0.07	0.00	0.00
	SE1	0.14	0.14	0.67	0.67	0.57	0.59	0.09	0.05	0.00	0.00
	SE2	0.14	0.14	0.68	0.62	0.57	0.57	0.09	0.05	0.00	0.00
35+	Point Estimates	0.36	0.38	0.43	0.41	0.68	0.64	0.54	0.67	0.45	0.44
	SE1	0.05	0.05	0.17	0.16	0.36	0.32	0.30	0.40	0.27	0.26
	SE2	0.05	0.05	0.16	0.16	0.35	0.32	0.30	0.40	0.27	0.26

(continued)

Table 6.7 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Past Month Illicit Drug Estimates, Marijuana and Cocaine: 2014 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Past Month									
Total	Point Estimates	9.35	9.25	6.55	6.55	7.80	7.72	6.45	6.39
	SE1	0.71	0.70	0.55	0.55	0.70	0.70	0.48	0.46
	SE2	0.69	0.66	0.54	0.56	0.69	0.67	0.47	0.46
12-17	Point Estimates	7.44	7.09	4.85	4.86	7.63	7.94	7.30	7.46
	SE1	0.97	0.94	0.84	0.85	1.34	1.40	0.94	0.97
	SE2	0.96	0.92	0.84	0.81	1.34	1.26	0.94	0.98
18-25	Point Estimates	21.23	20.35	17.39	17.40	18.92	18.88	16.50	16.32
	SE1	1.62	1.56	1.97	1.97	1.67	1.63	1.75	1.71
	SE2	1.64	1.53	1.97	2.00	1.67	1.53	1.74	1.63
26-34	Point Estimates	16.53	16.09	10.08	10.07	12.12	11.93	6.96	7.05
	SE1	1.89	1.96	1.79	1.78	1.82	1.78	1.07	1.08
	SE2	1.90	1.97	1.79	1.75	1.81	1.76	1.08	1.07
35+	Point Estimates	5.43	5.56	3.94	3.94	4.68	4.68	3.78	3.69
	SE1	0.87	0.86	0.59	0.59	0.80	0.81	0.60	0.58
	SE2	0.85	0.79	0.59	0.62	0.78	0.78	0.60	0.58
Cocaine Past Month									
Total	Point Estimates	1.20	1.22	0.35	0.35	0.45	0.47	0.29	0.29
	SE1	0.24	0.25	0.12	0.12	0.11	0.12	0.09	0.09
	SE2	0.24	0.25	0.12	0.12	0.11	0.11	0.09	0.09
12-17	Point Estimates	0.36	0.35	0.00	0.00	0.09	0.09	0.68	0.71
	SE1	0.22	0.22	0.00	0.00	0.09	0.09	0.31	0.32
	SE2	0.22	0.22	0.00	0.00	0.09	0.09	0.31	0.33
18-25	Point Estimates	1.22	1.05	0.92	0.92	1.23	1.23	0.59	0.60
	SE1	0.42	0.38	0.38	0.38	0.45	0.45	0.24	0.26
	SE2	0.41	0.38	0.38	0.38	0.45	0.43	0.24	0.26
26-34	Point Estimates	2.37	2.35	1.44	1.42	1.48	1.47	0.24	0.22
	SE1	0.67	0.67	0.71	0.71	0.55	0.53	0.20	0.20
	SE2	0.66	0.66	0.71	0.70	0.55	0.53	0.20	0.19
35+	Point Estimates	1.04	1.10	0.07	0.07	0.12	0.18	0.16	0.16
	SE1	0.38	0.40	0.07	0.07	0.09	0.13	0.12	0.12
	SE2	0.37	0.39	0.07	0.07	0.09	0.11	0.12	0.12

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table 6.8 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Major Depressive Episode (MDE) in the Past Year and Serious Mental Illness (SMI) in the Past Year among Persons Aged 18 or Older: 2014 NSDUH

Variables		United States		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Major Depressive Episode											
Total	Point Estimates	6.62	6.58	5.94	5.99	5.60	5.48	6.55	6.59	6.19	6.17
	SE1	0.15	0.16	0.43	0.44	0.58	0.58	0.69	0.71	0.63	0.62
	SE2	0.15	0.15	0.42	0.42	0.57	0.53	0.68	0.70	0.63	0.62
18-25	Point Estimates	9.30	9.28	9.50	9.63	7.59	7.55	8.87	8.88	9.15	9.17
	SE1	0.31	0.32	1.00	1.04	1.04	1.04	1.29	1.32	1.11	1.06
	SE2	0.31	0.31	1.01	1.03	1.03	1.00	1.29	1.32	1.11	1.05
26-34	Point Estimates	7.30	7.29	6.97	7.12	5.93	6.03	7.41	7.40	5.91	5.81
	SE1	0.36	0.37	1.06	1.11	1.07	1.09	1.37	1.39	1.21	1.21
	SE2	0.36	0.35	1.05	1.07	1.05	1.06	1.37	1.37	1.21	1.22
35+	Point Estimates	5.90	5.86	4.86	4.88	5.18	5.01	5.87	5.92	5.64	5.63
	SE1	0.19	0.20	0.57	0.58	0.76	0.75	0.80	0.83	0.82	0.81
	SE2	0.19	0.18	0.56	0.53	0.75	0.71	0.79	0.84	0.82	0.80
Serious Mental Illness											
Total	Point Estimates	4.08	4.09	3.50	3.52	3.73	3.63	3.67	3.79	4.38	4.33
	SE1	0.12	0.13	0.38	0.40	0.48	0.47	0.52	0.56	0.52	0.52
	SE2	0.12	0.12	0.39	0.39	0.48	0.46	0.52	0.53	0.53	0.52
18-25	Point Estimates	4.85	4.81	4.27	4.20	4.02	4.01	3.35	3.41	5.18	4.99
	SE1	0.23	0.23	0.69	0.69	0.78	0.76	0.80	0.81	0.96	0.94
	SE2	0.23	0.22	0.69	0.69	0.77	0.74	0.81	0.82	0.96	0.94
26-34	Point Estimates	5.23	5.24	5.24	5.31	4.88	4.64	4.24	4.13	4.06	4.13
	SE1	0.31	0.32	0.95	0.97	1.25	1.11	0.94	0.92	1.00	1.03
	SE2	0.31	0.31	0.95	0.95	1.23	1.09	0.94	0.92	1.00	1.03
35+	Point Estimates	3.65	3.68	2.89	2.91	3.46	3.37	3.61	3.79	4.28	4.23
	SE1	0.16	0.16	0.48	0.50	0.60	0.59	0.68	0.74	0.67	0.66
	SE2	0.15	0.15	0.48	0.48	0.60	0.58	0.68	0.71	0.67	0.66

(continued)

Table 6.8 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (United States and the Eight Largest States): Major Depressive Episode (MDE) in the Past Year and Serious Mental Illness (SMI) in the Past Year among Persons Aged 18 or Older: 2014 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Major Depressive Episode									
Total	Point Estimates	6.03	6.13	7.62	7.59	6.99	6.69	5.32	5.22
	SE1	0.58	0.62	0.80	0.80	0.73	0.69	0.52	0.51
	SE2	0.58	0.61	0.80	0.81	0.74	0.66	0.52	0.50
18-25	Point Estimates	10.48	10.50	11.58	11.59	11.43	10.82	5.65	5.56
	SE1	1.37	1.43	1.54	1.53	1.21	1.14	0.87	0.86
	SE2	1.37	1.39	1.54	1.54	1.21	1.13	0.86	0.83
26-34	Point Estimates	6.84	7.17	8.85	8.94	7.13	7.19	6.12	5.98
	SE1	1.18	1.30	1.48	1.49	1.29	1.28	1.11	1.09
	SE2	1.17	1.27	1.47	1.49	1.29	1.28	1.09	1.06
35+	Point Estimates	4.91	4.95	6.59	6.53	6.07	5.81	5.02	4.94
	SE1	0.70	0.73	0.94	0.94	0.93	0.90	0.68	0.66
	SE2	0.70	0.73	0.94	0.95	0.94	0.85	0.67	0.64
Serious Mental Illness									
Total	Point Estimates	3.48	3.70	5.52	5.50	3.81	3.65	3.44	3.31
	SE1	0.42	0.45	0.64	0.65	0.53	0.49	0.42	0.40
	SE2	0.42	0.42	0.64	0.66	0.53	0.47	0.42	0.38
18-25	Point Estimates	4.16	4.34	6.69	6.75	5.97	5.92	3.27	3.20
	SE1	0.69	0.76	1.23	1.24	0.98	0.97	0.72	0.71
	SE2	0.69	0.76	1.23	1.25	0.98	0.92	0.72	0.69
26-34	Point Estimates	4.77	5.07	7.27	7.34	6.41	6.45	4.49	4.34
	SE1	1.50	1.52	1.26	1.26	1.46	1.46	0.97	0.95
	SE2	1.48	1.40	1.25	1.24	1.46	1.45	0.97	0.92
35+	Point Estimates	3.02	3.24	4.92	4.88	2.84	2.64	3.20	3.06
	SE1	0.47	0.53	0.76	0.76	0.65	0.61	0.59	0.55
	SE2	0.47	0.51	0.76	0.77	0.65	0.59	0.58	0.51

NOTE: Major Depressive Episode (MDE) is defined as in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), which specifies a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms.

NOTE: Serious Mental Illness (SMI) is defined as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, assessed by the Mental Health Surveillance Study (MHSS) *Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders* (MHSS-SCID) which is based on the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). SMI includes persons with diagnoses resulting in serious functional impairment.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

References

Center for Behavioral Health Statistics and Quality. (2015). *2014 National Survey on Drug Use and Health: Methodological resource book* (Section 2, Sample design report). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Center for Behavioral Health Statistics and Quality. (2016). *2014 National Survey on Drug Use and Health: Methodological resource book* (Section 10, Editing and imputation report). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Chen, P., Penne, M. A., & Singh, A. C. (2000). Experience with generalized exponential model (GEM) for weight calibration for NHSDA. In *Proceedings of the 2000 Joint Statistical Meetings, American Statistical Association, Survey Research Methods Section*, Indianapolis, IN (pp. 604-607). Alexandria, VA: American Statistical Association. PDF retrieved from http://www.amstat.org/sections/srms/proceedings/.

Chromy, J. R. (1979). Sequential sample selection methods. In *Proceedings of the 1979 American Statistical Association, Survey Research Methods Section*, Washington, DC (pp. 401-406). Washington, DC: American Statistical Association. PDF retrieved from http://www.amstat.org/sections/srms/proceedings/.

Chromy, J. R., & Penne, M. (2002). Pair sampling in household surveys. In *Proceedings of the 2002 Joint Statistical Meetings, American Statistical Association, Survey Research Methods Section*, New York, NY [CD-ROM] (pp. 552-554). Alexandria, VA: American Statistical Association.

Deville, J. C., & Särndal, C. E. (1992). Calibration estimators in survey sampling. *Journal of the American Statistical Association, 87*(418), 376-382.

Folsom, R. E., & Singh, A. C. (2000). The generalized exponential model for sampling weight calibration for extreme values, nonresponse, and poststratification. In *Proceedings of the 2000 Joint Statistical Meetings, American Statistical Association, Survey Research Methods Section*, Indianapolis, IN (pp. 598-603). Alexandria, VA: American Statistical Association. PDF retrieved from http://www.amstat.org/sections/srms/proceedings/.

Folsom, R. E., & Witt, M. B. (1994). Testing a new attrition nonresponse adjustment method for SIPP. In *Proceedings of the 1994 Joint Statistical Meetings, American Statistical Association, Social Statistics Section*, Toronto, Ontario, Canada (pp. 428-433). Alexandria, VA: American Statistical Association.

Kish, L. (1965). *Survey sampling*. New York: John Wiley & Sons.

Little, R. J. A., & Rubin, D. B. (1987). *Statistical analysis with missing data*. New York: John Wiley & Sons.

Rubin, D. B. (1986). Statistical matching using file concatenation with adjusted weights and multiple imputations. *Journal of Business and Economic Statistics, 4*(1), 87-94.

Singh, A. C., & Folsom, R. E., Jr. (2000). Bias corrected estimating function approach for variance estimation adjusted for poststratification. In *Proceedings of the 2000 Joint Statistical Meetings, American Statistical Association, Survey Research Methods Section*, Indianapolis, IN (pp. 600-615). Alexandria, VA: American Statistical Association. PDF retrieved from http://www.amstat.org/sections/srms/proceedings/.

Singh, A. C., & Mohl, C. A. (1996). Understanding calibration estimators in survey sampling. *Survey Methodology, 22*, 107-115.

Singh, A. C., Penne, M. A., & Gordek, H. (1999, September 27). *Poststratification and nonresponse adjustments for the six month analysis of the 1999 NHSDA data: A discussion paper* [memo to SAMHSA]. Research Triangle Park, NC: RTI.

Singh, A., Grau, E., & Folsom, R., Jr. (2002). Predictive mean neighborhood imputation for NHSDA substance use data. In J. Gfroerer, J. Eyerman, & J. Chromy (Eds.), *Redesigning an ongoing national household survey: Methodological issues* (pp. 111-133, DHHS Publication No. SMA 03-3768). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

Vaish, A. K., Gordek, H., & Singh, A. C. (2000). Variance estimation adjusted for weight calibration via the generalized exponential model with application to the National Household Survey on Drug Abuse. In *Proceedings of the 2000 Joint Statistical Meetings, American Statistical Association, Survey Research Methods Section*, Indianapolis, IN (pp. 616-621). Alexandria, VA: American Statistical Association. PDF retrieved from http://www.amstat.org/sections/srms/proceedings/.

Appendix A: Technical Details about the Generalized Exponential Model

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Appendix A: Technical Details about the Generalized Exponential Model

A.1 Distance Function

Let $\Delta(w,d)$ denote the distance between the initial weights $d = \{d_k : k \in s\}$ and the adjusted weights *w*, with *k* being the k^{th} unit in the sample and *s* being the sample selected. The distance function minimized under the generalized exponential model (GEM), subject to calibration constraints, is given by

$$\Delta(w,d) = \sum_{k\in s} \frac{d_k}{A_k}\left\{(a_k - \ell_k)\log\frac{a_k-\ell_k}{c_k-\ell_k} + (u_k - a_k)\log\frac{u_k-a_k}{u_k-c_k}\right\}, \tag{A.1.1}$$

where $a_k = w_k / d_k, A_k = (u_k - \ell_k)/[(u_k - c_k)(c_k - \ell_k)]$ and ℓ_k, c_k, and u_k are prescribed real numbers. Let T_x denote the *p*-vector of control totals corresponding to predictor variables ($x_1, ..., x_p$). Then, the calibration constraints for the above minimization problem are

$$\sum_{k\in s} x_k d_k a_k = T_x. \tag{A.1.2}$$

The solution for the above minimization problem, if it exists, is given by a GEM with model parameters λ; that is,

$$a_k(\lambda) = \frac{\ell_k(u_k - c_k) + u_k(c_k - \ell_k)\exp\{A_k x_k'\lambda\}}{(u_k - c_k) + (c_k - \ell_k)\exp\{A_k x_k'\lambda\}}. \tag{A.1.3}$$

Note that the number of parameters in the GEM should be $\leq n$, where *n* is the size of the sample *s*. This is also the dimension of vectors *d* and *w*. It follows from equation A.1.3 that

$$\ell_k < a_k < u_k, k = 1,\ldots,n. \tag{A.1.4}$$

The weight adjustment factor achieved by the usual raking ratio algorithm (Singh & Mohl, 1996) can also be derived as a special case of the GEM, noting that for $\ell_k = 0, u_k = \infty, c_k = 1,$ and $k = 1,\ldots,n$, we have

$$\Delta(w,d) = \sum_{k\in s} d_k a_k \log a_k - \sum_{k\in s} d_k (a_k - 1) \tag{A.1.5}$$

and $a_k(\lambda) = \exp(x_k'\lambda)$.

The logit model of Deville and Särndal (1992) is also a special case of the GEM, by setting $\ell_k = \ell,\ u_k = u,$ and $c_k = 1$ for all *k*. The new method was introduced by Folsom and Singh (2000).

A.2 GEM Adjustments for Extreme Value Treatment, Nonresponse, and Poststratification

By choosing the user-specified parameters ℓ_k, c_k, and u_k appropriately, the unified GEM formula (A.1.3) can be justified for all three types of adjustment: extreme value treatment, nonresponse, and poststratification. For extreme value treatment via winsorization, denote the winsorized weights by $\{b_k\}$, where $b_k = d_k$ if d_k is not an extreme weight, and $b_k = \text{med}\{d_k\} \pm 3 * \text{IQR}$ if d_k is an extreme weight, where IQR denotes the interquartile range, and the median and quartiles for the weights are defined with respect to a suitable design-based stratum.

For the nonresponse adjustment, the sample is first divided into two parts: the nonextreme weight subsample and the extreme weight subsample. For nonextreme weights, the following are set: $\ell_2 = 1,\ c_2 = \rho^{-1},\ u_2 = u > \rho^{-1},$ where ρ is the overall response propensity. For extreme weights with high weights, $\ell_k = \ell_1 m_k,\ c_k = \rho^{-1} m_k,$ and $u_k = u_1 m_k,$ where $m_k = b_k / d_k$ and $1 \le \ell_1 < \rho^{-1} = c_1 < u_1$ are prescribed numbers. Similarly, for extreme weights with low weights, $\ell_k = \ell_3 m_k,\ c_k = \rho^{-1} m_k,\ u_k = u_3 m_k,$ and $1 \le \ell_3 < \rho^{-1} = c_3 < u_3$.

For the poststratification adjustment, the following weights are set: for nonextreme weights, $\ell_k = \ell_2,\ c_k = c_2 = 1,$ and $u_k = u_2;$ for high extreme weights, $\ell_k = \ell_1 m_k,\ c_k = m_k,$ and $u_k = u_1 m_k;$ and similarly, for low extreme weights, $\ell_k = \ell_3 m_k,\ c_k = m_k,$ and $u_k = u_3 m_k$. The extreme value adjustment is identical to poststratification, except for tighter bounds on extreme weights resulting from the final poststratification.

Notice that the GEM allows the flexibility of specifying different bounds for different subsamples. In addition, the lower bound (in the case of nonresponse adjustments) can be made to equal one by choosing the center $c_k > 1$.

A.3 Newton-Raphson Steps

Let *X* denote the $n \times p$ matrix of predictor values, and for the v^{th} iteration,

$$\Gamma_{\phi v} = \text{diag}\left(d_k \phi_k^{(v)}\right),\ \phi_k^{(o)} = 1,$$

where $\phi_k^{(v)} = \left[\left(u_k - a_k^{(v)}\right)\left(a_k^{(v)} - \ell_k\right)\right] \Big/ \left[\left(u_k - c_k\right)\left(c_k - \ell_k\right)\right]$.

Then, for the Newton-Raphson iteration v, the value of the p-vector λ is adjusted as

$$\lambda^{(v)} = \lambda^{(v-1)} + \left(X'\Gamma_{\phi,v-1}X\right)^{-1}\left(T_x - \hat{T}_x^{(v-1)}\right),$$

where $\lambda^{(0)} = 0$, and $\hat{T}_x$ is calculated by using equation A.1.2, in which a_k is calculated by plugging the current λ into equation A.1.3.

The convergence criterion is based on the Euclidean distance $\left\|T_x - \hat{T}_x^{(v)}\right\|$, which is defined as $\sqrt{\left(T_x - \hat{T}_x^{(v)}\right)'\left(T_x - \hat{T}_x^{(v)}\right)}$. At each iteration, it is checked to determine whether it is decreasing. If it is not, a half step is used in the iteration increment for λ.

A.4 Scaled Constrained Exponential Model

In National Household Surveys on Drug Abuse (NHSDAs)[1] prior to 1999, constrained exponential models (CEMs) were used for poststratification, and scaled CEMs were used for nonresponse adjustments. The CEM refers to the logit model of Deville and Särndal (1992), in which lower and upper bounds do not vary with k; that is, $\ell_k = \ell$, $u_k = u$, and $c_k = c = 1$, such that $\ell < 1 < u$. Thus, the CEM is a special case of the GEM. For the nonresponse adjustment, Folsom and Witt (1994) modified the CEM estimating equations by a scaling factor (ρ^{-1}, the inverse of the overall response propensity), such that $1 < \rho^{-1}a_k < \rho^{-1}u$. This implies that choosing ℓ in the CEM as ρ ensures that the scaled adjustment factor for nonresponse is at least one.

[1] The National Household Survey on Drug Abuse (NHSDA) was renamed the National Survey on Drug Use and Health (NSDUH) in the 2002 survey year.

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Appendix B: Poststratification Control Totals

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Appendix B: Poststratification Control Totals

For poststratification, quarterly state-specific totals for the target population (civilian, noninstitutionalized, aged 12 or older) are required for 120 demographic domains defined by Age, Race, Gender, and Hispanicity (6 × 5 × 2 × 2) (Exhibit B.1). The Population Estimates Branch of the U.S. Census Bureau produced, in response to a special request, the necessary population estimates based on monthly state-level estimates of the target population, which were based on the enumerated population from the census. In general, the controls include adjustments for births, deaths, and net migration, as well as adjustments from the Count Question Resolution Program and any geography updates. However, the controls do not include any adjustments for the undercount or overcount of specific populations as determined from the 2010 Census Coverage Measurement Program. Since the 2011 National Survey on Drug Use and Health (NSDUH), the control totals used for poststratification were based on the 2010 census. For the 2005 through 2013 NSDUHs, the sample and the source of design variables used as the generalized exponential model predictors were based on the 2000 census, but starting with the 2014 NSDUH, they are based on the 2010 census.

To arrive at quarterly estimates, approximations at the midpoints of the quarters were needed. To get these approximations, the estimates from the last 2 months in each quarter were averaged. For example, to obtain an approximation for the first quarter of 2014, the U.S. census estimates for February 1 and March 1 were averaged, resulting in a population estimate appropriate for February 15 (i.e., the midpoint of Quarter 1).

Exhibit B.1 Definition of Levels for Variables

Age (years)
1: 12-17, 2: 18-25, 3: 26-34, 4: 35-49, 5: 50-64, 6: 65+

Race
1: White, 2: Black or African American, 3: American Indian or Alaska Native, 4: Asian or Native Hawaiian or Pacific Islander, 5: Two or More Races

Gender
1: Male, 2: Female

Hispanicity
1: Hispanic or Latino, 2: Non-Hispanic or Latino

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Appendix C: Imputation Methodology

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Appendix C: Imputation Methodology

The adjustments of (1) dwelling unit (DU) poststratification, (2) poststratification of the selected sample to all eligible rostered people, and (3) person-level nonresponse required the use of demographic information obtained from the 2014 National Survey on Drug Use and Health (NSDUH) screener interview. However, at the time of screening, the only required information for an individual was age; thus, some demographic information (i.e., gender, Hispanic or Latino origin, and race) was missing. Therefore, some form of imputation was required for cases with missing data.[1]

As in 2002-2013, the predictive mean neighborhood (PMN) methodology was used for the 2014 NSDUH weighting process to impute "race" and "Hispanic or Latino origin" for the screener demographic information, as well as the questionnaire data (Singh, Grau, & Folsom, 2002). Because there was not a good set of predictors for PMN modeling, the unweighted sequential hot-deck method was used to impute gender.

C.1 Unweighted Hot Deck

This imputation was performed using an unweighted hot-deck methodology. The unweighted hot-deck method of imputing a variable with missing responses (which is called the base variable in this appendix) involved three basic steps.

1. *Forming imputation classes.* When a strong logical association existed between the base variable and certain auxiliary variables, the dataset was partitioned by the auxiliary variables, and imputation procedures were implemented independently within classes defined by the cross of the auxiliary variables.
2. *Sorting the file.* Within each imputation class, the file was sorted by auxiliary variables that were relevant to the item being imputed. The sort order of the auxiliary variables was chosen to reflect the degree of importance of the auxiliary variables in relation to the base variable being imputed (i.e., those auxiliary variables that were better predictors for the item being imputed were used as the first sorting variables).

   For the 2014 NSDUH, two types of sorting procedures were used to sort the files prior to imputation:

   (a) Straight Sort. A set of variables was sorted in ascending order by the first variable specified, then, within each level of the first variable, the file was sorted in ascending order by the second variable specified, and so on. For example:

1	1	1
1	1	2
1	2	1
1	2	2
1	3	1
1	3	2

[1] Because the imputation of these demographic variables was not required for the main NSDUH analysis, it is documented here.

2	1	1
2	1	2
2	2	1
2	2	2
2	3	1
2	3	2

(b) Serpentine Sort. A set of variables was sorted so that the direction of the sort (ascending or descending) changed each time the value of a variable changed. For example:

1	1	1
1	1	2
1	2	2
1	2	1
1	3	1
1	3	2
2	3	2
2	3	1
2	2	1
2	2	2
2	1	2
2	1	1

The serpentine sort has the advantage of minimizing the change in the entire set of auxiliary variables whenever any one of the variables changes its value.

3. *Replace missing values.* The file was sorted and then read sequentially. Each time an item respondent was encountered (i.e., the base variable was nonmissing), the base variable response was stored, updating the donor response, and any subsequent nonrespondent encountered received the stored donor response, creating the statistically imputed response. A starting value was needed if an item nonrespondent was the first record on a sorted file. Typically, the response from the first respondent on the sorted file was used as the starting value.

   Note that because the file was sorted by relevant auxiliary variables, the preceding item respondent (donor) closely matched the neighboring item nonrespondent (recipient) with respect to the auxiliary variables.

For more information on the general hot-deck method of item imputation, see Little and Rubin, 1987 (pp. 62-67).

With the unweighted sequential hot-deck imputation procedure, for any particular item being imputed, there was the risk of several nonrespondents appearing next to one another on the sorted file. To detect this problem in NSDUH, for every variable being imputed, a record was kept of the imputation donor. Then, by examining frequencies by imputation donor, if several nonrespondents were lining up next to one another in the sort, the situation could be detected. When this problem occurred, sort variables were added or eliminated, or the order of the sort variables was rearranged.

C.2 Predictive Mean Neighborhood (PMN)

Unweighted sequential hot deck is simple and quick to implement, but it has a number of disadvantages:

- The first few sorting covariates almost entirely determine what donor will be used for a particular respondent with missing data, regardless of how many sorting covariates are included.
- There is no mechanism derived from the data to weight the sorting covariates based on their relationship to the response variable.
- Weights are not used to determine the most appropriate donor for a respondent with missing data.
- The correlations across multiple outcome variables imputed to the same record are not accounted for when finding a donor.
- The choice of donor, after the sort has been completed, may be deterministic; this may introduce bias in estimating means and totals and, thus, make it difficult to determine the variance of the estimator when taking imputation into account.

To address the deficiencies of the unweighted sequential hot deck, the PMN methodology was developed for NSDUH. It is a combination of two commonly used imputation methods: a nonmodel-based hot deck and Rubin's model-based predictive mean matching method (Rubin, 1986). It enhances the predictive mean matching method in that it can be applied to both discrete and continuous variables either individually or jointly. It also enhances the nearest neighbor hot-deck method in that the distance function used to find neighbors is no longer ad hoc. It is easily applicable to problems of both univariate (UPMN) and multivariate (MPMN) imputations. Univariate imputation is used for imputing a single continuous or dichotomous discrete variable independently, whereas multivariate imputation arises when values of two or more variables are missing for a single respondent or when a single polytomous variable has missing values. (A polytomous variable is a categorical variable with three or more possible values, such as marital status, which is categorical and has the possible values of married, widowed, divorced, and never married.)

The procedure for implementing univariate and multivariable imputations can be summarized with the following six steps. Steps 2 through 5, and sometimes Step 6, were cycled through each of the variables in the order determined by Step 1. Steps 4 and 5 (Steps 4 through 6, when applicable) could be considered a variant of a random nearest neighbor hot deck.

Step 1: Hierarchy definition. Determine the order in which variables are modeled, so that variables early in the hierarchy may be used for modeling the conditional predictive mean (i.e., variables early in the hierarchy have the potential to be part of the set of covariates for variables later in the hierarchy).

For each variable:

Step 2: Setup for model building and hot-deck assignment. For each model that is fitted, two groups must be created: complete and incomplete data respondents (item respondents and item nonrespondents). Complete data respondents have complete data across the variables of interest, and incomplete data respondents encompass the remainder of respondents.

Step 3: Sequential hierarchical modeling. The model is built using the complete data for respondents only, with weights adjusted for item nonresponse.

Step 4: Computation of predictive means and delta neighborhoods. The predictive means for item respondents and item nonrespondents are calculated using the model coefficients. Then those item respondents whose predictive means are determined to be "close" (based on a distance function taking values within delta) to the item nonrespondents are considered part of the "delta" neighborhood.

Step 5: Assignment of imputed values using a univariate predictive mean. Using a simple random draw from the neighborhood developed in Step 4, a donor is chosen for each item nonrespondent.

If the variables for which Steps 2 through 5 have been completed are part of a complete multivariate set for which multivariate imputation is to be applied, Step 6 is the next step in the process. If the variables for which Steps 2 through 5 are completed are not part of a complete multivariate set, and other variables are still to be imputed, Step 2 is the next step. Otherwise, the process is finished.

Step 6: Determination of multivariate predictive mean neighborhood and assignment of imputed values. With multivariate imputation, the neighborhood is defined based on a vector of predictive means, rather than from a single predictive mean as in the univariate case.

The PMN methodology addresses all of the shortcomings of the unweighted sequential hot-deck method and was widely used for the imputation of a variety of variables in NSDUH, including both continuous and categorical variables with one or more levels. The models were fit using standard modeling procedures in SAS and SUDAAN®, while SAS macros were used to implement the hot-deck step, including the restrictions on the neighborhoods. Although creating a different neighborhood for each item nonrespondent was computationally intensive, the method was implemented successfully. For more details on PMN, see the 2014 editing and imputation report in the *NSDUH Methodological Resource Book* (Center for Behavioral Health Statistics and Quality, 2016).

Appendix D: Generalized Exponential Model Summary

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Appendix D: Generalized Exponential Model Summary

This appendix summarizes each model group throughout all stages of modeling the weight calibrations. Unlike much of the other information presented in this report, this appendix provides a model-specific overview of weight calibration, as opposed to a state- or domain-specific one.

The modeling for the 2014 National Survey on Drug Use and Health (NSDUH) involved taking nine generalized exponential model (GEM) groups through five adjustment steps: (1) dwelling unit (DU)–level nonresponse adjustment, (2) DU-level poststratification, (3) selected person-level poststratification, (4) person-level nonresponse adjustment, and (5) respondent person-level poststratification. The sampling weights after DU-level poststratification and person-level poststratification for this year were reasonably distributed, so the additional treatment of the extreme weight adjustment step was not necessary at either the DU level or the person level. See Table D for a summary of the distributions of each of the weight components at the national level.

Model-specific summary statistics are shown in Tables D.1a and D.1b to D.9a and D.9b. Included in these tables, for each stage of modeling, are the following: the number of effects that were controlled directly; the high, low, and nonextreme weight bounds set to provide the upper and lower limits for GEM; weighted, unweighted, and winsorized weight proportions; the unequal weighting effect (UWE); and weight distributions. The UWE provides an approximate measure of variance and establishes how much impact a particular stage of modeling has on the distribution of the new product of weights. For more details on bounds, see Section 4.2. At each stage in the modeling, these summary statistics were calculated and used to evaluate the model that was constructed and its corresponding product of weights.

Such circumstances as small sample sizes and exact linear combinations (i.e., singularities) in the realized data led to situations where finalizing models with the originally proposed set of covariates was not possible. The text and exhibits in Sections D.1 to D.9 summarize the decisions made regarding final covariates that were included in each model. For a list of the proposed initial covariates considered at each stage of modeling, see Exhibit D1.1, and for the list of realized final model covariates, see Exhibits D1.1 through D9.5. The following sections establish a series of guidelines to assist in the interpretation of the covariates.

Table D Distribution of Weight Adjustment Factors and Weight Products for the 2014 NSDUH Person Weight (United States)

	sel.sdu.des[1]	*res.sdu.nr*[1]		*res.sdu.ps*[1]		*sel.per.des*[1]		*sel.per.ps*[1]		*res.per.nr*[1]		*res.per.ps*[1]	
	1-8[2]	**9**[3]	**1-9**[3]	**10**[4]	**1-10**[4]	**12**[5]	**1-12**[5]	**13**[5]	**1-13**[5]	**14**[6]	**1-14**[6]	**15**[6]	**1-15**[6]
Minimum	5	0.66	33	0.05	14	1.01	16	0.10	4	0.30	4	0.08	1
1%	68	1.00	90	0.49	90	1.01	134	0.46	122	1.00	145	0.20	113
5%	100	1.04	115	0.79	124	1.01	276	0.73	265	1.02	318	0.44	278
10%	145	1.06	164	0.88	175	1.01	439	0.81	428	1.07	521	0.80	462
25%	442	1.11	464	0.98	467	1.34	1,000	0.91	986	1.17	1,209	0.97	1,127
Median	751	1.17	895	1.07	950	2.42	1,923	1.00	1,920	1.30	2,403	1.02	2,379
75%	958	1.26	1,187	1.17	1,288	3.35	3,687	1.10	3,700	1.46	4,834	1.08	4,890
90%	1,240	1.39	1,528	1.30	1,697	6.72	6,917	1.22	6,936	1.67	9,458	1.21	9,417
95%	1,381	1.52	1,682	1.45	1,953	7.78	9,205	1.32	9,184	1.85	13,075	1.36	13,223
99%	1,527	1.89	2,170	2.06	2,683	9.24	12,773	1.69	13,082	2.46	20,103	1.87	20,828
Maximum	4,235	6.00	5,780	5.00	9,667	21.12	54,829	10.61	47,865	5.78	59,535	6.02	72,502
n	154,533	127,605	127,605	127,583	127,583	91,640	91,640	91,640	91,640	67,901	67,901	67,901	67,901
Max/Mean	5.86	-	6.60	-	10.13	-	19.00	-	16.54	-	15.25	-	18.57

Note 1: Weight component 11 and weight products 1-11 are excluded because weight 11 = 1 for all selected dwelling units.
Note 2: Weight component 16 and weight products 1-16 are excluded because weight 16 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #9 and #14) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] Sel.sdu.des refers to selected screener dwelling unit design weight, and sel.per.des refers to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected people.
[6] Based on questionnaire-complete people.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

D.1 Final Model Explanatory Variables

For brevity, numeric abbreviations for variable levels are established in Exhibit D3.1 in Chapter 3 (included here as Exhibit D.1 for easy reference). There, a complete list is provided of all variables and associated levels used at any stage of modeling. In this report, each level of a variable is referred to as a covariate. Note that (1) not all variables or levels are present in all stages of modeling; (2) the initial set of covariates, allowing for differences in states across model groups, is the same for all model groups within a stage of modeling; and (3) the initial set of covariates changes across the stages of modeling. Exhibits D.2 through D.5 provide the initial covariates for the stages of modeling, and Exhibits D1.1 through D9.5 provide lists of both the proposed and the final covariates for the nine model groups. This last group of exhibits is grouped by model groups and contains one exhibit for each stage of weight adjustment. The initial variables are found in the "Proposed" column, and the realized covariates are found in the "Final" column.

Section D.3 explains how to create cross-classification tables, which help to illustrate what covariates are controlled for at each stage of the modeling. The general pattern is as follows: directions to follow, semicolon, reason for the change. Sections D.2 and D.3 explain how to use various exhibits for selected model variables to construct these tables. For greater detail on why variable levels are collapsed or dropped, see Section 4.7.

Exhibit D.1 Definition of Levels for Variables

Age (years)
1: 12-17, 2: 18-25, 3: 26-34, 4: 35-49, 5: 50+[1,4]

Gender
1: Male, 2: Female[1]

Group Quarters Indicator
1: College Dorm, 2: Other Group Quarter, 3: Non-Group Quarter[1]

Hispanicity
1: Hispanic or Latino, 2: Non-Hispanic or Latino[1]

Percentage of Owner-Occupied Dwelling Units in Segment (% Owner-Occupied)
1: 50-100%,[1] 2: 10-<50%, 3: 0-<10%

Percentage of Segments That Are Black or African American
1: 50-100%, 2: 10-<50%, 3: 0-<10%[1]

Percentage of Segments That Are Hispanic or Latino
1: 50-100%, 2: 10-<50%, 3: 0-<10%[1]

Population Density
1: MSA 1,000,000 or More, 2: MSA Less than 1,000,000, 3: Non-MSA Urban, 4: Non-MSA Rural[1]

Quarter
1: Quarter 1, 2: Quarter 2, 3: Quarter 3, 4: Quarter 4[1]

Race (3 levels)
1: White,[1] 2: Black or African American, 3: Other

Race (5 levels)
1: White,[1] 2: Black or African American, 3: American Indian or Alaska Native, 4: Asian, 5: Two or More Races

Relation to Householder
1: Householder or Spouse,[1] 2: Child, 3: Other Relative, 4: Nonrelative

Segment-Combined Median Rent and Housing Value (Rent/Housing)[2]
1: First Quintile, 2: Second Quintile, 3: Third Quintile, 4: Fourth Quintile, 5: Fifth Quintile[1]

States[3]

Model Group 1:	1: Connecticut, 2: Maine, 3: New Hampshire, 4: Rhode Island, 5: Vermont, 6: Massachusetts[1]
Model Group 2:	1: New Jersey,[1] 2: New York, 3: Pennsylvania
Model Group 3:	1: Illinois, 2: Indiana,[1] 3: Michigan, 4: Wisconsin, 5: Ohio
Model Group 4:	1: Iowa, 2: Kansas, 3: Minnesota, 4: Missouri,[1] 5: Nebraska, 6: South Dakota, 7: North Dakota
Model Group 5:	1: Delaware, 2: District of Columbia, 3: Georgia,[1] 4: Maryland, 5: North Carolina, 6: South Carolina, 7: Virginia, 8: West Virginia, 9: Florida
Model Group 6:	1: Alabama, 2: Kentucky, 3: Mississippi, 4: Tennessee[1]
Model Group 7:	1: Arkansas,[1] 2: Louisiana, 3: Oklahoma, 4: Texas
Model Group 8:	1: Colorado, 2: Idaho, 3: Montana, 4: Nevada, 5: New Mexico, 6: Utah, 7: Wyoming, 8: Arizona[1]
Model Group 9:	1: Alaska, 2: Hawaii, 3: Oregon, 4: Washington,[1] 5: California

MSA = metropolitan statistical area.

[1] The reference level for this variable. This is the level against which effects of other factor levels are measured.

[2] Segment-Combined Median Rent and Housing Value (also known as the Socioeconomic Status [SES] indicator) is a composite measure based on rent, housing value, and percent owner occupied.

[3] The states or district assigned to a particular model are based on census divisions.

[4] The age group 50+ was further broken down into 50-64 and 65+ for Person-Level Poststratification Adjustment and Person-Level Extreme Weight Adjustment, for which 65+ was used as the reference level.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

D.2 Glossary of Terms Used in the Exhibits and Descriptions of the Variables in the Final Model

This glossary provides a list of general terms. Certain other specific terms are sometimes used within a particular section.

All levels present. All levels of the variable under consideration were included in the final model.

Coll. Collapse (levels). These levels of the factor effect were collapsed together. Levels that have been collapsed together no longer appear in the model as separate variables, but rather manifest themselves jointly in the model.

Conv. If model is not convergent, dropping or collapsing of variables is performed.

Drop all levels. All levels of a factor effect were completely removed from the model, as well as any combinations involving this factor.

Drop *level(s)*. These levels of a factor effect were collapsed into the reference set. The dropped levels manifest themselves jointly with the appropriate reference levels.

Drop *level(s)*; singularity/zero sample. During the modeling process, the levels of factor effect(s) listed were removed from the model because of either singularities or sample sizes of zero.

Drop or collapse using *. The asterisk is used as a wildcard character to indicate all levels of that factor effect.

Factor effects. Another name for covariates, or variables, such as "Age." In addition to one-factor effects, two-, and three-factor effects also are referenced, such as "Age × Race" and "Age × Race × Gender."

Hier. Factor effects collapsed/dropped at lower order and the hierarchical effect carries up. This indicates that one or more levels of factor effects were collapsed/dropped in an earlier stage, and that the same action (collapse/drop) was performed on the corresponding levels in all higher-order factor effects containing the dropped/collapsed levels.

Keep *level(s)*. These levels of the factor effect were kept in the model and the remainder into the reference set.

Reference/reference set. The reference levels of factor effects (see Exhibit D.1) are not explicitly listed in the set of model variables, but are represented implicitly in the model in the intercept term. These include one-, two-, and three-factor effects.

Repeat or **Do the same for *(effects)*.** The previous action was repeated for all effect levels listed.

Sing. Singularity is the linear dependence of columns of realized values of the predictors in the model. Any variable that is a linear combination of other variables is either dropped from the model or collapsed with other variables.

D.3 How to Interpret Collapsing and Dropping of Factor Effects

To help visualize what effects were directly controlled for in the model, a table that reflects the collapsing scheme employed can be constructed. The following is a complex example from the 2004 modeling, which demonstrates how to use the information found in Exhibits D1.1 through D9.5.

1. Consider the following entry for the factor effect of State × Age × Race (3 levels), for Model Group 9, for the Person-Level Nonresponse Adjustment.

Three-Factor Effects	Comments
State × Age × Race (3 Levels)	Coll. (2,1,2) & (2,1,3); hier. Repeat for all age levels in state (2); hier. Coll. (1,4,2) & (1,4,3); conv. Drop (3,4,2); sing. Drop (3,*,*); conv. Coll. (5,1,2) & (5,1,3); conv. Repeat for all age levels in state (5).

2. Determine the initial range of possible levels for the variables by referring to the variable definitions shown in Exhibit D.1:

State (for the model group in question, in this case, Model Group 9)

Model Group 9: 1: Alaska, 2: Hawaii, 3: Oregon, 4: Washington,[1] 5: California

Age (years)

1: 12-17, 2: 18-25, 3: 26-34, 4: 35-49, 5: 50+[1]

Race (3 levels)

1: White,[1] 2: Black or African American, 3: Other

3. Construct the cross-classification table.

For example, Race (5 levels) is defined this way:

Race (5 Levels)	White	Black or African American	Asian	American Indian or Alaska Native	Two or More Races

Shading indicates the reference-level set.

[1] This is the reference level for this variable. This is the level against which effects of other factor levels are measured.

This is the cross-classification table for State × Race (5 levels):

State × Race (5 levels)	White	Black or African American	Asian	American Indian or Alaska Native	Two or More Races
AK					
HI					
OR					
WA					
CA					

Shading indicates the reference-level set.

The cross-classification table of interest [State × Age × Race (3 levels)] is as follows:

State × Age × Race (3 Levels)	White	Black or African American	Other
AK × 12-17			
18-25			
26-34			
35-49			
50+			
HI × 12-17			
18-25			
26-34			
35-49			
50+			
OR × 12-17			
18-25			
26-34			
35-49			
50+			
WA × 12-17			
18-25			
26-34			
35-49			
50+			
CA × 12-17			
18-25			
26-34			
35-49			
50+			

Shading indicates the reference-level set.

The number of respondents in that class at this stage of modeling would appear within each cell of the table. Construction of the other cross-classification tables follows the same logic and is only necessary to the point of providing an understanding of the final table.

4. Use the information under the "Final" column definition to determine the combination of factors controlled.

Hier. This means the factor effect was collapsed at a lower order. Because this note is present, examine the information on lower-order factor effects that are the components of the interaction term, State × Race (3 levels) × Age; that is, look at the one-factor and two-factor effects for State, Race (5 levels), and Age, and their accompanying information:

One-Factor Effects	**Comments**
State	All levels present.
Race (5 Levels)	All levels present.
Age	All levels present.

Two-Factor Effects	**Comments**
State × Age	All levels present.
State × Race (5 Levels)	Coll. (1,3) & (1,4). Do the same for all other states except (2). Coll. (2,2), (2,3), & (2,4).
Age × Race (3 Levels)	All levels present.

Following these directions, the resulting two-factor table is:

State × Race (5 Levels)	**White**	**Black or African American**	**Asian**	**American Indian or Alaska Native**	**Two or More Races**
AK					
HI					
OR					
WA					
CA					

Shading indicates the reference-level set.

Continuing on to the three-factor level for the same example:

Three-Factor Effects	**Comments**
State × Age × Race (3 Levels)	Coll. (2,1,2) & (2,1,3); hier. Repeat for all age levels in state (2); hier. Coll. (1,4,2) & (1,4,3); conv. Drop (3,4,2); sing. Drop (3,*,*); conv. Coll. (5,1,2) & (5,1,3); conv. Repeat for all age levels in state (5).

The reason for the note "Hier." in the three-factor effects is that collapsing was done on the two-factor interaction term State × Race (5 levels). Because collapsing was done on this term, all three-factor crosses involving State × Race must maintain this same collapsing scheme.

After following the directions, the cross-classification table should appear as follows:

State × Age × Race (3 Levels)	White	Black or African American	Other
AK × 12-17			
18-25			
26-34			
35-49			
50+			
HI × 12-17			
18-25			
26-34			
35-49			
50+			
OR × 12-17			
18-25			
26-34			
35-49			
50+			
WA × 12-17			
18-25			
26-34			
35-49			
50+			
CA × 12-17			
18-25			
26-34			
35-49			
50+			

Shading indicates the reference-level set.

The unshaded cells represent the factors directly controlled for by the model (i.e., those factors that were not collapsed or dropped). The shaded cells represent the composite reference set, whose values may be obtained by utilizing the marginal sums, although when changes to the initially proposed set occur, it can make certain reference cell counts indistinguishable.

Exhibit D.2 Covariates for 2014 NSDUH Person Weights (res.sdu.nr)

Variables	Levels	Proposed
One-Factor Effects		
Intercept	1	1
State	Model Specific	
Quarter	4	3
Population Density	4	3
Group Quarter	3	2
% Black or African American	3	2
% Hispanic or Latino	3	2
% Owner-Occupied	3	2
Rent/Housing	5	4
Two-Factor Effects		
% Owner-Occupied × % Black or African American	3 × 3	4
% Owner-Occupied × % Hispanic or Latino	3 × 3	4
% Owner-Occupied × Rent/Housing	3 × 5	8
Rent/Housing × % Black or African American	3 × 5	8
Rent/Housing × % Hispanic or Latino	3 × 5	8
State × Quarter	Model Specific	
State × Population Density	Model Specific	
State × Group Quarter	Model Specific	
State × % Black or African American	Model Specific	
State × % Hispanic or Latino	Model Specific	
State × % Owner-Occupied	Model Specific	
State × Rent/Housing	Model Specific	
Three-Factor Effects		
State × % Owner-Occupied × % Black or African American	Model Specific	
State × % Owner-Occupied × % Hispanic or Latino	Model Specific	
State × % Owner-Occupied × Rent/Housing	Model Specific	
State × Rent/Housing × % Black or African American	Model Specific	
State × Rent/Housing × % Hispanic or Latino	Model Specific	

Exhibit D.3 Covariates for 2014 NSDUH Person Weights (res.sdu.ps)

Variables	Levels	Proposed
One-Factor Effects		
Intercept	1	1
State	Model Specific	
Quarter	4	3
Age	5	4
Race (5 levels)	5	4
Gender	2	1
Hispanicity	2	1
Two-Factor Effects		
Age × Race (3 levels)	5 × 3	8
Age × Hispanicity	5 × 2	4
Age × Gender	5 × 2	4
Race (3 levels) × Hispanicity	3 × 2	2
Race (3 levels) × Gender	3 × 2	2
Hispanicity × Gender	2 × 2	1
State × Quarter	Model Specific	
State × Age	Model Specific	
State × Race (5 levels)	Model Specific	
State × Hispanicity	Model Specific	
State × Gender	Model Specific	
Three-Factor Effects		
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8
Age × Race (3 levels) × Gender	5 × 3 × 2	8
Age × Hispanicity × Gender	5 × 2 × 2	4
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2
State × Age × Race (3 levels)	Model Specific	
State × Age × Hispanicity	Model Specific	
State × Age × Gender	Model Specific	
State × Race (3 levels) × Hispanicity	Model Specific	
State × Race (3 levels) × Gender	Model Specific	
State × Hispanicity × Gender	Model Specific	

Exhibit D.4 Covariates for 2014 NSDUH Person Weights (sel.per.ps and res.per.nr)

Variables	Levels	Proposed
One-Factor Effects		
Intercept	1	1
State	Model Specific	
Quarter	4	3
Age	5	4
Race (5 levels)	5	4
Gender	2	1
Hispanicity	2	1
Relation to Householder	4	3
Population Density	4	3
Group Quarter	3	2
% Black or African American	3	2
% Hispanic or Latino	3	2
% Owner-Occupied	2	2
Rent/Housing	5	4
Two-Factor Effects		
Age × Race (3 levels)	5 × 3	8
Age × Hispanicity	5 × 2	4
Age × Gender	5 × 2	4
Race (3 levels) × Hispanicity	3 × 2	2
Race (3 levels) × Gender	3 × 2	2
Hispanicity × Gender	2 × 2	1
% Owner-Occupied × % Black or African American	3 × 3	4
% Owner-Occupied × % Hispanicity	3 × 3	4
% Owner-Occupied × Rent/Housing	3 × 5	8
Rent/Housing × % Black or African American	3 × 5	8
Rent/Housing × % Hispanic or Latino	3 × 5	8
State × Quarter	Model Specific	
State × Age	Model Specific	
State × Race (5 levels)	Model Specific	
State × Hispanicity	Model Specific	
State × Gender	Model Specific	
State × % Black or African American	Model Specific	
State × % Hispanic or Latino	Model Specific	
State × % Owner-Occupied	Model Specific	
State × Rent/Housing	Model Specific	
Three-Factor Effects		
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8
Age × Race (3 levels) × Gender	5 × 3 × 2	8
Age × Hispanicity × Gender	5 × 2 × 2	4
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2
State × Age × Race (3 levels)	Model Specific	
State × Age × Hispanicity	Model Specific	
State × Age × Gender	Model Specific	
State × Race (3 levels) × Hispanicity	Model Specific	
State × Race (3 levels) × Gender	Model Specific	
State × Hispanicity × Gender	Model Specific	

Exhibit D.5 Covariates for 2014 NSDUH Person Weights (res.per.ps and res.per.ev)

Variables	Levels	Proposed
One-Factor Effects		
Intercept	1	1
State	Model Specific	
Quarter	4	3
Age	6	5
Race (5 levels)	5	4
Gender	2	1
Hispanicity	2	1
Two-Factor Effects		
Age × Race (3 levels)	6 × 3	10
Age × Hispanicity	6 × 2	5
Age × Gender	6 × 2	5
Race (3 levels) × Hispanicity	3 × 2	2
Race (3 levels) × Gender	3 × 2	2
Hispanicity × Gender	2 × 2	1
State × Quarter	Model Specific	
State × Age	Model Specific	
State × Race (5 levels)	Model Specific	
State × Hispanicity	Model Specific	
State × Gender	Model Specific	
Three-Factor Effects		
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10
Age × Race (3 levels) × Gender	6 × 3 × 2	10
Age × Hispanicity × Gender	6 × 2 × 2	5
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2
State × Age × Race (3 levels)	Model Specific	
State × Age × Hispanicity	Model Specific	
State × Age × Gender	Model Specific	
State × Race (3 levels) × Hispanicity	Model Specific	
State × Race (3 levels) × Gender	Model Specific	
State × Hispanicity × Gender	Model Specific	

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Appendix D1: Model Group 1: New England

(Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont)

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Table D.1a 2014 NSDUH Person Weight GEM Modeling Summary (Model Group 1: New England)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	% Unweighted	% Weighted	% Outwinsor			Nominal	Realized
res.sdu.nr	6.47	10.09	1.34	1.76331	306	(1.12, 2.00)	(1.13, 2.00)
	3.01	6.10	0.58	1.81700	135	(1.00, 2.30)	(1.00, 2.26)
						(1.20, 4.90)	(1.20, 4.90)
res.sdu.ps	3.01	6.10	0.58	1.81698	232	(0.37, 1.20)	(0.37, 1.20)
	1.86	4.58	1.16	2.03219	232	(0.20, 5.00)	(0.20, 5.00)
						(0.90, 1.17)	(0.90, 1.17)
sel.per.ps	2.23	5.59	1.67	3.18928	332	(0.20, 2.50)	(0.20, 2.50)
	1.57	4.22	0.95	3.11304	303	(0.20, 4.10)	(0.20, 4.10)
						(0.40, 3.97)	(0.40, 3.97)
res.per.nr	1.76	4.07	0.91	3.14329	332	(1.00, 2.90)	(1.00, 2.90)
	2.07	7.25	1.35	3.82917	251	(1.00, 5.00)	(1.00, 5.00)
						(1.20, 5.00)	(1.20, 5.00)
res.per.ps	2.04	7.12	1.36	3.82917	267	(0.20, 3.00)	(0.20, 3.00)
	0.92	2.70	0.63	3.71662	196	(0.20, 5.00)	(0.20, 4.99)
						(0.90, 1.03)	(1.02, 1.02)

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[3] Number of proposed covariates (XVAR) on top line and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the generalized exponential model (GEM) adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high extreme values, the nonextreme values, and the low extreme values.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table D.1b Distribution of Weight Adjustment Factors and Weight Products for the 2014 NSDUH Person Weight (Model Group 1: New England)

	sel.sdu.des[1]	*res.sdu.nr*[1]		*res.sdu.ps*[1]		*sel.per.des*[1]		*sel.per.ps*[1]		*res.per.nr*[1]		*res.per.ps*[1]	
	1-8[2]	**9**[3]	**1-9**[3]	**10**[4]	**1-10**[4]	**12**[5]	**1-12**[5]	**13**[5]	**1-13**[5]	**14**[6]	**1-14**[6]	**15**[6]	**1-15**[6]
Minimum	78	0.84	84	0.20	33	1.01	44	0.10	10	0.36	10	0.10	3
1%	78	1.00	87	0.43	79	1.01	102	0.41	90	0.99	96	0.20	32
5%	80	1.06	95	0.71	97	1.01	173	0.66	161	1.00	184	0.28	126
10%	101	1.09	116	0.85	116	1.01	227	0.76	230	1.00	256	0.67	223
25%	161	1.14	196	0.96	195	1.37	387	0.88	376	1.09	450	0.98	437
Median	213	1.18	247	1.05	271	2.26	816	1.00	806	1.28	973	1.04	950
75%	516	1.24	630	1.13	607	3.39	1,807	1.12	1,762	1.50	2,267	1.09	2,302
90%	916	1.31	1,087	1.27	1,162	8.08	3,594	1.27	3,630	1.82	4,915	1.16	5,045
95%	965	1.37	1,201	1.40	1,435	9.38	5,489	1.40	5,699	2.12	8,170	1.33	8,036
99%	1,301	1.60	1,653	2.14	2,086	10.57	12,145	1.94	11,599	3.68	19,041	2.27	19,069
Maximum	1,964	5.99	2,791	5.00	7,307	21.12	40,175	7.46	32,309	5.49	59,535	4.99	46,402
n	14,730	12,315	12,315	12,312	12,312	7,987	7,987	7,987	7,987	5,791	5,791	5,791	5,791
Max/Mean	5.26	-	6.25	-	15.29	-	25.35	-	20.54	-	27.44	-	21.39

Note 1: Weight component 11 and weight products 1-11 are excluded because weight 11 = 1 for all selected dwelling units.
Note 2: Weight component 16 and weight products 1-16 are excluded because weight 16 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #9 and #14) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] Sel.sdu.des refers to selected screener dwelling unit design weight, and sel.per.des refers to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected people.
[6] Based on questionnaire-complete people.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Model Group 1 Overview

Dwelling Unit Nonresponse

For the one-factor effects, variable dropping was present in percent Black or African American. Out of 24 proposed variables, 23 were included in the model.

Variable collapsing or dropping was present in all two-factor effects except the percent Owner-Occupied × percent Hispanic or Latino, percent Owner-Occupied × Rent/Housing, State × Quarter, and State × Rent/Housing interactions. Out of 122 proposed variables, 86 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 160 proposed variables, 26 were included in the model.

In the final model, a total of 135 variables were included; see Exhibit D1.1.

Dwelling Unit Poststratification

All 19 proposed one-factor effects were included in the model.

All 86 proposed two-factor effects were included in the model.

All 127 proposed three-factor effects were included in the model.

In the final model, a total of 232 variables were included; see Exhibit D1.2.

Selected Person-Level Poststratification

For the one-factor effects, variable collapsing was present in percent Black or African American. Out of 37 proposed variables, 36 were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Black or African American, Rent/Housing × percent Black or African American, Rent/Housing × percent Hispanic or Latino, State × percent Black or African American, and State × percent Hispanic or Latino interactions. Out of 168 proposed variables, 149 were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the State × Age × Race, State × Age × Hispanicity, and State × Race × Hispanicity interactions. Out of 127 proposed variables, 118 were included in the model.

In the final model, a total of 303 variables were included; see Exhibit D1.3.

Respondent Person-Level Nonresponse

For the one-factor effects, variable dropping was present in percent Black or African American. Out of 37 proposed variables, 36 were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the Age × Race, percent Owner-Occupied × percent Black or African American, Rent/Housing × percent Black or African American, Rent/Housing × percent Hispanic or Latino, State × Race, State × percent Black or African American, State × percent Hispanic or Latino, State × percent Owner-Occupied, and State × Rent/Housing interactions. Out of 168 proposed variables, 136 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. Out of 127 proposed variables, 79 were included in the model.

In the final model, a total of 251 variables were included; see Exhibit D1.4.

Respondent Person-Level Poststratification

All 20 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing was present in the State × Race interaction. Out of 95 proposed variables, 90 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Hispanicity × Gender, Race × Hispanicity × Gender, and State × Age × Gender interactions. Out of 152 proposed variables, 86 were included in the model.

In the final model, a total of 196 variables were included; see Exhibit D1.5.

Exhibit D1.1 Covariates for 2014 NSDUH Person Weights (res.sdu.nr), Model Group 1: New England

Variables	Level	Proposed	Final	Comments
One-Factor Effects		**24**	**23**	
Intercept	1	1	1	All levels present.
State	6	5	5	All levels present.
Quarter	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	1	Drop (1); zero.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**122**	**86**	
% Owner-Occupied × % Black or African American	3 × 3	4	2	Drop (2/3,1); hier.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	4	Drop (*,1); hier.
Rent/Housing × % Hispanic or Latino	3 × 5	8	6	Coll. (3,1) & (3,2); conv. Coll. (4,1) & (4,2); sing.
State × Quarter	6 × 4	15	15	All levels present.
State × Population Density	6 × 4	15	6	Keep (1,1), (2,2/3), (3,2/3), (5,2), drop all others, zero, sing.
State × Group Quarter	6 × 3	10	4	Coll. (1,1) & (1,2), conv. Repeat for states ME, NH, and RI. Drop for VT.
State × % Black or African American	6 × 3	10	2	Keep (1,2) & (4,2), drop all others; hier., zero.
State × % Hispanic or Latino	6 × 3	10	6	Drop (2/3/5,1), (5,2); zero.
State × % Owner-Occupied	6 × 3	10	9	Coll. (5,3) & (5,2), conv.
State × Rent/Housing	6 × 5	20	20	All levels present.
Three-Factor Effects		**160**	**26**	
State × % Owner-Occupied × % Black or African American	6 × 3 × 3	20	2	Keep (1/4,2,2), drop all others, hier., sing.
State × % Owner-Occupied × % Hispanic or Latino	6 × 3 × 3	20	2	Keep (1,2,2), coll. (1,3,1) & (1,2,1); conv. Drop all others; sing./zero/conv.
State × % Owner-Occupied × Rent/Housing	6 × 3 × 5	40	13	Keep (1/4,2,*), (2,2,1/2/3), (3,2,3) Coll. (3,2,1) & (3,2,2), drop all others, sing./zero/conv.
State × Rent/Housing × % Black or African American	6 × 3 × 5	40	5	Keep (1,*,2), coll. (4,1,2) & (4,2,2), drop all others; hier./conv.
State × Rent/Housing × % Hispanic or Latino	6 × 3 × 5	40	4	Keep (1,1,2) & (1,2,1/2), coll. (1,3,1) & (1,3,2), drop all others; hier./sing./conv.
Total		**306**	**135**	

Exhibit D1.2 Covariates for 2014 NSDUH Person Weights (res.sdu.ps), Model Group 1: New England

Variables	Level	Proposed	Final	Comments
One-Factor Effects		**19**	**19**	
Intercept	1	1	1	All levels present.
State	6	5	5	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**86**	**86**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	6 × 4	15	15	All levels present.
State × Age	6 × 5	20	20	All levels present.
State × Race (5 levels)	6 × 5	20	20	All levels present.
State × Hispanicity	6 × 2	5	5	All levels present.
State × Gender	6 × 2	5	5	All levels present.
Three-Factor Effects		**127**	**127**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	8	All levels present.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	6 × 5 × 3	40	40	All levels present.
State × Age × Hispanicity	6 × 5 × 2	20	20	All levels present.
State × Age × Gender	6 × 5 × 2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	6 × 3 × 2	10	10	All levels present.
State × Race (3 levels) × Gender	6 × 3 × 2	10	10	All levels present.
State × Hispanicity × Gender	6 × 2 × 2	5	5	All levels present.
Total		**232**	**232**	

Exhibit D1.3 Covariates for 2014 NSDUH Person Weights (sel.per.ps), Model Group 1: New England

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**37**	**36**	
Intercept	1	1	1	All levels present.
State	6	5	5	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	1	Coll. (1) & (2), zero.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**168**	**149**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	2	Coll. (2,1) & (2,2), (3,1) & (3,2); hier.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	4	Coll. (1,1) & (1,2), (2,1) & (2,2), (3,1) & (3,2), (4,1) & (4,2); hier.
Rent/Housing × % Hispanic or Latino	3 × 5	8	7	Coll. (4,1) & (4,2); sing.
State × Quarter	6 × 4	15	15	All levels present.
State × Age	6 × 5	20	20	All levels present.
State × Race (5 levels)	6 × 5	20	20	All levels present.
State × Hispanicity	6 × 2	5	5	All levels present.
State × Gender	6 × 2	5	5	All levels present.
State × % Black or African American	6 × 3	10	2	Coll. (1,1) & (1,2), repeat for all states, drop (2,1/2), (3,1/2), (5,1/2); zero.
State × % Hispanic or Latino	6 × 3	10	6	Drop (5,1), (5,2); zero. Coll. (1,1) & (1,2), (2,1) & (2,2); sing.
State × % Owner-Occupied	6 × 3	10	10	All levels present.
State × Rent/Housing	6 × 5	20	20	All levels present.
Three-Factor Effects		**127**	**118**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	8	All levels present.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	6 × 5 × 3	40	37	Coll. (2,3,2) & (2,3,3), (2,4,2) & (2,4,3), (5,4,2) & (5,4,3) conv.
State × Age × Hispanicity	6 × 5 × 2	20	19	Drop (5,4,1); zero.
State × Age × Gender	6 × 5 × 2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	6 × 3 × 2	10	5	Coll. (1,2,1) & (1,3,1), repeat for all states; conv.
State × Race (3 levels) × Gender	6 × 3 × 2	10	10	All levels present.
State × Hispanicity × Gender	6 × 2 × 2	5	5	All levels present.
Total		**332**	**303**	

Exhibit D1.4 Covariates for 2014 NSDUH Person Weights (res.per.nr), Model Group 1: New England

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**37**	**36**	
Intercept	1	1	1	All levels present.
State	6	5	5	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	1	Drop (1); zero.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**168**	**136**	
Age × Race (3 levels)	5 × 3	8	7	Coll. (4,2) & (4,3); conv.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	2	Drop (2,1), (3,1); zero.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	4	Drop (*,1); zero.
Rent/Housing × % Hispanic or Latino	3 × 5	8	7	Coll. (4,1) & (4,2); sing.
State × Quarter	6 × 4	15	15	All levels present.
State × Age	6 × 5	20	20	All levels present.
State × Race (5 levels)	6 × 5	20	16	Coll. (1,3) & (1,4), repeat for ME, NH, and VT; conv.
State × Hispanicity	6 × 2	5	5	All levels present.
State × Gender	6 × 2	5	5	All levels present.
State × % Black or African American	6 × 3	10	2	Keep (1,2), (4,2), drop others; zero.
State × % Hispanic or Latino	6 × 3	10	4	Drop (2,1), (2,2), (3,1), (5,1), (5,2); zero; coll. (1,1) & (1,2); conv.
State × % Owner-Occupied	6 × 3	10	5	Coll. (1,2) & (1,3), repeat for all states; conv.
State × Rent/Housing	6 × 5	20	19	Coll. (4,1) & (4,2); conv.
Three-Factor Effects		**127**	**79**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	1	Keep (1,2) & (3,1), drop others; hier./conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	6	Coll. (4,2,1) & (4,3,1); hier. Coll. (3,2,1) & (3,3,1); conv.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (3,2,1) & (3,3,1); conv.
State × Age × Race (3 levels)	6 × 5 × 3	40	20	Coll. (1,4,2) & (1,4,3), repeat for all states; hier. Repeat for all states and age levels; conv.
State × Age × Hispanicity	6 × 5 × 2	20	14	Drop (*,4,1); zero, sing., conv.; drop (2,3,1); conv.
State × Age × Gender	5 × 5 × 2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	5 × 3 × 2	10	0	Coll. (*,2,1) & (*,3,1), drop (*,2/3,1); conv.
State × Race (3 levels) × Gender	5 × 3 × 2	10	8	Coll. (2,2,1) & (2,3,1), (5,2,1) & (5,3,1); conv.
State × Hispanicity × Gender	5 × 2 × 2	5	5	All levels present.
Total		**332**	**251**	

Exhibit D1.5 Covariates for 2014 NSDUH Person Weights (res.per.ps), Model Group 1: New England

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**20**	**20**	
Intercept	1	1	1	All levels present.
State	6	5	5	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**95**	**90**	
Age × Race (3 levels)	6 × 3	10	10	All levels present.
Age × Hispanicity	6 × 2	5	5	All levels present.
Age × Gender	6 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	6 × 4	15	15	All levels present.
State × Age	6 × 6	25	25	All levels present.
State × Race (5 levels)	6 × 5	20	15	Coll. (2,3), (2,4) & (2,5), repeat for VT, coll. (4.3) & (4,4); conv.
State × Hispanicity	6 × 2	5	5	All levels present.
State × Gender	6 × 2	5	5	All levels present.
Three-Factor Effects		**152**	**86**	
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10	8	Drop (5,2/3,1); conv.
Age × Race (3 levels) × Gender	6 × 3 × 2	10	8	Drop (5,2/3,1); conv.
Age × Hispanicity × Gender	6 × 2 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	6 × 5 × 3	50	12	Coll. (1,1,2) & (1,1,3), repeat for age levels 2, 3, and 4, coll. (2,1,2) & (2,1,3), coll. (3,1,2) & (3,1,3), repeat for age levels 2 and 3, coll. (4,1,2) & (4,1,3), repeat for age levels 2 and 3, coll. (5,1,2) & (5,2,3); sing./zero/conv.
State × Age × Hispanicity	6 × 6 × 2	25	12	Drop (1,5,1), (2,*,1), (3,4/5,1), (4,5,1), (5,2/3/4/5,1); sing./zero/conv.
State × Age × Gender	6 × 6 × 2	25	25	All levels present.
State × Race (3 levels) × Hispanicity	6 × 3 × 2	10	4	Coll. (1,2,1) & (1,3,1), coll. (3,2,1) & (3,3,1), keep (4,2,1), (4,3,1), drop others; conv.
State × Race (3 levels) × Gender	6 × 3 × 2	10	6	Drop (2,2/3,1), (5,2/3,1); conv.
State × Hispanicity × Gender	6 × 2 × 2	5	4	Drop (5,1,1); conv.
Total		**267**	**196**	

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Appendix D2: Model Group 2: Middle Atlantic

(New Jersey, New York, and Pennsylvania)

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Table D.2a 2014 NSDUH Person Weight GEM Modeling Summary (Model Group 2: Middle Atlantic)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	% Unweighted	% Weighted	% Outwinsor			Nominal	Realized
res.sdu.nr	2.29	3.05	0.37	1.02110	153	(1.10, 1.80)	(1.11, 1.78)
	1.86	3.22	0.89	1.07653	108	(1.00, 5.00)	(1.00, 5.00)
						(1.30, 2.24)	(1.30, 2.24)
res.sdu.ps	1.86	3.22	0.89	1.07653	127	(0.80, 2.00)	(0.81, 2.00)
	2.21	5.34	1.58	1.14608	127	(0.47, 5.00)	(0.50, 5.00)
						(0.90, 3.08)	(0.90, 3.08)
sel.per.ps	3.88	9.21	2.90	1.77972	197	(0.61, 2.30)	(0.62, 2.30)
	2.35	6.06	1.32	1.71145	194	(0.61, 2.64)	(0.62, 2.63)
						(0.90, 1.69)	(0.90, 1.69)
res.per.nr	2.79	6.79	1.58	1.74475	197	(1.00, 2.90)	(1.00, 2.90)
	2.55	7.80	1.77	1.94119	190	(1.00, 3.52)	(1.00, 3.49)
						(1.40, 1.77)	(1.77, 1.77)
res.per.ps	2.54	7.89	1.83	1.94119	147	(0.20, 2.40)	(0.20, 2.40)
	1.55	5.68	0.95	1.99608	143	(0.19, 3.47)	(0.19, 3.47)
						(0.90, 1.02)	(0.90, 1.02)

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[3] Number of proposed covariates (XVAR) on top line and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the generalized exponential model (GEM) adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high extreme values, the nonextreme values, and the low extreme values.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table D.2b Distribution of Weight Adjustment Factors and Weight Products for the 2014 NSDUH Person Weight (Model Group 2: Middle Atlantic)

	sel.sdu.des[1]	*res.sdu.nr*[1]		*res.sdu.ps*[1]		*sel.per.des*[1]		*sel.per.ps*[1]		*res.per.nr*[1]		*res.per.ps*[1]	
	1-8[2]	**9**[3]	**1-9**[3]	**10**[4]	**1-10**[4]	**12**[5]	**1-12**[5]	**13**[5]	**1-13**[5]	**14**[6]	**1-14**[6]	**15**[6]	**1-15**[6]
Minimum	618	0.71	629	0.34	402	1.01	406	0.22	334	0.58	398	0.09	97
1%	622	1.00	648	0.66	591	1.01	710	0.63	638	1.00	739	0.19	284
5%	627	1.05	780	0.80	725	1.01	919	0.80	900	1.06	1,084	0.33	784
10%	630	1.10	813	0.87	800	1.01	1,055	0.85	1,060	1.12	1,305	0.79	1,185
25%	729	1.16	878	0.94	914	1.35	1,462	0.93	1,492	1.21	1,856	0.97	1,817
Median	790	1.27	980	1.03	1,022	2.31	2,522	1.01	2,476	1.35	3,251	1.02	3,257
75%	836	1.42	1,133	1.11	1,199	3.32	3,981	1.09	4,119	1.56	5,703	1.08	5,767
90%	878	1.62	1,311	1.25	1,473	6.84	7,902	1.20	7,968	1.84	11,536	1.25	11,676
95%	910	1.85	1,528	1.43	1,753	8.58	9,032	1.29	9,340	2.03	14,589	1.60	15,083
99%	1,262	2.76	2,316	2.36	2,703	8.89	12,977	1.55	12,823	2.55	22,034	2.08	21,568
Maximum	2,359	5.00	4,046	5.00	8,241	14.51	54,829	2.63	27,297	3.49	42,987	3.47	50,645
n	19,335	14,429	14,429	14,429	14,429	10,188	10,188	10,188	10,188	7,208	7,208	7,208	7,208
Max/Mean	3.01	-	3.86	-	7.40	-	16.09	-	7.93	-	8.84	-	10.41

Note 1: Weight component 11 and weight products 1-11 are excluded because weight 11 = 1 for all selected dwelling units.
Note 2: Weight component 16 and weight products 1-16 are excluded because weight 16 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #9 and #14) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] Sel.sdu.des refers to selected screener dwelling unit design weight, and sel.per.des refers to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected people.
[6] Based on questionnaire-complete people.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Model Group 2 Overview

Dwelling Unit Nonresponse

For the one-factor effects, College Dorm had to be collapsed with Other Group Quarter. Out of 21 proposed variables, 20 were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Hispanic or Latino, Rent/Housing × percent Black or African American, State × Population Density, and State × Group Quarter interactions. Out of 68 proposed variables, 60 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 64 proposed variables, 28 were included in the model.

In the final model, a total of 108 variables were included; see Exhibit D2.1.

Dwelling Unit Poststratification

All 16 proposed one-factor effects were included in the model.

All 47 proposed two-factor effects were included in the model.

All 64 proposed three-factor effects were included in the model.

In the final model, a total of 127 variables were included; see Exhibit D2.2.

Selected Person-Level Poststratification

All 34 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing was present in the percent Owner-Occupied × percent Hispanic or Latino and Rent/Housing × percent Black or African American interactions. Out of 99 proposed variables, 97 were included in the model.

For the three-factor effects, variable collapsing was present in the Age × Race × Hispanicity interaction. Out of 64 proposed variables, 63 were included in the model.

In the final model, a total of 194 variables were included; see Exhibit D2.3.

Respondent Person-Level Nonresponse

All 34 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing was present in the percent Owner-Occupied × percent Hispanic or Latino and Rent/Housing × percent Black or African American interactions. Out of 99 proposed variables, 97 were included in the model.

For the three-factor effects, variable collapsing was present in the Age × Race × Hispanicity, State × Age × Race, and State × Race × Hispanicity interactions. Out of 64 proposed variables, 59 were included in the model.

In the final model, a total of 190 variables were included; see Exhibit D2.4.

Respondent Person-Level Poststratification

All 17 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing was present in the State × Race interaction. Out of 53 proposed variables, 51 were included in the model.

For the three-factor effects, variable collapsing and dropping were present in the State × Age × Race interaction. Out of 77 proposed variables, 75 were included in the model.

In the final model, a total of 143 variables were included; see Exhibit D2.5.

Exhibit D2.1 Covariates for 2014 NSDUH Person Weights (res.sdu.nr), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**21**	**20**	
Intercept	1	1	1	All levels present.
State	3	2	2	All levels present.
Quarter	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	1	Coll. (1) & (2); conv.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**68**	**60**	
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	3	Coll. (2,1) & (2,2); sing.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	7	Coll. (4,1) & (4,2); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	3 × 4	6	6	All levels present.
State × Population Density	3 × 4	6	3	Drop (2,2), (2,3), (3,3); sing.
State × Group Quarter	3 × 3	4	1	Coll. (2,1) & (2,2), (3,1) & (3,2); hier. Drop (3,1/2); conv.
State × % Black or African American	3 × 3	4	4	All levels present.
State × % Hispanic or Latino	3 × 3	4	4	All levels present.
State × % Owner-Occupied	3 × 3	4	4	All levels present.
State × Rent/Housing	3 × 5	8	8	All levels present.
Three-Factor Effects		**64**	**28**	
State × % Owner-Occupied × % Black or African American	3 × 3 × 3	8	4	Keep (2,2,1), (2,2,2), (2,3,1/2), (3,2/3,1/2); sing./conv.
State × % Owner-Occupied × % Hispanic or Latino	3 × 3 × 3	8	3	Keep (2,2,1/2), (2,3,1/2), (3,2) & (3,1) & (2); hier., conv.
State × % Owner-Occupied × Rent/Housing	3 × 3 × 5	16	8	Keep (2,2,1/2), (2,2,3), (2,2,4), (3,2,*), (3,3,1/2); sing./conv.
State × Rent/Housing × % Black or African American	3 × 3 × 5	16	6	Keep (2,1/2/3,1/2), (2,4,1/2), (3,1,1), (3,1,2), (3,2,1/2), (3,3,2); hier./sing./ conv.
State × Rent/Housing × % Hispanic or Latino	3 × 3 × 5	16	7	Keep (2,1/2,1/2), (2,3,1), (2,3,2), (2,4,1/2), (3,1,1/2), (3,2,1/2), (3,3,2); sing./conv.
Total		**153**	**108**	

Exhibit D2.2 Covariates for 2014 NSDUH Person Weights (res.sdu.ps), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**16**	**16**	
Intercept	1	1	1	All levels present.
State	3	2	2	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**47**	**47**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	3 × 4	6	6	All levels present.
State × Age	3 × 5	8	8	All levels present.
State × Race (5 levels)	3 × 5	8	8	All levels present.
State × Hispanicity	3 × 2	2	2	All levels present.
State × Gender	3 × 2	2	2	All levels present.
Three-Factor Effects		**64**	**64**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	8	All levels present.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	3 × 5 × 3	16	16	All levels present.
State × Age × Hispanicity	3 × 5 × 2	8	8	All levels present.
State × Age × Gender	3 × 5 × 2	8	8	All levels present.
State × Race (3 levels) × Hispanicity	3 × 3 × 2	4	4	All levels present.
State × Race (3 levels) × Gender	3 × 3 × 2	4	4	All levels present.
State × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
Total		**127**	**127**	

Exhibit D2.3 Covariates for 2014 NSDUH Person Weights (sel.per.ps), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**34**	**34**	
Intercept	1	1	1	All levels present.
State	3	2	2	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**99**	**97**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	3	Coll. (2,1) & (2,2); sing.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	7	Coll. (4,1) & (4,2); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	3 × 4	6	6	All levels present.
State × Age	3 × 5	8	8	All levels present.
State × Race (5 levels)	3 × 5	8	8	All levels present.
State × Hispanicity	3 × 2	2	2	All levels present.
State × Gender	3 × 2	2	2	All levels present.
State × % Black or African American	3 × 3	4	4	All levels present.
State × % Hispanic or Latino	3 × 3	4	4	All levels present.
State × % Owner-Occupied	3 × 3	4	4	All levels present.
State × Rent/Housing	3 × 5	8	8	All levels present.
Three-Factor Effects		**64**	**63**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	7	Coll. (4,2,1) & (4,3,1); conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	3 × 5 × 3	16	16	All levels present.
State × Age × Hispanicity	3 × 5 × 2	8	8	All levels present.
State × Age × Gender	3 × 5 × 2	8	8	All levels present.
State × Race (3 levels) × Hispanicity	3 × 3 × 2	4	4	All levels present.
State × Race (3 levels) × Gender	3 × 3 × 2	4	4	All levels present.
State × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
Total		**197**	**194**	

Exhibit D2.4 Covariates for 2014 NSDUH Person Weights (res.per.nr), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**34**	**34**	
Intercept	1	1	1	All levels present.
State	3	2	2	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**99**	**97**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	3	Coll. (2,1) & (2,2); sing.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	7	Coll. (4,1) & (4,2); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	3 × 4	6	6	All levels present.
State × Age	3 × 5	8	8	All levels present.
State × Race (5 levels)	3 × 5	8	8	All levels present.
State × Hispanicity	3 × 2	2	2	All levels present.
State × Gender	3 × 2	2	2	All levels present.
State × % Black or African American	3 × 3	4	4	All levels present.
State × % Hispanic or Latino	3 × 3	4	4	All levels present.
State × % Owner-Occupied	3 × 3	4	4	All levels present.
State × Rent/Housing	3 × 5	8	8	All levels present.
Three-Factor Effects		**64**	**59**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	6	Coll. (3,2,1) & (3,3,1), (4,2,1) & (4,3,1); conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	3 × 5 × 3	16	15	Coll. (3,4,2) & (3,4,3); conv.
State × Age × Hispanicity	3 × 5 × 2	8	8	All levels present.
State × Age × Gender	3 × 5 × 2	8	8	All levels present.
State × Race (3 levels) × Hispanicity	3 × 3 × 2	4	2	Coll. (2,2,1) & (2,3,1), (3,2,1) & (3,3,1); conv.
State × Race (3 levels) × Gender	3 × 3 × 2	4	4	All levels present.
State × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
Total		**197**	**190**	

Exhibit D2.5 Covariates for 2014 NSDUH Person Weights (res.per.ps), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**17**	**17**	
Intercept	1	1	1	All levels present.
State	3	2	2	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**53**	**51**	
Age × Race (3 levels)	6 × 3	10	10	All levels present.
Age × Hispanicity	6 × 2	5	5	All levels present.
Age × Gender	6 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	3 × 4	6	6	All levels present.
State × Age	3 × 6	10	10	All levels present.
State × Race (5 levels)	3 × 5	8	6	Coll. (2,3) & (2,4), (3,3) & (3,4); conv.
State × Hispanicity	3 × 2	2	2	All levels present.
State × Gender	3 × 2	2	2	All levels present.
Three-Factor Effects		**77**	**75**	
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10	10	All levels present.
Age × Race (3 levels) × Gender	6 × 3 × 2	10	10	All levels present.
Age × Hispanicity × Gender	6 × 2 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	3 × 6 × 3	20	18	Coll. (3,5,2) & (3,5,3), drop (3,5,2/3); conv.
State × Age × Hispanicity	3 × 6 × 2	10	10	All levels present.
State × Age × Gender	3 × 6 × 2	10	10	All levels present.
State × Race (3 levels) × Hispanicity	3 × 3 × 2	4	4	All levels present.
State × Race (3 levels) × Gender	3 × 3 × 2	4	4	All levels present.
State × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
Total		**147**	**143**	

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Appendix D3: Model Group 3: East North Central

(Illinois, Indiana, Michigan, Ohio, and Wisconsin)

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Table D.3a 2014 NSDUH Person Weight GEM Modeling Summary (Model Group 3: East North Central)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	% Unweighted	% Weighted	% Outwinsor			Nominal	Realized
res.sdu.nr	1.02	1.30	0.10	1.04783	255	(1.17, 1.30)	(1.17, 1.30)
	1.71	2.21	0.10	1.05642	176	(1.00, 2.11)	(1.00, 2.11)
						(1.00, 1.24)	(1.00, 1.24)
res.sdu.ps	1.71	2.21	0.10	1.05642	197	(0.74, 1.10)	(0.74, 1.10)
	1.15	2.09	0.45	1.09429	192	(0.20, 4.89)	(0.21, 4.87)
						(0.74, 2.62)	(0.75, 2.61)
sel.per.ps	2.96	5.68	1.32	1.66215	287	(0.34, 2.50)	(0.34, 2.50)
	1.73	3.30	0.59	1.65850	275	(0.42, 4.95)	(0.43, 4.95)
						(0.50, 1.24)	(0.50, 1.23)
res.per.nr	1.77	3.69	0.74	1.69113	287	(1.00, 3.00)	(1.00, 3.00)
	1.30	3.10	0.68	1.77946	275	(1.00, 5.00)	(1.00, 5.00)
						(1.40, 1.50)	(1.40, 1.43)
res.per.ps	1.38	3.26	0.74	1.77946	227	(0.20, 2.20)	(0.20, 2.20)
	0.90	2.61	0.57	1.80471	186	(0.20, 2.20)	(0.20, 2.14)
						(0.90, 1.10)	(0.90, 0.90)

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[3] Number of proposed covariates (XVAR) on top line and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the generalized exponential model (GEM) adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high extreme values, the nonextreme values, and the low extreme values.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table D.3b Distribution of Weight Adjustment Factors and Weight Products for the 2014 NSDUH Person Weight (Model Group 3: East North Central)

	sel.sdu.des[1]	*res.sdu.nr*[1]		*res.sdu.ps*[1]		*sel.per.des*[1]		*sel.per.ps*[1]		*res.per.nr*[1]		*res.per.ps*[1]	
	1-8[2]	**9**[3]	**1-9**[3]	**10**[4]	**1-10**[4]	**12**[5]	**1-12**[5]	**13**[5]	**1-13**[5]	**14**[6]	**1-14**[6]	**15**[6]	**1-15**[6]
Minimum	281	0.66	398	0.21	217	1.01	247	0.21	194	0.47	194	0.10	72
1%	596	1.03	674	0.56	488	1.01	626	0.57	586	1.01	691	0.20	402
5%	604	1.07	716	0.82	689	1.01	843	0.78	830	1.11	1,024	0.76	940
10%	636	1.09	746	0.89	753	1.01	1,003	0.84	1,004	1.16	1,251	0.91	1,195
25%	707	1.13	823	0.99	861	1.34	1,392	0.92	1,401	1.26	1,787	0.98	1,803
Median	748	1.19	940	1.06	1,011	2.42	2,283	0.99	2,226	1.37	2,912	1.02	2,934
75%	901	1.27	1,142	1.13	1,216	3.16	3,711	1.07	3,746	1.49	5,218	1.05	5,200
90%	1,048	1.39	1,336	1.23	1,441	6.93	6,828	1.17	6,760	1.65	9,833	1.10	9,631
95%	1,215	1.51	1,448	1.35	1,606	7.05	8,184	1.26	8,534	1.77	12,505	1.22	12,563
99%	1,280	1.65	1,615	1.75	2,029	7.95	11,573	1.61	11,500	2.18	17,310	1.57	18,037
Maximum	2,267	2.11	2,503	4.87	7,734	15.35	45,450	4.95	47,865	5.00	47,865	2.14	45,418
n	21,133	17,312	17,312	17,310	17,310	12,720	12,720	12,720	12,720	9,142	9,142	9,142	9,142
Max/Mean	2.77	-	2.50	-	7.25	-	14.69	-	15.57	-	11.19	-	10.62

Note 1: Weight component 11 and weight products 1-11 are excluded because weight 11 = 1 for all selected dwelling units.
Note 2: Weight component 16 and weight products 1-16 are excluded because weight 16 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #9 and #14) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] Sel.sdu.des refers to selected screener dwelling unit design weight, and sel.per.des refers to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected people.
[6] Based on questionnaire-complete people.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Model Group 3 Overview

Dwelling Unit Nonresponse

For the one-factor effects, College Dorm had to be collapsed with Other Group Quarter and was then dropped because of a convergence problem. Out of 23 proposed variables, 21 were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the Rent/Housing × percent Black or African American, State × Population Density, State × Group Quarter, and State × percent Hispanic or Latino interactions. Out of 104 proposed variables, 92 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 128 proposed variables, 63 were included in the model.

In the final model, a total of 176 variables were included; see Exhibit D3.1.

Dwelling Unit Poststratification

All 18 proposed one-factor effects were included in the model.

All 73 proposed two-factor effects were included in the model.

For the three-factor effects, variable collapsing was present in the Age × Race × Hispanicity and State × Race × Hispanicity interactions. Out of 106 proposed variables, 101 were included in the model.

In the final model, a total of 192 variables were included; see Exhibit D3.2.

Selected Person-Level Poststratification

All 36 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the Rent/Housing × percent Black or African American and State × percent Hispanic or Latino interactions. Out of 145 proposed variables, 142 were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the State × Age × Race and State × Race × Hispanicity interactions. Out of 106 proposed variables, 97 were included in the model.

In the final model, a total of 275 variables were included; see Exhibit D3.3.

Respondent Person-Level Nonresponse

All 36 proposed one-factor effects were included in the model.

For the two-factor effects, variable dropping was present in the percent Owner-Occupied × percent Black or African American and State × percent Hispanic or Latino interactions. Out of 145 proposed variables, 142 were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, and State × Race × Hispanicity interactions. Out of 106 proposed variables, 97 were included in the model.

In the final model, a total of 275 variables were included; see Exhibit D3.4.

Respondent Person-Level Poststratification

All 19 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing was present in the State × Race interaction. Out of 81 proposed variables, 80 were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, State × Age × Hispanicity, State × Race × Hispanicity, and State × Hispanicity × Gender interactions. Out of 127 proposed variables, 87 were included in the model.

In the final model, a total of 186 variables were included; see Exhibit D3.5.

Exhibit D3.1 Covariates for 2014 NSDUH Person Weights (res.sdu.nr), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**23**	**21**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	0	Coll. (1) & (2); conv. Drop (1/2); conv.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**104**	**92**	
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	7	Coll. (4,1) & (4,2); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	5 × 4	12	12	All levels present.
State × Population Density	5 × 4	12	11	Drop (4,3); sing.
State × Group Quarter	5 × 3	8	0	Drop all levels; hier.
State × % Black or African American	5 × 3	8	8	All levels present.
State × % Hispanic or Latino	5 × 3	8	6	Coll. (3,1) & (3,2); zero. Coll. (4,1) & (4,2); sing.
State × % Owner-Occupied	5 × 3	8	8	All levels present.
State × Rent/Housing	5 × 5	16	16	All levels present.
Three-Factor Effects		**128**	**63**	
State × % Owner-Occupied × % Black or African American	5 × 3 × 3	16	11	Drop (3,3,1), (3,3,2), (4,3,1); zero. Drop (4,3,2); sing. Coll. (4,2,1) & (4,2,2); sing.
State × % Owner-Occupied × % Hispanic or Latino	5 × 3 × 3	16	6	Coll. (1,3,1) & (1,3,2); conv. Coll. (1,2,1) & (1,2,2), (4,2,1) & (4,2,2), (5,2,1) & (5,2,2); sing. Coll. (3,2,1) & (3,2,2), (5,3,1) & (5,3,2); zero. Drop all others; zero, sing.
State × % Owner-Occupied × Rent/Housing	5 × 3 × 5	32	15	Coll. (4,3,1) & (4,2,1), (4,3,2) & (4,2,2), (5,3,1) & (5,2,1); zero. Coll. (1,3,1) & (1,2,1), (1,3,3) & (1,2,3), (1,3,4) & (1,2,4), (4,3,3) & (4,2,3), (5,3,2) & (5,2,2); sing. Drop (3,3,1), (3,3,2), (3,3,4), (5,3,4), (5,2,4); zero. Drop (3,3,3), (3,2,4), (4,3,4), (4,2,4); sing.
State × Rent/Housing × % Black or African American	5 × 3 × 5	32	20	Coll. (1,4,1) & (1,4,2), repeat for all states; hier. Coll. (4,2,1) & (4,2,2); zero. Coll. (3,2,1) & (3,2,2), (3,3,1) & (3,3,2), (4,3,1) & (4,3,2), (5,3,1) & (5,3,2); sing. Drop (4,1,1), (4,1,2); zero. Drop (4,4,1/2); sing.
State × Rent/Housing × % Hispanic or Latino	5 × 3 × 5	32	11	Coll. (3,1,1) & (3,1,2), (3,2,1) & (3,2,2), (3,3,1) & (3,3,2), (4,3,1) & (4,3,2), (5,2,1) & (5,2,2); zero. Coll. (1,1,1) & (1,1,2), (1,2,1) & (1,2,2), (1,3,1) & (1,3,2), (1,4,1) & (1,4,2), (4,2,1) & (4,2,2), (5,1,1) & (5,1,2); sing. Drop all others; zero, sing.
Total		**255**	**176**	

Exhibit D3.2 Covariates for 2014 NSDUH Person Weights (res.sdu.ps), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**18**	**18**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**73**	**73**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	5 × 4	12	12	All levels present.
State × Age	5 × 5	16	16	All levels present.
State × Race (5 levels)	5 × 5	16	16	All levels present.
State × Hispanicity	5 × 2	4	4	All levels present.
State × Gender	5 × 2	4	4	All levels present.
Three-Factor Effects		**106**	**101**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	7	Coll. (4,2,1) & (4,3,1); conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	5 × 5 × 3	32	32	All levels present.
State × Age × Hispanicity	5 × 5 × 2	16	16	All levels present.
State × Age × Gender	5 × 5 × 2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all states; conv.
State × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
State × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Total		**197**	**192**	

Exhibit D3.3 Covariates for 2014 NSDUH Person Weights (sel.per.ps), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**36**	**36**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**145**	**142**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	7	Drop (4,1); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	5 × 4	12	12	All levels present.
State × Age	5 × 5	16	16	All levels present.
State × Race (5 levels)	5 × 5	16	16	All levels present.
State × Hispanicity	5 × 2	4	4	All levels present.
State × Gender	5 × 2	4	4	All levels present.
State × % Black or African American	5 × 3	8	8	All levels present.
State × % Hispanic or Latino	5 × 3	8	6	Drop (3,1); zero. Coll. (4,1) & (4,2); sing.
State × % Owner-Occupied	5 × 3	8	8	All levels present.
State × Rent/Housing	5 × 5	16	16	All levels present.
Three-Factor Effects		**106**	**97**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	8	All levels present.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	5 × 5 × 3	32	27	Coll. (4,4,2) & (4,4,3); sing. Coll. (4,1,2) & (4,1,3), (4,2,2) & (4,2,3), (4,3,2) & (4,3,3); conv. Drop (4,4,2/3); conv.
State × Age × Hispanicity	5 × 5 × 2	16	16	All levels present.
State × Age × Gender	5 × 5 × 2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all states; conv.
State × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
State × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Total		**287**	**275**	

Exhibit D3.4 Covariates for 2014 NSDUH Person Weights (res.per.nr), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**36**	**36**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**145**	**142**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	3	Drop (4,1); sing.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	8	All levels present.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	5 × 4	12	12	All levels present.
State × Age	5 × 5	16	16	All levels present.
State × Race (5 levels)	5 × 5	16	16	All levels present.
State × Hispanicity	5 × 2	4	4	All levels present.
State × Gender	5 × 2	4	4	All levels present.
State × % Black or African American	5 × 3	8	8	All levels present.
State × % Hispanic or Latino	5 × 3	8	6	Drop (3,1); zero. Drop (4,1); sing.
State × % Owner-Occupied	5 × 3	8	8	All levels present.
State × Rent/Housing	5 × 5	16	16	All levels present.
Three-Factor Effects		**106**	**97**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all states; conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	5 × 5 × 3	32	31	Drop (4,1,2); sing.
State × Age × Hispanicity	5 × 5 × 2	16	16	All levels present.
State × Age × Gender	5 × 5 × 2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all states; conv.
State × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
State × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Total		**287**	**275**	

Exhibit D3.5 Covariates for 2014 NSDUH Person Weights (res.per.ps), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**19**	**19**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**81**	**80**	
Age × Race (3 levels)	6 × 3	10	10	All levels present.
Age × Hispanicity	6 × 2	5	5	All levels present.
Age × Gender	6 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	5 × 4	12	12	All levels present.
State × Age	5 × 6	20	20	All levels present.
State × Race (5 levels)	5 × 5	16	15	Coll. (1,3) & (1,4); conv.
State × Hispanicity	5 × 2	4	4	All levels present.
State × Gender	5 × 2	4	4	All levels present.
Three-Factor Effects		**127**	**87**	
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10	9	Coll. (5,2,1) & (5,3,1); conv.
Age × Race (3 levels) × Gender	6 × 3 × 2	10	10	All levels present.
Age × Hispanicity × Gender	6 × 2 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	5 × 6 × 3	40	20	Coll. (1,1,2) & (1,1,3), repeat for all age levels and all states; conv.
State × Age × Hispanicity	5 × 6 × 2	20	13	Drop (4,5,1); zero. Drop (5,5,1); sing. Drop (1,4,1), (1,5,1), (3,5,1), (4,4,1), (5,4,1); conv.
State × Age × Gender	5 × 6 × 2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	5 × 3 × 2	8	0	Drop all levels; conv.
State × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
State × Hispanicity × Gender	5 × 2 × 2	4	0	Drop all levels; conv.
Total		**227**	**186**	

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Appendix D4: Model Group 4: West North Central

(Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota)

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Table D.4a 2014 NSDUH Person Weight GEM Modeling Summary (Model Group 4: West North Central)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	% Unweighted	% Weighted	% Outwinsor			Nominal	Realized
res.sdu.nr	2.20	1.06	0.05	1.42277	357	(1.00, 1.20)	(1.00, 1.20)
	2.08	4.15	1.05	1.47763	163	(1.00, 5.00)	(1.00, 5.00)
						(1.00, 5.00)	(1.00, 1.05)
res.sdu.ps	2.08	4.15	1.05	1.47767	267	(0.22, 1.10)	(0.22, 1.10)
	1.96	2.88	0.67	1.52363	261	(0.20, 4.96)	(0.20, 4.96)
						(0.95, 1.84)	(0.95, 1.84)
sel.per.ps	2.44	4.54	1.24	2.42385	377	(0.27, 2.40)	(0.28, 2.40)
	1.51	2.93	0.70	2.42691	352	(0.20, 4.43)	(0.21, 4.42)
						(0.90, 5.00)	(0.90, 5.00)
res.per.nr	1.48	3.03	0.69	2.43487	377	(1.00, 2.90)	(1.00, 2.90)
	1.03	2.18	0.60	2.52907	284	(1.00, 5.00)	(1.00, 5.00)
						(1.30, 4.81)	(1.30, 4.81)
res.per.ps	1.00	2.20	0.69	2.52907	307	(0.20, 1.40)	(0.20, 1.40)
	1.15	3.12	0.55	2.64715	271	(0.20, 4.95)	(0.20, 4.94)
						(0.90, 3.44)	(3.44, 3.44)

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[3] Number of proposed covariates (XVAR) on top line and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the generalized exponential model (GEM) adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high extreme values, the nonextreme values, and the low extreme values.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table D.4b Distribution of Weight Adjustment Factors and Weight Products for the 2014 NSDUH Person Weight (Model Group 4: West North Central)

	sel.sdu.des[1]	*res.sdu.nr*[1]		*res.sdu.ps*[1]		*sel.per.des*[1]		*sel.per.ps*[1]		*res.per.nr*[1]		*res.per.ps*[1]	
	1-8[2]	**9**[3]	**1-9**[3]	**10**[4]	**1-10**[4]	**12**[5]	**1-12**[5]	**13**[5]	**1-13**[5]	**14**[6]	**1-14**[6]	**15**[6]	**1-15**[6]
Minimum	94	0.93	95	0.05	33	1.01	45	0.21	12	0.45	13	0.09	4
1%	95	1.00	96	0.46	105	1.01	133	0.29	113	0.93	129	0.20	110
5%	111	1.00	114	0.77	129	1.01	201	0.65	186	1.00	221	0.65	205
10%	115	1.01	128	0.89	144	1.01	287	0.77	274	1.01	318	0.84	295
25%	178	1.05	184	1.01	206	1.31	533	0.89	523	1.14	641	0.96	615
Median	467	1.10	546	1.08	561	2.39	1,186	1.00	1,171	1.27	1,449	1.00	1,451
75%	916	1.16	1,009	1.19	1,018	3.36	2,433	1.12	2,438	1.41	3,165	1.06	3,138
90%	1,049	1.24	1,175	1.30	1,312	6.91	4,447	1.26	4,690	1.61	6,289	1.19	6,339
95%	1,090	1.30	1,268	1.44	1,488	7.71	6,496	1.39	6,712	1.80	9,131	1.33	9,091
99%	1,145	1.66	1,485	1.98	1,883	8.14	11,101	1.92	11,428	3.04	15,976	2.36	16,088
Maximum	1,162	5.00	3,749	4.96	5,683	14.27	43,256	8.88	34,587	5.78	35,133	6.02	44,456
n	14,562	12,877	12,877	12,876	12,876	8,803	8,803	8,803	8,803	6,683	6,683	6,683	6,683
Max/Mean	2.17	-	6.19	-	8.67	-	21.98	-	17.55	-	13.53	-	17.12

Note 1: Weight component 11 and weight products 1-11 are excluded because weight 11 = 1 for all selected dwelling units.
Note 2: Weight component 16 and weight products 1-16 are excluded because weight 16 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #9 and #14) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] Sel.sdu.des refers to selected screener dwelling unit design weight, and sel.per.des refers to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected people.
[6] Based on questionnaire-complete people.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Model Group 4 Overview

Dwelling Unit Nonresponse

All 25 proposed one-factor effects were included in the model.

Variable collapsing or dropping was present in all two-factor effects except the State × Quarter interaction. Out of 140 proposed variables, 111 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 192 proposed variables, 27 were included in the model.

In the final model, a total of 163 variables were included; see Exhibit D4.1.

Dwelling Unit Poststratification

All 20 proposed one-factor effects were included in the model.

All 99 proposed two-factor effects were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the Race × Hispanicity × Gender and State × Race × Hispanicity interactions. Out of 148 proposed variables, 142 were included in the model.

In the final model, a total of 261 variables were included; see Exhibit D4.2.

Selected Person-Level Poststratification

All 38 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing was present in the percent Owner-Occupied × percent Black or African American, percent Owner-Occupied × percent Hispanic or Latino, percent Owner-Occupied × Rent/Housing, Rent/Housing × percent Black or African American, Rent/Housing × percent Hispanic or Latino, State × Race, State × percent Black or African American, and State × percent Hispanic or Latino interactions. Out of 191 proposed variables, 178 were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, and State × Race × Hispanicity interactions. Out of 148 proposed variables, 136 were included in the model.

In the final model, a total of 352 variables were included; see Exhibit D4.3.

Respondent Person-Level Nonresponse

All 38 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing was present in the percent Owner-Occupied × percent Black or African American, percent Owner-Occupied × percent Hispanic or Latino, percent Owner-Occupied × Rent/Housing, Rent/Housing × percent Black or African American, Rent/Housing × percent Hispanic or Latino, State × Race, State × percent Black or African American, and State × percent Hispanic or Latino interactions. Out of 191 proposed variables, 176 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. Out of 148 proposed variables, 70 were included in the model.

In the final model, a total of 284 variables were included; see Exhibit D4.4.

Respondent Person-Level Poststratification

All 21 proposed one-factor effects were included in the model.

All 109 proposed two-factor effects were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, State × Age × Hispanicity, and State × Race × Hispanicity interactions. Out of 177 proposed variables, 141 were included in the model.

In the final model, a total of 271 variables were included; see Exhibit D4.5.

Exhibit D4.1 Covariates for 2014 NSDUH Person Weights (res.sdu.nr), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**25**	**25**	
Intercept	1	1	1	All levels present.
State	7	6	6	All levels present.
Quarter	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**140**	**111**	
% Owner-Occupied × % Black or African American	3 × 3	4	3	Coll. (3,1) & (3,2); zero.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	3	Coll. (3,1) & (3,2); zero.
% Owner-Occupied × Rent/Housing	3 × 5	8	7	Coll. (2,1) & (3,1); zero.
Rent/Housing × % Black or African American	3 × 5	8	7	Coll. (4,1) & (4,2); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	6	Coll. (3,1) & (3,2); sing. Coll. (4,1) & (4,2); zero.
State × Quarter	7 × 4	18	18	All levels present.
State × Population Density	7 × 4	18	14	Coll. (1,1) & (1,2); do the same for states 5, 6, and 7; zero.
State × Group Quarter	7 × 3	12	1	Coll. (1,1) & (1,2); Drop (2/5/6/7,1/2); conv. Drop (3,1/2); zero.
State × % Black or African American	7 × 3	12	9	Coll. (3,1) & (3,2), do the same for states 6 and 7; zero.
State × % Hispanic or Latino	7 × 3	12	9	Coll. (3,1) & (3,2), do the same for states 6 and 7; zero.
State × % Owner-Occupied	7 × 3	12	11	Coll. (7,2) & (7,3); conv.
State × Rent/Housing	7 × 5	24	23	Coll. (2,3) & (2,4); conv.
Three-Factor Effects		**192**	**27**	
State × % Owner-Occupied × % Black or African American	7 × 3 × 3	24	6	Coll. (1,2,1) & (1,2,2) & (1,3,1) & (1,3,2), do the same for state 5, coll. (2,2,1) & (2,2,2), (2,3,1) & (2,3,2), do the same for state 3; conv. Drop the rest; sing., zero, conv.
State × % Owner-Occupied × % Hispanic or Latino	7 × 3 × 3	24	2	Coll. (2,2,1) & (2,2,2), (2,3,1) & (2,3,2); conv. Drop the rest; sing., zero, conv.
State × % Owner-Occupied × Rent/Housing	7 × 3 × 5	48	13	Coll. (1,2,1) & (1,2,2) & (1,2,3) & (1,3,1) & (1,3,2) & (1,3,3), do the same for state 7, coll. (1,2,4) & (1,3,4), do the same for states 6 and 7, coll. (2,2,1) & (2,2,2) & (2,3,1) & (2,3,2), coll. (2,2,3) & (2,2,4) & (2,3,3) & (2,3,4), coll. (5,2,1) & (5,3,1), (5,2,2) & (5,3,2), (5,2,4) & (5,2,3), do the same for state 6; conv. Drop the rest; sing., zero, conv.
State × Rent/Housing × % Black or African American	7 × 3 × 5	48	2	Coll. (2,1,1) & (2,1,2) & (2,2,1) & (2,2,2); do the same for state 5; conv. Drop the rest; sing., zero, conv.
State × Rent/Housing × % Hispanic or Latino	7 × 3 × 5	48	4	Coll. (1,1,1) & (1,1,2), coll. (1,2,1) & (1,2,2), do the same for state 2; conv. Drop the rest; sing., zero, conv.
Total		**357**	**163**	

Exhibit D4.2 Covariates for 2014 NSDUH Person Weights (res.sdu.ps), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**20**	**20**	All levels present.
Intercept	1	1	1	All levels present.
State	7	6	6	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**99**	**99**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	7 × 4	18	18	All levels present.
State × Age	7 × 5	24	24	All levels present.
State × Race (5 levels)	7 × 5	24	24	All levels present.
State × Hispanicity	7 × 2	6	6	All levels present.
State × Gender	7 × 2	6	6	All levels present.
Three-Factor Effects		**148**	**142**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	8	All levels present.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	7 × 5 × 3	48	48	All levels present.
State × Age × Hispanicity	7 × 5 × 2	24	24	All levels present.
State × Age × Gender	7 × 5 × 2	24	24	All levels present.
State × Race (3 levels) × Hispanicity	7 × 3 × 2	12	7	Coll. (5,2,1) & (5,3,1); sing. Coll. (6,2,1) & (6,3,1); zero. Drop (1,2/3,1); Coll. (2,2,1) & (2,3,1); conv.
State × Race (3 levels) × Gender	7 × 3 × 2	12	12	All levels present.
State × Hispanicity × Gender	7 × 2 × 2	6	6	All levels present.
Total		**267**	**261**	

Exhibit D4.3 Covariates for 2014 NSDUH Person Weights (sel.per.ps), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**38**	**38**	
Intercept	1	1	1	All levels present.
State	7	6	6	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**191**	**178**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	3	Coll. (3,1) & (3,2); zero.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	3	Coll. (3,1) & (3,2); zero.
% Owner-Occupied × Rent/Housing	3 × 5	8	7	Coll. (2,1) & (3,1); zero.
Rent/Housing × % Black or African American	3 × 5	8	7	Coll. (4,1) & (4,2); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	6	Coll. (3,1) & (3,2); sing. Coll. (4,1) & (4,2); zero.
State × Quarter	7 × 4	18	18	All levels present.
State × Age	7 × 5	24	24	All levels present.
State × Race (5 levels)	7 × 5	24	23	Coll. (7,3) & (7,4); conv.
State × Hispanicity	7 × 2	6	6	All levels present.
State × Gender	7 × 2	6	6	All levels present.
State × % Black or African American	7 × 3	12	9	Coll. (3,1) & (3,2), do the same for states 6 and 7; zero.
State × % Hispanic or Latino	7 × 3	12	9	Coll. (3,1) & (3,2), do the same for states 6 and 7; zero.
State × % Owner-Occupied	7 × 3	12	12	All levels present.
State × Rent/Housing	7 × 5	24	24	All levels present.
Three-Factor Effects		**148**	**136**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Drop (3/4,2/3,1); conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	7 × 5 × 3	48	46	Coll. (7,4,2) & (7,4,3); sing. Coll. (6,1,2) & (6,1,3).
State × Age × Hispanicity	7 × 5 × 2	24	24	All levels present.
State × Race (3 levels) × Hispanicity	7 × 3 × 2	12	6	Drop (7,2/3,1); zero. Coll. (5,2,1) & (5,3,1), Coll. (6,2,1) & (6,3,1); sing. Coll. (1,2,1) & (1,3,1), (3,2,1) & (3,3,1); conv.
State × Race (3 levels) × Gender	7 × 3 × 2	12	12	All levels present.
State × Age × Gender	7 × 5 × 2	24	24	All levels present.
State × Hispanicity × Gender	7 × 2 × 2	6	6	All levels present.
Total		**377**	**352**	

Exhibit D4.4 Covariates for 2014 NSDUH Person Weights (res.per.nr), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**38**	**38**	
Intercept	1	1	1	All levels present.
State	7	6	6	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**191**	**176**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	3	Coll. (3,1) & (3,2); zero.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	3	Coll. (3,1) & (3,2); zero.
% Owner-Occupied × Rent/Housing	3 × 5	8	7	Coll. (2,1) & (3,1); zero.
Rent/Housing × % Black or African American	3 × 5	8	7	Coll. (4,1) & (4,2); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	6	Coll. (3,1) & (3,2); sing. Coll. (4,1) & (4,2); zero.
State × Quarter	7 × 4	18	18	All levels present.
State × Age	7 × 5	24	24	All levels present.
State × Race (5 levels)	7 × 5	24	21	Coll. (7,3) & (7,4), do the same for states 5 and 6; conv.
State × Hispanicity	7 × 2	6	6	All levels present.
State × Gender	7 × 2	6	6	All levels present.
State × % Black or African American	7 × 3	12	9	Coll. (3,1) & (3,2), do the same for states 6 and 7; zero.
State × % Hispanic or Latino	7 × 3	12	9	Coll. (3,1) & (3,2), do the same for states 6 and 7; zero.
State × % Owner-Occupied	7 × 3	12	12	All levels present.
State × Rent/Housing	7 × 5	24	24	All levels present.
Three-Factor Effects		**148**	**70**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	6	Coll. (4,2,1) & (4,3,1); sing. Coll. (2,2,1) & (2,3,1); conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	6	Coll. (4,2,1) & (4,3,1), (2,2,1) & (2,3,1); conv.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	0	Drop (2/3,1,1); conv.
State × Age × Race (3 levels)	7 × 5 × 3	48	0	Drop all; conv.
State × Age × Hispanicity	7 × 5 × 2	24	20	Drop (7,4,1); sing. Drop (1,4,1), do the same for states 5 and 6; conv.
State × Age × Gender	7 × 5 × 2	24	24	All levels present.
State × Race (3 levels) × Hispanicity	7 × 3 × 2	12	1	Drop (6,2/3,1); zero. Coll. (3,2,1) & (3,3,1), drop the rest; conv.
State × Race (3 levels) × Gender	7 × 3 × 2	12	3	Drop (5,2/3,1), do the same for states 6 and 7; Coll. (1,2,1) & (1,3,1), do the same for states 2 and 3; conv.
State × Hispanicity × Gender	7 × 2 × 2	6	6	All levels present.
Total		**377**	**284**	

Exhibit D4.5 Covariates for 2014 NSDUH Person Weights (res.per.ps), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**21**	**21**	
Intercept	1	1	1	All levels present.
State	7	6	6	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**109**	**109**	
Age × Race (3 levels)	6 × 3	10	10	All levels present.
Age × Hispanicity	6 × 2	5	5	All levels present.
Age × Gender	6 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	7 × 4	18	18	All levels present.
State × Age	7 × 6	30	30	All levels present.
State × Race (5 levels)	7 × 5	24	24	All levels present.
State × Hispanicity	7 × 2	6	6	All levels present.
State × Gender	7 × 2	6	6	All levels present.
Three-Factor Effects		**177**	**141**	
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10	6	Coll. (4,2,1) & (4,3,1); sing. Coll. (1,2,1) & (1,3,1), drop (5,2/3,1); zero.
Age × Race (3 levels) × Gender	6 × 3 × 2	10	10	All levels present.
Age × Hispanicity × Gender	6 × 2 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	7 × 6 × 3	60	45	Drop (3,5,2/3), coll. (7,4,2) & (7,4,3); sing. Coll. (7,5,2) & (7,5,3), (6,5,2) & (6,5,3); zero. Coll. (1,4,2) & (1,4,3), do the same for states 2, 3, and 5, coll. (2,5,2) & (2,5,3), (6,1,2) & (6,1,3), drop (1/5,5,2/3); conv.
State × Age × Hispanicity	7 × 6 × 2	30	22	Drop (1,5,1), do the same for states 2, 3, and 6, drop (1,4,1), (7,4,1); sing. Drop (7,5,1); zero. Drop (5,5,1); conv.
State × Age × Gender	7 × 6 × 2	30	30	All levels present.
State × Race (3 levels) × Hispanicity	7 × 3 × 2	12	3	Coll. (6,2,1) & (6,3,1); zero. Coll. (5,2,1) & (5,3,1), (7,2,1) & (7,3,1), drop the rest; conv.
State × Race (3 levels) × Gender	7 × 3 × 2	12	12	All levels present.
State × Hispanicity × Gender	7 × 2 × 2	6	6	All levels present.
Total		**307**	**271**	

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Appendix D5: Model Group 5: South Atlantic

(Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia)

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Table D.5a 2014 NSDUH Person Weight GEM Modeling Summary (Model Group 5: South Atlantic)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	% Unweighted	% Weighted	% Outwinsor			Nominal	Realized
res.sdu.nr	0.65	1.51	0.29	1.28003	459	(1.13, 1.30)	(1.13, 1.30)
	1.91	2.35	0.29	1.29543	293	(1.00, 5.00)	(1.00, 5.00)
						(1.10, 1.27)	(1.10, 1.26)
res.sdu.ps	1.91	2.35	0.29	1.29543	337	(0.20, 1.10)	(0.20, 1.10)
	1.47	2.33	0.43	1.34355	337	(0.20, 4.36)	(0.20, 4.29)
						(0.90, 3.06)	(0.90, 3.06)
sel.per.ps	2.50	5.00	1.01	2.00975	467	(0.22, 2.86)	(0.23, 2.86)
	1.35	2.92	0.54	2.06631	450	(0.27, 4.00)	(0.27, 3.99)
						(0.70, 1.69)	(0.70, 1.62)
res.per.nr	1.34	3.08	0.59	2.04520	467	(1.00, 2.70)	(1.00, 2.70)
	1.06	3.01	0.49	2.31416	418	(1.00, 5.00)	(1.00, 5.00)
						(1.30, 1.47)	(1.30, 1.47)
res.per.ps	1.18	3.39	0.56	2.31416	387	(0.20, 2.25)	(0.20, 2.24)
	0.68	1.99	0.51	2.39481	328	(0.25, 4.28)	(0.25, 4.27)
						(0.90, 1.05)	(0.90, 1.05)

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[3] Number of proposed covariates (XVAR) on top line and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the generalized exponential model (GEM) adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high extreme values, the nonextreme values, and the low extreme values.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table D.5b Distribution of Weight Adjustment Factors and Weight Products for the 2014 NSDUH Person Weight (Model Group 5: South Atlantic)

	sel.sdu.des[1]	*res.sdu.nr*[1]		*res.sdu.ps*[1]		*sel.per.des*[1]		*sel.per.ps*[1]		*res.per.nr*[1]		*res.per.ps*[1]	
	1-8[2]	**9**[3]	**1-9**[3]	**10**[4]	**1-10**[4]	**12**[5]	**1-12**[5]	**13**[5]	**1-13**[5]	**14**[6]	**1-14**[6]	**15**[6]	**1-15**[6]
Minimum	5	0.66	33	0.09	14	1.01	16	0.12	4	0.30	4	0.13	1
1%	67	1.01	76	0.53	78	1.01	109	0.50	104	1.00	117	0.25	99
5%	68	1.05	94	0.84	98	1.01	269	0.75	267	1.04	322	0.46	281
10%	83	1.08	124	0.90	128	1.01	466	0.82	465	1.07	576	0.80	500
25%	292	1.12	355	0.99	370	1.32	1,082	0.91	1,060	1.16	1,311	0.97	1,270
Median	811	1.18	966	1.08	1,043	2.66	1,974	1.01	2,014	1.28	2,468	1.03	2,448
75%	986	1.26	1,176	1.18	1,312	3.43	3,756	1.10	3,814	1.43	4,881	1.08	4,976
90%	1,125	1.40	1,333	1.32	1,582	7.39	7,780	1.20	7,723	1.61	9,932	1.15	9,656
95%	1,163	1.49	1,460	1.46	1,783	8.27	9,897	1.28	10,099	1.75	14,065	1.26	14,101
99%	1,304	1.89	1,852	1.93	2,286	9.24	13,520	1.62	14,246	2.35	22,053	1.68	22,835
Maximum	2,994	6.00	5,780	4.29	6,409	17.56	29,100	3.99	36,923	5.00	49,118	4.27	68,030
n	31,292	25,694	25,694	25,685	25,685	16,833	16,833	16,833	16,833	12,740	12,740	12,740	12,740
Max/Mean	4.24	-	6.72	-	6.70	-	9.51	-	11.92	-	12.00	-	16.62

Note 1: Weight component 11 and weight products 1-11 are excluded because weight 11 = 1 for all selected dwelling units.
Note 2: Weight component 16 and weight products 1-16 are excluded because weight 16 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #9 and #14) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] Sel.sdu.des refers to selected screener dwelling unit design weight, and sel.per.des refers to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected people.
[6] Based on questionnaire-complete people.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Model Group 5 Overview

Dwelling Unit Nonresponse

For the one-factor effects, variable collapsing was present in Group Quarter. Out of 27 proposed variables, 26 were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the State × Population Density, State × Group Quarter, State × percent Black or African American, State × percent Hispanic or Latino, and State × Rent/Housing interactions. Out of 176 proposed variables, 150 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Many factors were excluded because of zero sample sizes or exact linear combinations. Out of 256 proposed variables, 117 were included in the model.

In the final model, a total of 293 variables were included; see Exhibit D5.1.

Dwelling Unit Poststratification

All 22 proposed one-factor effects were included in the model.

All 125 proposed two-factor effects were included in the model.

All 190 proposed three-factor effects were included in the model.

In the final model, a total of 337 variables were included; see Exhibit D5.2.

Selected Person-Level Poststratification

All 40 proposed one-factor effects were included in the model.

For the two-factor effects, variable dropping was present in the State × percent Black or African American, State × percent Hispanic or Latino, and State × Rent/Housing interactions. Out of 237 proposed variables, 230 were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the State × Age × Hispanicity and State × Race × Hispanicity interactions. Out of 190 proposed variables, 180 were included in the model.

In the final model, a total of 450 variables were included; see Exhibit D5.3.

Respondent Person-Level Nonresponse

All 40 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the State × Race, State × percent Black or African American, State × percent Hispanic or Latino, State × percent Owner-Occupied, and State × Rent/Housing interactions. Out of 237 proposed variables, 225 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Race × Gender, Age × Hispanicity × Gender, Race × Hispanicity × Gender, State × Age × Gender, State × Race × Gender, and State × Hispanicity × Gender interactions. Out of 190 proposed variables, 153 were included in the model.

In the final model, a total of 418 variables were included; see Exhibit D5.4.

Respondent Person-Level Poststratification

All 23 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing was present in the Race × Hispanicity and State × Race interactions. Out of 137 proposed variables, 128 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Race × Gender, Age × Hispanicity × Gender, State × Age × Gender, State × Race × Gender, and State × Hispanicity × Gender interactions. Out of 227 proposed variables, 177 were included in the model.

In the final model, a total of 328 variables were included; see Exhibit D5.5.

Exhibit D5.1 Covariates for 2014 NSDUH Person Weights (res.sdu.nr), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**27**	**26**	
Intercept	1	1	1	All levels present.
State	9	8	8	All levels present.
Quarter	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	1	Coll. (1) & (2); conv.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**176**	**150**	
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	8	All levels present.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	9 × 4	24	24	All levels present.
State × Population Density	9 × 4	24	18	Drop (1,1/2), (2,1/2/3), (4,3); sing./zero.
State × Group Quarter	9 × 3	16	3	Keep (9,2), coll. (2,1) & (2,2), (7,1) & (7,2), drop all others; hier./zero/sing.
State × % Black or African American	9 × 3	16	15	Drop (8,1); zero.
State × % Hispanic or Latino	9 × 3	16	13	Drop (6,1), (8,1/2); zero.
State × % Owner-Occupied	9 × 3	16	16	All levels present.
State × Rent/Housing	9 × 5	32	29	Drop (1,1), (2,1), (8,4); zero/sing.
Three-Factor Effects		**256**	**117**	
State × % Owner-Occupied × % Black or African American	9 × 3 × 3	32	21	Drop (2,3,2), (4,3,1), (6,3,1), (7,3,2), (8,3,1/2), (8,2,1), (5,3,1/2); zero/sing.
State × % Owner-Occupied × % Hispanic or Latino	9 × 3 × 3	32	10	Coll. (9,3,1) & (9,3,2), (4,3,1) & (4,3,2), keep (9,2,1/2), (1,2,2), (2,2,2), (3,2,2), (6,2,2), (7,2,2), (5,2,2), drop all others; conv./zero/sing.
State × % Owner-Occupied × Rent/Housing	9 × 3 × 5	64	32	Coll. (9,3,3) & (9,3,4), drop (9,3,1), (1,3,1/2/3/4), (1,2,1/4), (2,3,1), (2,2,1/2), (4,3,1/2), (6,3,1/2/3/4), (6,2,3/4), (7,3,2/3/4), (7,2,4), (8,3,1/2/3/4), (8,2,2/3/4), (5,2/3,4); zero/sing.
State × Rent/Housing × % Black or African American	9 × 3 × 5	64	35	Keep (9,1,1/2), (9,2,1/2), (9,3,1/2), (9,4,2), (1,2,1/2), (1,3,1/2), (1,4,2), (2,4,1/2), (4,1/2,1), (4,3,1/2), (4,4,2), (6,1,1/2), (6,2,1/2), (7,1,1/2), (7,2,1/2), (8,1/2,2), (8,3,2), (5,1,1/2), (5,2,1/2), coll. (7,3,1) & (7,3,2), drop all others; sing./zero.
State × Rent/Housing × % Hispanic or Latino	9 × 3 × 5	64	19	Keep (9,1,2), (9,2,1/2), (9,3,2), (9,4,1/2), (1,2/3,2), (2,3/4,2), (4,3/4,2), (6,1/2,2), (6,3,2), (7,2/3,2), (5,1/2,2), drop all others; sing./zero.
Total		**459**	**293**	

Exhibit D5.2 Covariates for 2014 NSDUH Person Weights (res.sdu.ps), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**22**	**22**	
Intercept	1	1	1	All levels present.
State	9	8	8	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**125**	**125**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	9 × 4	24	24	All levels present.
State × Age	9 × 5	32	32	All levels present.
State × Race (5 levels)	9 × 5	32	32	All levels present.
State × Hispanicity	9 × 2	8	8	All levels present.
State × Gender	9 × 2	8	8	All levels present.
Three-Factor Effects		**190**	**190**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	8	All levels present.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	9 × 5 × 3	64	64	All levels present.
State × Age × Hispanicity	9 × 5 × 2	32	32	All levels present.
State × Age × Gender	9 × 5 × 2	32	32	All levels present.
State × Race (3 levels) × Hispanicity	9 × 3 × 2	16	16	All levels present.
State × Race (3 levels) × Gender	9 × 3 × 2	16	16	All levels present.
State × Hispanicity × Gender	9 × 2 × 2	8	8	All levels present.
Total		**337**	**337**	

Exhibit D5.3 Covariates for 2014 NSDUH Person Weights (sel.per.ps), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**40**	**40**	
Intercept	1	1	1	All levels present.
State	9	8	8	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**237**	**230**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	8	All levels present.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	9 × 4	24	24	All levels present.
State × Age	9 × 5	32	32	All levels present.
State × Race (5 levels)	9 × 5	32	32	All levels present.
State × Hispanicity	9 × 2	8	8	All levels present.
State × Gender	9 × 2	8	8	All levels present.
State × % Black or African American	9 × 3	16	15	Drop (8,1); zero.
State × % Hispanic or Latino	9 × 3	16	13	Drop (6,1), (8,1/2); zero.
State × % Owner-Occupied	9 × 3	16	16	All levels present.
State × Rent/Housing	9 × 5	32	29	Drop (2,1), (1,1), (8,4); zero/sing.
Three-Factor Effects		**190**	**180**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	8	All levels present.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	9 × 5 × 3	64	64	All levels present.
State × Age × Hispanicity	9 × 5 × 2	32	28	Drop (6,*,1); conv.
State × Age × Gender	9 × 5 × 2	32	32	All levels present.
State × Race (3 levels) × Hispanicity	9 × 3 × 2	16	10	Coll. (1,2,1) & (1,3,1), repeat for NC, SC, and VA; conv. Drop (8,2/3,2); sing./conv.
State × Race (3 levels) × Gender	9 × 3 × 2	16	16	All levels present.
State × Hispanicity × Gender	9 × 2 × 2	8	8	All levels present.
Total		**467**	**450**	

Exhibit D5.4 Covariates for 2014 NSDUH Person Weights (res.per.nr), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**40**	**40**	
Intercept	1	1	1	All levels present.
State	9	8	8	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**237**	**225**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	8	All levels present.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	9 × 4	24	24	All levels present.
State × Age	9 × 5	32	32	All levels present.
State × Race (5 levels)	9 × 5	32	29	Coll. (3,3) & (3,4), repeat for NC and WV; conv.
State × Hispanicity	9 × 2	8	8	All levels present.
State × Gender	9 × 2	8	8	All levels present.
State × % Black or African American	9 × 3	16	15	Drop (8,1); zero.
State × % Hispanic or Latino	9 × 3	16	12	Coll. (2,1) & (2,2); conv. Drop (6,1), (8,1/2); zero.
State × % Owner-Occupied	9 × 3	16	15	Coll. (8,2) & (8,3); conv.
State × Rent/Housing	9 × 5	32	29	Drop (2,1), (3,1); zero. Drop (8,4); sing.
Three-Factor Effects		**190**	**153**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all age levels; conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	9 × 5 × 3	64	53	Coll. (6,1,2) & (6,1,3), repeat for all age levels, and repeat for WV, then drop (8,2/3/4,*); conv.
State × Age × Hispanicity	9 × 5 × 2	32	20	Drop all for DC, DE, and VA; conv.
State × Age × Gender	9 × 5 × 2	32	32	All levels present.
State × Race (3 levels) × Hispanicity	9 × 3 × 2	16	6	Coll. (8,2,1) & (8,3,1); zero; repeat for all other states, then drop DE and VA; conv.
State × Race (3 levels) × Gender	9 × 3 × 2	16	16	All levels present.
State × Hispanicity × Gender	9 × 2 × 2	8	8	All levels present.
Total		**467**	**418**	

Exhibit D5.5 Covariates for 2014 NSDUH Person Weights (res.per.ps), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**23**	**23**	
Intercept	1	1	1	All levels present.
State	9	8	8	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**137**	**128**	
Age × Race (3 levels)	6 × 3	10	10	All levels present.
Age × Hispanicity	6 × 2	5	5	All levels present.
Age × Gender	6 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	9 × 4	24	24	All levels present.
State × Age	9 × 6	40	40	All levels present.
State × Race (5 levels)	9 × 5	32	24	Coll. (1,3) & (1,4), repeat for all states; conv.
State × Hispanicity	9 × 2	8	8	All levels present.
State × Gender	9 × 2	8	8	All levels present.
Three-Factor Effects		**227**	**177**	
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10	0	Coll. (1,2,1) & (1,3,1), repeat for all age levels, then drop; conv.
Age × Race (3 levels) × Gender	6 × 3 × 2	10	10	All levels present.
Age × Hispanicity × Gender	6 × 2 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	9 × 6 × 3	80	64	Coll. (8,5,2) & (8,5,3), (6,5,2) & (6,5,3); sing./zero. Coll. (6,1,2) & (6,1,3), repeat for age levels 2-4, repeat for state WV, drop (8,5,*); conv. Coll. (9,1,2) & (9,1,3), repeat for all age levels; conv.
State × Age × Hispanicity	9 × 6 × 2	40	33	Drop (4,5,1), (6,5,1); sing. Drop all for state WV; conv.
State × Age × Gender	9 × 6 × 2	40	40	All levels present.
State × Race (3 levels) × Hispanicity	9 × 3 × 2	16	0	Coll. (1,2,1) & (1,3,1), repeat for all states, then drop all; conv.
State × Race (3 levels) × Gender	9 × 3 × 2	16	16	All levels present.
State × Hispanicity × Gender	9 × 2 × 2	8	8	All levels present.
Total		**387**	**328**	

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Appendix D6: Model Group 6: East South Central

(Alabama, Kentucky, Mississippi, and Tennessee)

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Table D.6a 2014 NSDUH Person Weight GEM Modeling Summary (Model Group 6: East South Central)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	% Unweighted	% Weighted	% Outwinsor			Nominal	Realized
res.sdu.nr	2.20	2.02	0.13	1.09127	204	(1.10, 1.20)	(1.20, 1.20)
	3.67	3.51	0.21	1.10705	127	(1.00, 2.04)	(1.00, 2.04)
						(1.02, 1.20)	(1.02, 1.19)
res.sdu.ps	3.67	3.51	0.21	1.10705	162	(0.39, 1.10)	(0.39, 1.10)
	2.60	4.28	0.93	1.19235	157	(0.20, 4.82)	(0.20, 4.80)
						(0.30, 1.53)	(0.30, 1.51)
sel.per.ps	3.35	6.96	1.48	1.73799	242	(0.20, 2.10)	(0.20, 2.10)
	0.95	2.54	0.66	1.74513	217	(0.20, 4.98)	(0.20, 4.98)
						(0.30, 5.00)	(0.30, 5.00)
res.per.nr	1.04	2.99	0.66	1.77277	242	(1.00, 2.60)	(1.00, 2.60)
	0.98	3.40	0.67	1.92281	187	(1.00, 5.00)	(1.00, 5.00)
						(1.30, 1.61)	(1.30, 1.61)
res.per.ps	1.17	4.00	0.77	1.92281	187	(0.20, 2.30)	(0.20, 2.29)
	0.61	1.85	0.36	1.98316	161	(0.20, 4.40)	(0.20, 4.40)
						(0.34, 1.10)	(0.34, 0.34)

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[3] Number of proposed covariates (XVAR) on top line and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the generalized exponential model (GEM) adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high extreme values, the nonextreme values, and the low extreme values.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table D.6b Distribution of Weight Adjustment Factors and Weight Products for the 2014 NSDUH Person Weight (Model Group 6: East South Central)

	sel.sdu.des[1]	*res.sdu.nr*[1]		*res.sdu.ps*[1]		*sel.per.des*[1]		*sel.per.ps*[1]		*res.per.nr*[1]		*res.per.ps*[1]	
	1-8[2]	**9**[3]	**1-9**[3]	**10**[4]	**1-10**[4]	**12**[5]	**1-12**[5]	**13**[5]	**1-13**[5]	**14**[6]	**1-14**[6]	**15**[6]	**1-15**[6]
Minimum	145	0.67	349	0.20	124	1.01	171	0.15	43	0.44	43	0.11	12
1%	485	1.01	527	0.26	264	1.01	392	0.20	257	1.00	317	0.24	220
5%	502	1.04	580	0.65	533	1.01	707	0.67	617	1.01	740	0.71	686
10%	574	1.06	626	0.83	638	1.01	902	0.78	839	1.05	987	0.87	950
25%	717	1.08	805	0.98	809	1.34	1,298	0.89	1,283	1.12	1,543	0.97	1,549
Median	795	1.13	935	1.07	994	2.47	2,227	0.99	2,272	1.24	2,716	1.01	2,726
75%	984	1.21	1,278	1.16	1,326	3.10	3,968	1.12	3,967	1.41	5,184	1.06	5,161
90%	1,327	1.30	1,491	1.34	1,666	6.25	7,151	1.26	7,371	1.62	9,508	1.12	9,257
95%	1,350	1.43	1,600	1.52	1,858	6.81	9,264	1.39	9,023	1.81	12,426	1.24	12,597
99%	1,377	1.53	1,773	2.24	2,683	8.23	12,357	1.79	12,063	2.66	20,241	2.03	21,042
Maximum	1,794	2.41	2,788	4.80	6,506	16.86	25,938	9.96	27,221	5.00	34,077	4.40	43,719
n	7,816	6,731	6,731	6,731	6,731	4,930	4,930	4,930	4,930	3,765	3,765	3,765	3,765
Max/Mean	2.05	-	2.74	-	5.92	-	8.18	-	8.61	-	8.23	-	10.56

Note 1: Weight component 11 and weight products 1-11 are excluded because weight 11 = 1 for all selected dwelling units.
Note 2: Weight component 16 and weight products 1-16 are excluded because weight 16 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #9 and #14) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] Sel.sdu.des refers to selected screener dwelling unit design weight, and sel.per.des refers to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected people.
[6] Based on questionnaire-complete people.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Model Group 6 Overview

Dwelling Unit Nonresponse

For the one-factor effects, College Dorm had to be collapsed with Other Group Quarter. Out of 22 proposed variables, 21 were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Hispanic or Latino, percent Owner-Occupied × Rent/Housing, Rent/Housing × percent Hispanic or Latino, State × Population Density, State × Group Quarter, and State × percent Hispanic or Latino interactions. Out of 86 proposed variables, 70 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 96 proposed variables, 36 were included in the model.

In the final model, a total of 127 variables were included; see Exhibit D6.1.

Dwelling Unit Poststratification

All 17 proposed one-factor effects were included in the model.

All 60 proposed two-factor effects were included in the model.

For the three-factor effects, variable collapsing was present in the Age × Race × Hispanicity and Race × Hispanicity × Gender interactions. Out of 85 proposed variables, 80 were included in the model.

In the final model, a total of 157 variables was included; see Exhibit D6.2.

Selected Person-Level Poststratification

For the one-factor effects, variable collapsing was present in Group Quarter. Out of 35 proposed variables, 34 were included in the model.

For the two-factor effects, variable dropping was present in the percent Owner-Occupied × percent Hispanic or Latino, percent Owner-Occupied × Rent/Housing, Rent/Housing × percent Hispanic or Latino, and State × percent Hispanic or Latino interactions. Out of 122 proposed variables, 112 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Race × Gender, State × Age × Race, State × Age × Gender, State × Race × Gender, and State × Hispanicity × Gender interactions. Out of 85 proposed variables, 71 were included in the model.

In the final model, a total of 217 variables were included; see Exhibit D6.3.

Respondent Person-Level Nonresponse

For the one-factor effects, College Dorm had to be collapsed with Other Group Quarter. Out of 35 proposed variables, 34 were included in the model.

For the two-factor effects, variable dropping was present in the percent Owner-Occupied × percent Hispanic or Latino, percent Owner-Occupied × Rent/Housing, Rent/Housing × percent Hispanic or Latino, and State × percent Hispanic or Latino interactions. Out of 122 proposed variables, 112 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Race × Gender, Age × Hispanicity × Gender, and State × Age × Gender interactions. Out of 85 proposed variables, 41 were included in the model.

In the final model, a total of 187 variables were included; see Exhibit D6.4.

Respondent Person-Level Poststratification

All 18 proposed one-factor effects were included in the model.

All 67 proposed two-factor effects were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Race × Gender, Race × Hispanicity × Gender, State × Age × Gender, and State × Race × Gender interactions. Out of 102 proposed variables, 76 were included in the model.

In the final model, a total of 161 variables w included; see Exhibit D6.5.

Exhibit D6.1 Covariates for 2014 NSDUH Person Weights (res.sdu.nr), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**22**	**21**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	1	Coll. (1) & (2); conv.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**86**	**70**	
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	1	Coll. (2,1) & (2,2); sing. Drop all others; zero, sing.
% Owner-Occupied × Rent/Housing	3 × 5	8	7	Coll. (3,1) & (2,1); zero.
Rent/Housing × % Black or African American	3 × 5	8	8	All levels present.
Rent/Housing × % Hispanic or Latino	3 × 5	8	5	Coll. (1,1) & (1,2), (2,1) & (2,2); zero. Coll. (4,1) & (4,2); sing.
State × Quarter	4 × 4	9	9	All levels present.
State × Population Density	4 × 4	9	8	Drop (1,3); zero.
State × Group Quarter	4 × 3	6	1	Coll. (1,1) & (1,2), repeat for all states; hier. Drop (3,1/2); sing. Drop (1,1/2); conv.
State × % Black or African American	4 × 3	6	6	All levels present.
State × % Hispanic or Latino	4 × 3	6	3	Coll. (1,1) & (1,2), repeat for all states; zero.
State × % Owner-Occupied	4 × 3	6	6	All levels present.
State × Rent/Housing	4 × 5	12	12	All levels present.
Three-Factor Effects		**96**	**36**	
State × % Owner-Occupied × % Black or African American	4 × 3 × 3	12	5	Coll. (1,2,1) & (1,2,2); conv. Keep (2,2,1), (2,2,2), (3,2,1), (3,2,2). Drop all others; zero, sing.
State × % Owner-Occupied × % Hispanic or Latino	4 × 3 × 3	12	1	Coll. (2,2,1) & (2,2,2); hier. Drop all others; hier., sing.
State × % Owner-Occupied × Rent/Housing	4 × 3 × 5	24	11	Coll. (1,3,1) & (1,2,1), repeat for all states; hier. Coll. (1,3,2) & (1,2,2), (2,3,3) & (2,2,3), (2,3,4) & (2,2,4), (3,3,2) & (3,2,2), (3,3,4) & (3,2,4); zero. Coll. (1,3,3) & (1,2,3), (1,3,4) & (1,2,4), (2,3,2) & (2,2,2), (3,3,3) & (3,2,3); sing. Drop (3,3/2,3); conv.
State × Rent/Housing × % Black or African American	4 × 3 × 5	24	17	Coll. (1,4,1) & (1,4,2), (2,3,1) & (2,3,2), (3,1,1) & (3,1,2); sing. Drop (2,1,1), (2,4,1); zero. Drop (2,1,2), (2,4,2); sing.
State × Rent/Housing × % Hispanic or Latino	4 × 3 × 5	24	2	Coll. (1,3,1) & (1,3,2), (2,3,1) & (2,3,2); zero. Drop all others; hier., zero, sing., conv.
Total		**204**	**127**	

Exhibit D6.2 Covariates for 2014 NSDUH Person Weights (res.sdu.ps), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**17**	**17**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**60**	**60**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	4 × 4	9	9	All levels present.
State × Age	4 × 5	12	12	All levels present.
State × Race (5 levels)	4 × 5	12	12	All levels present.
State × Hispanicity	4 × 2	3	3	All levels present.
State × Gender	4 × 2	3	3	All levels present.
Three-Factor Effects		**85**	**80**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all age levels; conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	4 × 5 × 3	24	24	All levels present.
State × Age × Hispanicity	4 × 5 × 2	12	12	All levels present.
State × Age × Gender	4 × 5 × 2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4 × 3 × 2	6	6	All levels present.
State × Race (3 levels) × Gender	4 × 3 × 2	6	6	All levels present.
State × Hispanicity × Gender	4 × 2 × 2	3	3	All levels present.
Total		**162**	**157**	

Exhibit D6.3 Covariates for 2014 NSDUH Person Weights (sel.per.ps), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**35**	**34**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	1	Coll. (1) & (2); zero.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**122**	**112**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	1	Drop (3,1); zero. Drop (3,2), (2,1); sing.
% Owner-Occupied × Rent/Housing	3 × 5	8	7	Drop (3,1); zero.
Rent/Housing × % Black or African American	3 × 5	8	8	All levels present.
Rent/Housing × % Hispanic or Latino	3 × 5	8	5	Drop (1,1), (2,1); zero. Drop (4,1); sing.
State × Quarter	4 × 4	9	9	All levels present.
State × Age	4 × 5	12	12	All levels present.
State × Race (5 levels)	4 × 5	12	12	All levels present.
State × Hispanicity	4 × 2	3	3	All levels present.
State × Gender	4 × 2	3	3	All levels present.
State × % Black or African American	4 × 3	6	6	All levels present.
State × % Hispanic or Latino	4 × 3	6	3	Drop (1,1), repeat for all states; zero.
State × % Owner-Occupied	4 × 3	6	6	All levels present.
State × Rent/Housing	4 × 5	12	12	All levels present.
Three-Factor Effects		**85**	**71**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	1	Coll. (1,2,1) & (1,3,1); conv. Drop all others; zero, sing., conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	3	Drop (4,1,1); conv.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	4 × 5 × 3	24	24	All levels present.
State × Age × Hispanicity	4 × 5 × 2	12	10	Drop (1,4,1), (2,4,1); sing.
State × Age × Gender	4 × 5 × 2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4 × 3 × 2	6	3	Coll. (1,2,1) & (1,3,1), repeat for all states; zero, conv.
State × Race (3 levels) × Gender	4 × 3 × 2	6	6	All levels present.
State × Hispanicity × Gender	4 × 2 × 2	3	3	All levels present.
Total		**242**	**217**	

Exhibit D6.4 Covariates for 2014 NSDUH Person Weights (res.per.nr), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**35**	**34**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	1	Drop (2); zero.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**122**	**112**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	1	Drop (3,1); zero. Drop (2,1), (3,2); sing.
% Owner-Occupied × Rent/Housing	3 × 5	8	7	Drop (3,1); zero.
Rent/Housing × % Black or African American	3 × 5	8	8	All levels present.
Rent/Housing × % Hispanic or Latino	3 × 5	8	5	Drop (1,1), (2,1); zero. Drop (4,1); sing.
State × Quarter	4 × 4	9	9	All levels present.
State × Age	4 × 5	12	12	All levels present.
State × Race (5 levels)	4 × 5	12	12	All levels present.
State × Hispanicity	4 × 2	3	3	All levels present.
State × Gender	4 × 2	3	3	All levels present.
State × % Black or African American	4 × 3	6	6	All levels present.
State × % Hispanic or Latino	4 × 3	6	3	Drop (1,1), repeat for all states; zero.
State × % Owner-Occupied	4 × 3	6	6	All levels present.
State × Rent/Housing	4 × 5	12	12	All levels present.
Three-Factor Effects		**85**	**41**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	0	Drop all levels; zero, sing., conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	4 × 5 × 3	24	12	Coll. (1,1,2) & (1,1,3), (1,2,2) & (1,2,3), (1,3,2) & (1,3,3), (1,4,2) & (1,4,3), repeat for all states; conv.
State × Age × Hispanicity	4 × 5 × 2	12	1	Keep (3,1,1). Drop all others; sing., conv.
State × Age × Gender	4 × 5 × 2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4 × 3 × 2	6	0	Drop all levels; zero, conv.
State × Race (3 levels) × Gender	4 × 3 × 2	6	3	Coll. (1,2,1) & (1,3,1), repeat for all states; conv.
State × Hispanicity × Gender	4 × 2 × 2	3	0	Drop all levels; conv.
Total		**242**	**187**	

Exhibit D6.5 Covariates for 2014 NSDUH Person Weights (res.per.ps), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**18**	**18**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**67**	**67**	
Age × Race (3 levels)	6 × 3	10	10	All levels present.
Age × Hispanicity	6 × 2	5	5	All levels present.
Age × Gender	6 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	4 × 4	9	9	All levels present.
State × Age	4 × 6	15	15	All levels present.
State × Race (5 levels)	4 × 5	12	12	All levels present.
State × Hispanicity	4 × 2	3	3	All levels present.
State × Gender	4 × 2	3	3	All levels present.
Three-Factor Effects		**102**	**76**	
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10	7	Drop (5,2,1); zero. Drop (5,3,1); sing. Coll. (4,2,1) & (4,3,1); sing.
Age × Race (3 levels) × Gender	6 × 3 × 2	10	10	All levels present.
Age × Hispanicity × Gender	6 × 2 × 2	5	3	Drop (4,1,1), (5,1,1); sing.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	4 × 6 × 3	30	20	Coll. (1,*,2) & (1,*,3), repeat for state 3; conv.
State × Age × Hispanicity	4 × 6 × 2	15	11	Drop (1,5,1), (2,5,1); zero. Drop (1,4,1), (2,4,1); sing.
State × Age × Gender	4 × 6 × 2	15	15	All levels present.
State × Race (3 levels) × Hispanicity	4 × 3 × 2	6	0	Drop all levels; conv.
State × Race (3 levels) × Gender	4 × 3 × 2	6	6	All levels present.
State × Hispanicity × Gender	4 × 2 × 2	3	2	Drop (1,1,1); conv.
Total		**187**	**161**	

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Appendix D7: Model Group 7: West South Central

(Arkansas, Louisiana, Oklahoma, and Texas)

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Table D.7a 2014 NSDUH Person Weight GEM Modeling Summary (Model Group 7: West South Central)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	% Unweighted	% Weighted	% Outwinsor			Nominal	Realized
res.sdu.nr	3.16	4.54	0.17	1.18724	204	(1.02, 1.20)	(1.02, 1.19)
	0.69	0.93	0.03	1.19803	143	(1.00, 1.81)	(1.00, 1.80)
						(1.12, 1.17)	(1.17, 1.17)
res.sdu.ps	0.69	0.93	0.03	1.19802	162	(0.57, 1.10)	(0.57, 1.10)
	1.45	3.47	0.90	1.25625	158	(0.20, 4.40)	(0.20, 4.32)
						(0.90, 1.72)	(0.90, 1.72)
sel.per.ps	3.17	7.99	2.28	1.67094	242	(0.43, 2.40)	(0.43, 2.40)
	2.24	6.01	1.07	1.65633	233	(0.25, 4.61)	(0.25, 4.58)
						(0.70, 4.67)	(0.70, 4.67)
res.per.nr	2.39	6.14	1.15	1.67992	242	(1.00, 2.57)	(1.00, 2.57)
	1.77	4.41	0.81	1.83995	229	(1.00, 3.70)	(1.00, 3.65)
						(1.40, 1.49)	(1.40, 1.49)
res.per.ps	1.69	4.04	0.82	1.83995	187	(0.20, 1.10)	(0.20, 1.10)
	0.41	1.02	0.08	1.84327	179	(0.20, 2.70)	(0.20, 2.70)
						(N/A, N/A)	(N/A, N/A)

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[3] Number of proposed covariates (XVAR) on top line and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the generalized exponential model (GEM) adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high extreme values, the nonextreme values, and the low extreme values.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table D.7b Distribution of Weight Adjustment Factors and Weight Products for the 2014 NSDUH Person Weight (Model Group 7: West South Central)

	sel.sdu.des[1]	*res.sdu.nr*[1]		*res.sdu.ps*[1]		*sel.per.des*[1]		*sel.per.ps*[1]		*res.per.nr*[1]		*res.per.ps*[1]	
	1-8[2]	**9**[3]	**1-9**[3]	**10**[4]	**1-10**[4]	**12**[5]	**1-12**[5]	**13**[5]	**1-13**[5]	**14**[6]	**1-14**[6]	**15**[6]	**1-15**[6]
Minimum	401	0.98	419	0.20	154	1.01	195	0.17	55	0.54	56	0.10	15
1%	407	1.00	423	0.37	286	1.01	425	0.48	342	1.00	363	0.21	216
5%	418	1.03	467	0.67	466	1.01	766	0.75	736	1.05	838	0.43	634
10%	480	1.06	573	0.84	541	1.01	990	0.82	985	1.09	1,183	0.74	1,007
25%	695	1.10	791	0.97	807	1.29	1,593	0.90	1,583	1.17	1,924	0.97	1,930
Median	1,073	1.15	1,245	1.08	1,274	2.34	2,681	1.00	2,697	1.30	3,290	1.04	3,342
75%	1,382	1.19	1,618	1.20	1,797	3.18	4,743	1.10	4,901	1.47	6,586	1.11	6,662
90%	1,511	1.24	1,743	1.35	2,062	5.36	8,225	1.22	7,982	1.66	11,178	1.22	11,261
95%	1,543	1.26	1,783	1.50	2,318	6.77	9,942	1.35	9,684	1.81	14,691	1.29	14,560
99%	1,734	1.33	2,003	2.07	3,388	7.55	13,200	1.65	14,048	2.29	21,150	1.57	21,399
Maximum	4,235	1.80	4,982	4.32	7,583	11.05	44,636	10.61	36,003	5.20	38,804	2.70	35,513
n	11,875	10,363	10,363	10,362	10,362	8,429	8,429	8,429	8,429	6,276	6,276	6,276	6,276
Max/Mean	3.98	-	4.08	-	5.67	-	12.11	-	9.76	-	7.83	-	7.17

Note 1: Weight component 11 and weight products 1-11 are excluded because weight 11 = 1 for all selected dwelling units.
Note 2: Weight component 16 and weight products 1-16 are excluded because weight 16 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #9 and #14) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] Sel.sdu.des refers to selected screener dwelling unit design weight, and sel.per.des refers to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected people.
[6] Based on questionnaire-complete people.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Model Group 7 Overview

Dwelling Unit Nonresponse

All 22 proposed one-factor effects were included in the model.

For the two-factor effects, variable dropping was present in the percent Owner-Occupied × Rent/Housing, State × Population Density, State × Group Quarter, and State × percent Hispanic or Latino interactions. Out of 86 proposed variables, 80 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 96 proposed variables, 41 were included in the model.

In the final model, a total of 143 variables were included; see Exhibit D7.1.

Dwelling Unit Poststratification

All 17 proposed one-factor effects were included in the model.

All 60 proposed two-factor effects were included in the model.

For the three-factor effects, variable collapsing was present in the Age × Race × Hispanicity interaction. Out of 85 proposed variables, 81 were included in the model.

In the final model, a total of 158 variables were included; see Exhibit D7.2.

Selected Person-Level Poststratification

All 35 proposed one-factor effects were included in the model.

For the two-factor effects, variable dropping was present in the percent Owner-Occupied × Rent/Housing and State × percent Hispanic or Latino interactions. Out of 122 proposed variables, 120 were included in the model.

For the three-factor effects, variable collapsing was present in the Age × Race × Hispanicity and State × Race × Hispanicity interactions. Out of 85 proposed variables, 78 were included in the model.

In the final model, a total of 233 variables were included; see Exhibit D7.3.

Respondent Person-Level Nonresponse

All 35 proposed one-factor effects were included in the model.

For the two-factor effects, variable dropping was present in the percent Owner-Occupied × Rent/Housing and State × percent Hispanic or Latino interactions. Out of 122 proposed variables, 120 were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, and State × Race × Hispanicity interactions. Out of 85 proposed variables, 74 were included in the model.

In the final model, a total of 229 variables were included; see Exhibit D7.4.

Respondent Person-Level Poststratification

All 18 proposed one-factor effects were included in the model.

All 67 proposed two-factor effects were included in the model.

For the three-factor effects, variable collapsing was present in the Age × Race × Hispanicity, Race × Hispanicity × Gender, and State × Race × Hispanicity interactions. Out of 102 proposed variables, 94 were included in the model.

In the final model, a total of 179 variables were included; see Exhibit D7.5.

Exhibit D7.1 Covariates for 2014 NSDUH Person Weights (res.sdu.nr), Model Group 7: West South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**22**	**22**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**86**	**80**	
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	7	Drop (3,1); zero.
Rent/Housing × % Black or African American	3 × 5	8	8	All levels present.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	4 × 4	9	9	All levels present.
State × Population Density	4 × 4	9	8	Drop (3,3); zero.
State × Group Quarter	4 × 3	6	3	Drop (4,1/2), (2,2); zero.
State × % Black or African American	4 × 3	6	6	All levels present.
State × % Hispanic or Latino	4 × 3	6	5	Drop (2,1); zero.
State × % Owner-Occupied	4 × 3	6	6	All levels present.
State × Rent/Housing	4 × 5	12	12	All levels present.
Three-Factor Effects		**96**	**41**	
State × % Owner-Occupied × % Black or African American	4 × 3 × 3	12	5	Coll. (4,3,1) & (4,3,2); conv. Keep (4,2,2), (2,2,1/2), (3,2,2), drop all others; zero/sing.
State × % Owner-Occupied × % Hispanic or Latino	4 × 3 × 3	12	4	Keep (4,2/3,2), (2,2,2), (3,2,2), drop all others; zero/sing.
State × % Owner-Occupied × Rent/Housing	4 × 3 × 5	24	10	Keep (4,1/2/3/4), (2,3,3), (2,2,1/2), (3,2,1/2/3), drop all others; zero/sing.
State × Rent/Housing × % Black or African American	4 × 3 × 5	24	15	Drop (4,4,1), (2,2/4,1), (2,3,1), (3,1,2), (3,2,1), (3,4,2); sing. Drop (3,3,1), (3,4,1); zero.
State × Rent/Housing × % Hispanic or Latino	4 × 3 × 5	24	7	Keep (4,1/2/3/4,2), (2,3,2), (3,2/3,2), drop all others; zero/sing.
Total		**204**	**143**	

Exhibit D7.2 Covariates for 2014 NSDUH Person Weights (res.sdu.ps), Model Group 7: West South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**17**	**17**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**60**	**60**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	4 × 4	9	9	All levels present.
State × Age	4 × 5	12	12	All levels present.
State × Race (5 levels)	4 × 5	12	12	All levels present.
State × Hispanicity	4 × 2	3	3	All levels present.
State × Gender	4 × 2	3	3	All levels present.
Three-Factor Effects		**85**	**81**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all age levels; conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	4 × 5 × 3	24	24	All levels present.
State × Age × Hispanicity	4 × 5 × 2	12	12	All levels present.
State × Age × Gender	4 × 5 × 2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4 × 3 × 2	6	6	All levels present.
State × Race (3 levels) × Gender	4 × 3 × 2	6	6	All levels present.
State × Hispanicity × Gender	4 × 2 × 2	3	3	All levels present.
Total		**162**	**158**	

Exhibit D7.3 Covariates for 2014 NSDUH Person Weights (sel.per.ps), Model Group 7: West South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**35**	**35**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**122**	**120**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	7	Drop (3,1); zero.
Rent/Housing × % Black or African American	3 × 5	8	8	All levels present.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	4 × 4	9	9	All levels present.
State × Age	4 × 5	12	12	All levels present.
State × Race (5 levels)	4 × 5	12	12	All levels present.
State × Hispanicity	4 × 2	3	3	All levels present.
State × Gender	4 × 2	3	3	All levels present.
State × % Black or African American	4 × 3	6	6	All levels present.
State × % Hispanic or Latino	4 × 3	6	5	Drop (2,1); zero.
State × % Owner-Occupied	4 × 3	6	6	All levels present.
State × Rent/Housing	4 × 5	12	12	All levels present.
Three-Factor Effects		**85**	**78**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (4,2,1) & (4,3,1); sing. Repeat for all other age levels; conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	4 × 5 × 3	24	24	All levels present.
State × Age × Hispanicity	4 × 5 × 2	12	12	All levels present.
State × Age × Gender	4 × 5 × 2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4 × 3 × 2	6	3	Coll. (2,2,1) & (2,3,1), (3,2,1) & (3,3,1), (4,2,1) & (4,3,1); conv.
State × Race (3 levels) × Gender	4 × 3 × 2	6	6	All levels present.
State × Hispanicity × Gender	4 × 2 × 2	3	3	All levels present.
Total		**242**	**233**	

Exhibit D7.4 Covariates for 2014 NSDUH Person Weights (res.per.nr), Model Group 7: West South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**35**	**35**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**122**	**120**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	4	All levels present.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	7	Drop (3,1); zero.
Rent/Housing × % Black or African American	3 × 5	8	8	All levels present.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	4 × 4	9	9	All levels present.
State × Age	4 × 5	12	12	All levels present.
State × Race (5 levels)	4 × 5	12	12	All levels present.
State × Hispanicity	4 × 2	3	3	All levels present.
State × Gender	4 × 2	3	3	All levels present.
State × % Black or African American	4 × 3	6	6	All levels present.
State × % Hispanic or Latino	4 × 3	6	5	Drop (2,1); zero.
State × % Owner-Occupied	4 × 3	6	6	All levels present.
State × Rent/Housing	4 × 5	12	12	All levels present.
Three-Factor Effects		**85**	**74**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	5	Coll. (2,2,1) & (2,3,1), repeat for age levels 3 and 4; conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	4 × 5 × 3	24	19	Coll. (2.2.2) & (2,3,2), repeat for age levels 3 and 4, repeat for OK and age levels 3 and 4; conv.
State × Age × Hispanicity	4 × 5 × 2	12	12	All levels present.
State × Age × Gender	4 × 5 × 2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4 × 3 × 2	6	3	Drop (2,2,1), coll. (3,2,1) & (3,3,1); zero. Coll. (4,2,1) & (4,3,1); conv.
State × Race (3 levels) × Gender	4 × 3 × 2	6	6	All levels present.
State × Hispanicity × Gender	4 × 2 × 2	3	3	All levels present.
Total		**242**	**229**	

Exhibit D7.5 Covariates for 2014 NSDUH Person Weights (res.per.ps), Model Group 7: West South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**18**	**18**	
Intercept	1	1	1	All levels present.
State	4	3	3	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**67**	**67**	
Age × Race (3 levels)	6 × 3	10	10	All levels present.
Age × Hispanicity	6 × 2	5	5	All levels present.
Age × Gender	6 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	4 × 4	9	9	All levels present.
State × Age	4 × 6	15	15	All levels present.
State × Race (5 levels)	4 × 5	12	12	All levels present.
State × Hispanicity	4 × 2	3	3	All levels present.
State × Gender	4 × 2	3	3	All levels present.
Three-Factor Effects		**102**	**94**	
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10	6	Coll. (4,2,1) & (4.3.1), (5,2,1) & (5,3,1); sing./zero. Coll. (2,3,1) & (2,3,1), (3,2,1) & (3,3,1); conv.
Age × Race (3 levels) × Gender	6 × 3 × 2	10	10	All levels present.
Age × Hispanicity × Gender	6 × 2 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (2,1,1) & (2,1,1); conv.
State × Age × Race (3 levels)	4 × 6 × 3	30	30	All levels present.
State × Age × Hispanicity	4 × 6 × 2	15	15	All levels present.
State × Age × Gender	4 × 6 × 2	15	15	All levels present.
State × Race (3 levels) × Hispanicity	4 × 3 × 2	6	3	Coll. (4,2,1) & (4,3,1), repeat for all states; conv.
State × Race (3 levels) × Gender	4 × 3 × 2	6	6	All levels present.
State × Hispanicity × Gender	4 × 2 × 2	3	3	All levels present.
Total		**187**	**179**	

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Appendix D8: Model Group 8: Mountain

(Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming)

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Table D.8a 2014 NSDUH Person Weight GEM Modeling Summary (Model Group 8: Mountain)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	% Unweighted	% Weighted	% Outwinsor			Nominal	Realized
res.sdu.nr	2.89	3.10	0.25	1.50738	408	(1.00, 1.70)	(1.01, 1.70)
	1.14	1.21	0.17	1.52478	201	(1.00, 4.56)	(1.00, 4.50)
						(1.11, 1.21)	(1.12, 1.20)
res.sdu.ps	1.14	1.21	0.17	1.52484	302	(0.36, 1.10)	(0.36, 1.10)
	1.52	3.08	0.82	1.64501	287	(0.26, 5.00)	(0.27, 5.00)
						(0.90, 1.47)	(0.90, 1.47)
sel.per.ps	2.83	6.00	1.33	2.38119	422	(0.20, 3.00)	(0.20, 3.00)
	1.34	3.34	0.77	2.38992	369	(0.20, 5.00)	(0.20, 5.00)
						(0.90, 1.44)	(0.91, 1.43)
res.per.nr	1.36	3.34	0.82	2.44655	422	(1.00, 3.00)	(1.00, 3.00)
	1.37	3.40	0.73	2.59122	352	(1.00, 3.38)	(1.00, 3.38)
						(1.30, 4.18)	(1.30, 2.43)
res.per.ps	1.46	3.66	0.78	2.59122	347	(0.20, 2.57)	(0.20, 2.56)
	0.77	2.70	0.59	2.76099	319	(0.20, 5.00)	(0.20, 5.00)
						(0.90, 1.91)	(0.90, 1.91)

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[3] Number of proposed covariates (XVAR) on top line and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the generalized exponential model (GEM) adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high extreme values, the nonextreme values, and the low extreme values.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table D.8b Distribution of Weight Adjustment Factors and Weight Products for the 2014 NSDUH Person Weight (Model Group 8: Mountain)

	sel.sdu.des[1]	*res.sdu.nr*[1]		*res.sdu.ps*[1]		*sel.per.des*[1]		*sel.per.ps*[1]		*res.per.nr*[1]		*res.per.ps*[1]	
	1-8[2]	**9**[3]	**1-9**[3]	**10**[4]	**1-10**[4]	**12**[5]	**1-12**[5]	**13**[5]	**1-13**[5]	**14**[6]	**1-14**[6]	**15**[6]	**1-15**[6]
Minimum	83	0.81	89	0.15	34	1.01	34	0.13	7	0.54	7	0.08	5
1%	86	1.00	94	0.57	89	1.01	111	0.35	94	1.00	105	0.20	87
5%	99	1.03	105	0.77	112	1.01	202	0.68	193	1.01	231	0.42	199
10%	102	1.04	116	0.87	133	1.01	284	0.78	276	1.05	332	0.75	295
25%	167	1.07	194	1.00	221	1.30	513	0.88	505	1.13	628	0.95	604
Median	397	1.12	454	1.10	511	2.36	1,170	1.00	1,129	1.24	1,351	1.02	1,344
75%	770	1.20	889	1.20	928	3.07	2,387	1.11	2,388	1.39	3,024	1.09	2,935
90%	990	1.32	1,205	1.34	1,408	6.50	4,139	1.24	4,366	1.59	5,826	1.27	5,838
95%	1,349	1.35	1,466	1.49	1,666	7.12	6,122	1.35	6,366	1.73	8,568	1.44	8,705
99%	1,401	1.55	1,644	2.11	2,209	8.86	11,315	1.78	11,091	2.24	15,412	2.43	16,321
Maximum	1,636	4.50	2,092	5.00	6,946	15.99	27,689	5.00	26,005	4.61	33,814	5.00	72,502
n	15,392	13,335	13,335	13,333	13,333	10,063	10,063	10,063	10,063	7,790	7,790	7,790	7,790
Max/Mean	3.23	-	3.57	-	10.56	-	14.71	-	13.77	-	13.86	-	29.71

Note 1: Weight component 11 and weight products 1-11 are excluded because weight 11 = 1 for all selected dwelling units.
Note 2: Weight component 16 and weight products 1-16 are excluded because weight 16 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #9 and #14) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] Sel.sdu.des refers to selected screener dwelling unit design weight, and sel.per.des refers to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected people.
[6] Based on questionnaire-complete people.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Model Group 8 Overview

Dwelling Unit Nonresponse

For the one-factor effects, 50-100 percent of Segments That Are Black or African American was dropped because the sample size was zero. Out of 26 proposed variables, 25 were included in the model.

Variable collapsing or dropping was present in all two-factor effects except the percent Owner-Occupied × percent Hispanic or Latino, percent Owner-Occupied × Rent/Housing, Rent/Housing × percent Hispanic or Latino, and State × Quarter interactions. Out of 158 proposed variables, 121 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 224 proposed variables, 55 were included in the model.

In the final model, a total of 201 variables were included; see Exhibit D8.1.

Dwelling Unit Poststratification

All 21 proposed one-factor effects were included in the model.

All 112 proposed two-factor effects were included in the model.

For the three-factor effects, variable collapsing was present in the Age × Race × Hispanicity, Race × Hispanicity × Gender, State × Age × Race, and State × Race × Hispanicity interactions. Out of 169 proposed variables, 154 were included in the model.

In the final model, a total of 287 variables were included; see Exhibit D8.2.

Selected Person-Level Poststratification

For the one-factor effects, 50-100 percent of Segments That Are Black or African American was dropped because the sample size was zero. Out of 39 proposed variables, 38 were included in the model.

For the two-factor effects, variable dropping was present in the percent Owner-Occupied × percent Black or African American, Rent/Housing × percent Black or African American, State × percent Black or African American, State × percent Hispanic or Latino, State × percent Owner-Occupied, and State × Rent/Housing interactions. Out of 214 proposed variables, 194 were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, Race × Hispanicity × Gender, State × Age × Race, State × Race × Hispanicity, and State × Race × Gender interactions. Out of 169 proposed variables, 137 were included in the model.

In the final model, a total of 369 variables were included; see Exhibit D8.3.

Respondent Person-Level Nonresponse

For the one-factor effects, 50-100 percent of Segments That Are Black or African American was dropped because the sample size was zero. Out of 39 proposed variables, 38 were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Black or African American, percent Owner-Occupied × Rent/Housing, Rent/Housing × percent Black or African American, State × percent Black or African American, State × percent Hispanic or Latino, State × percent Owner-Occupied, and State × Rent/Housing interactions. Out of 214 proposed variables, 193 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. Out of 169 proposed variables, 121 were included in the model.

In the final model, a total of 352 variables were included; see Exhibit D8.4.

Respondent Person-Level Poststratification

All 22 proposed one-factor effects were included in the model.

All 123 proposed two-factor effects were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Race × Gender, Age × Hispanicity × Gender, Race × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. Out of 202 proposed variables, 174 were included in the model.

In the final model, a total of 319 variables were included; see Exhibit D8.5.

Exhibit D8.1 Covariates for 2014 NSDUH Person Weights (res.sdu.nr), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**26**	**25**	
Intercept	1	1	1	All levels present.
State	8	7	7	All levels present.
Quarter	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	1	Drop (1); zero.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**158**	**121**	
% Owner-Occupied × % Black or African American	3 × 3	4	2	Drop (*,1); zero.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	4	Drop (*,1); zero.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	8 × 4	21	21	All levels present.
State × Population Density	8 × 4	21	13	Drop (1,3), (2,1), (3,1), (4,3), (5,1), (7,*); zero/sing.
State × Group Quarter	8 × 3	14	5	Coll. (2,1) & (2,2); conv. Keep (3,*), (5,1), (6,2); sing./zero.
State × % Black or African American	8 × 3	14	4	Keep (1,2), (4,2), (5,2), (7,2), drop remainder; sing./zero.
State × % Hispanic or Latino	8 × 3	14	12	Drop (3,1), (7,1); zero.
State × % Owner-Occupied	8 × 3	14	13	Drop (7,3); zero.
State × Rent/Housing	8 × 5	28	27	Drop (6,1); zero.
Three-Factor Effects		**224**	**55**	
State × % Owner-Occupied × % Black or African American	8 × 3 × 3	28	4	Keep (1,*,2), (4,*,2), drop remainder; zero, sing.
State × % Owner-Occupied × % Hispanic or Latino	8 × 3 × 3	28	4	Coll. (1,2,1), (1,2,2), (1,3,1), & (1,3,2); conv. Keep (3,2,2), (4,2,*), drop remainder; zero/sing./conv.
State × % Owner-Occupied × Rent/Housing	8 × 3 × 5	56	23	Coll. (4,2,2) & (4,3,2); conv. Keep (1,2,*), (1,3,2), (1,3,3), (3,2,1), (3,*,2), (3,2,3), (4,2,1), (4,2,2), (4,2,3), (4,2,4), (5,2,1), (5,2,2), (5,2,3), (6,2,2), (6,2,3), (6,2,4), (7,2,1), (7,2,2), (7,2,3); drop remainder; zero/sing./conv.
State × Rent/Housing × % Black or African American	8 × 3 × 5	56	5	Keep (1,2,2), (1,3,2), (1,4,2), (4,3,2), (4,4,2), drop remainder; zero/sing.
State × Rent/Housing × % Hispanic or Latino	8 × 3 × 5	56	19	Coll. (2,3,2) & (2,4,2); conv. Keep; conv. Drop remainder; zero/sing./conv.
Total		**408**	**201**	

Exhibit D8.2 Covariates for 2014 NSDUH Person Weights (res.sdu.ps), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comment
One-Factor Effects		**21**	**21**	
Intercept	1	1	1	All levels present.
State	8	7	7	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**112**	**112**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	8 × 4	21	21	All levels present.
State × Age	8 × 5	28	28	All levels present.
State × Race (5 levels)	8 × 5	28	28	All levels present.
State × Hispanicity	8 × 2	7	7	All levels present.
State × Gender	8 × 2	7	7	All levels present.
Three-Factor Effects		**169**	**154**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	6	Coll. (3,2,1) & (3,3,1), (4,2,1) & (4,3,1); conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	8 × 5 × 3	56	50	Coll. (3,2,2) & (3,2,3); zero. Coll. (3,4,2) & (3,4,3), (6,1,2) & (6,1,3), (6,2,2) & (6,2,3), (6,3,2) & (6,3,3), (6,4,2) & (6,4,3); conv.
State × Age × Hispanicity	8 × 5 × 2	28	28	All levels present.
State × Age × Gender	8 × 5 × 2	28	28	All levels present.
State × Race (3 levels) × Hispanicity	8 × 3 × 2	14	8	Coll. (2,2,1) & (2,3,1), (3,2,1) & (3,3,1), (4,2,1) & (4,3,1), (5,2,1) & (5,3,1), (7,2,1) & (7,3,1); conv. Coll. (6,2,1) & (6,3,1); sing.
State × Race (3 levels) × Gender	8 × 3 × 2	14	14	All levels present.
State × Hispanicity × Gender	8 × 2 × 2	7	7	All levels present.
Total		**302**	**287**	

Exhibit D8.3 Covariates for 2014 NSDUH Person Weights (sel.per.ps), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**39**	**38**	
Intercept	1	1	1	All levels present.
State	8	7	7	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	1	Drop (1); zero.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**214**	**194**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	2	Drop (*,1); sing.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	4	Drop (*,1); zero.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	8 × 4	21	21	All levels present.
State × Age	8 × 5	28	28	All levels present.
State × Race (5 levels)	8 × 5	28	28	All levels present.
State × Hispanicity	8 × 2	7	7	All levels present.
State × Gender	8 × 2	7	7	All levels present.
State × % Black or African American	8 × 3	14	4	Drop (*,1), (2,2), (3,2), (6,2); zero.
State × % Hispanic or Latino	8 × 3	14	12	Drop (3,1), (7,1); zero.
State × % Owner-Occupied	8 × 3	14	13	Drop (6,3); zero.
State × Rent/Housing	8 × 5	28	27	Drop (6,1); zero.
Three-Factor Effects		**169**	**137**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1); conv. Coll. (3,2,1) & (3,3,1), (4,2,1) & (4,3,1); sing./zero.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (1,2,1) & (1,3,1); conv.
State × Age × Race (3 levels)	8 × 5 × 3	56	39	Drop (3,2,2); zero. Coll. (6,1,2) & (6,1,3), (6,4,2) & (6,4,3); sing./zero. Coll. (6,2,2) & (6,2,3), (6,3,2) & (6,3,3); conv. Coll. (2,1,2) & (2,1,3), (2,2,2) & (2,2,3), (2,3,2) & (2,3,3), (2,4,2) & (2,4,3), (5,1,2) & (5,1,3), (5,2,2) & (5,2,3), (5,3,2) & (5,3,3), (5,4,2) & (5,4,2), (7,1,2) & (7,1,3), (7,2,2) & (7,2,3), (7,3,2) & (7,3,3), (7,4,2) & (7,4,2); conv.
State × Age × Hispanicity	8 × 5 × 2	28	28	All levels present.
State × Age × Gender	8 × 5 × 2	28	28	All levels present.
State × Race (3 levels) × Hispanicity	8 × 3 × 2	14	7	Coll. (3,2,1) & (3,3,1), (6,2,1) & (6,3,1); zero. Coll. (1,2,1) & (1,3,1), (4,2,1) & (4,3,1), (5,2,1) & (5,3,1); conv. Coll. (3,2,1), (3,3,1), (7,2,1) & (7,3,1); conv.
State × Race (3 levels) × Gender	8 × 3 × 2	14	11	Coll. (3,2,1) & (3,3,1), (6,2,1) & (6,3,1); sing. Coll. (7,2,1) & (7,3,1); conv.
State × Hispanicity × Gender	8 × 2 × 2	7	7	All levels present.
Total		**422**	**369**	

Exhibit D8.4 Covariates for 2014 NSDUH Person Weights (res.per.nr), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**39**	**38**	
Intercept	1	1	1	All levels present.
State	8	7	7	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	1	Drop (1); zero.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**214**	**193**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	2	Drop (*,1); sing.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	7	Coll. (2,4) & (3,4); conv.
Rent/Housing × % Black or African American	3 × 5	8	4	Drop (*,1); zero.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	8 × 4	21	21	All levels present.
State × Age	8 × 5	28	28	All levels present.
State × Race (5 levels)	8 × 5	28	28	All levels present.
State × Hispanicity	8 × 2	7	7	All levels present.
State × Gender	8 × 2	7	7	All levels present.
State × % Black or African American	8 × 3	14	4	Drop (*,1), (2,2), (3,2), (6,2); zero.
State × % Hispanic or Latino	8 × 3	14	12	Drop (3,1) & (7,1); zero.
State × % Owner-Occupied	8 × 3	14	13	Drop (7,3); zero.
State × Rent/Housing	8 × 5	28	27	Drop (6,1); zero.
Three-Factor Effects		**169**	**121**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Drop (3,2,1), (4,2,1); sing./zero. Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1); conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1); conv. Repeat for all age levels.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (1,2,1) & (1,3,1); conv.
State × Age × Race (3 levels)	8 × 5 × 3	56	31	Coll. (1,1,2) & (1,1,3), (1,2,2) & (1,2,3), (1,3,2) & (1,3,3), (1,4,2) & (1,4,3), (2,1,2) & (2,1,3), (2,2,2) & (2,2,3), (2,3,2) & (2,3,3), (3,1,2) & (3,1,3), (3,2,2) & (3,2,3), (3,3,2) & (3,3,3), (2,4,2), (2,4,3), (3,4,2) & (3,4,3), (5,1,2) & (5,1,3), (5,2,2), (5,2,3), (5,3,2), (5,3,3), (5,4,2), (5,4,3), (6,2,2) & (6,2,3), (6,3,2) & (6,3,3), (6,4,2) & (6,4,3), (7,1,2) & (7,1,3), (7,2,2) & (7,2,3), (7,3,2) & (7,3,3), (7,4,2) & (7,4,3); conv. Drop (6,1,2); zero.
State × Age × Hispanicity	8 × 5 × 2	28	25	Coll. (3,2,1) & (7,2,1), (3,3,1) & (7,3,1), (3,4,1) & (7,4,1); conv.
State × Age × Gender	8 × 5 × 2	28	28	All levels present.
State × Race (3 levels) × Hispanicity	8 × 3 × 2	14	8	Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1), (5,2,1) & (5,3,1), (7,2,1) & (7,3,1); conv. Drop (3,2,1), (6,2,1); zero.
State × Race (3 levels) × Gender	8 × 3 × 2	14	9	Coll. (2,2,1) & (2,3,1), (5,2,1) & (5,3,1), (7,2,1) & (7,3,1); conv. Drop (3,2,1) & (6,2,1); sing.
State × Hispanicity × Gender	8 × 2 × 2	7	7	All levels present.
Total		**422**	**352**	

Exhibit D8.5 Covariates for 2014 NSDUH Person Weights (res.per.ps), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**22**	**22**	All levels present.
Intercept	1	1	1	All levels present.
State	8	7	7	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**123**	**123**	
Age × Race (3 levels)	6 × 3	10	10	All levels present.
Age × Hispanicity	6 × 2	5	5	All levels present.
Age × Gender	6 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	8 × 4	21	21	All levels present.
State × Age	8 × 6	35	35	All levels present.
State × Race (5 levels)	8 × 5	28	28	All levels present.
State × Hispanicity	8 × 2	7	7	All levels present.
State × Gender	8 × 2	7	7	All levels present.
Three-Factor Effects		**202**	**174**	
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10	8	Coll. (4,2,1) & (4,3,1); conv. Coll. (5,2,1) & (5,3,1); zero.
Age × Race (3 levels) × Gender	6 × 3 × 2	10	10	All levels present.
Age × Hispanicity × Gender	6 × 2 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	8 × 6 × 3	70	56	Coll. (2,3,2) & (2,3,3), (3,3,2) & (3,3,3), (5,3,2) & (5,3,3), (7,3,2) & (7,3,3); conv. Coll. (2,4,2) & (2,4,3), (2,5,2) & (2,5,3), (3,4,2) & (3,4,3), (3,5,2) & (3,5,3), (5,4,2) & (5,4,3), (5,5,2) & (5,5,3), (6,4,2) & (6,4,3), (6,5,2) & (6,5,3), (7,4,2) & (7,4,3), (7,5,2) & (7,5,3); sing./zero.
State × Age × Hispanicity	8 × 6 × 2	35	34	Coll. (2,5,1) & (3,5,1); zero.
State × Age × Gender	8 × 6 × 2	35	35	All levels present.
State × Race (3 levels) × Hispanicity	8 × 3 × 2	14	8	Coll. (1,2,1) & (1,3,1); conv. Repeat for states 3, 4, 5, and 7. Coll. (6,1,1) & (6,2,1); sing.
State × Race (3 levels) × Gender	8 × 3 × 2	14	9	Coll. (2,2,1) & (2,3,1); conv. Repeat for states 3, 5, and 7. Coll. (6,1,1) & (6,2,1); sing.
State × Hispanicity × Gender	8 × 2 × 2	7	7	All levels present.
Total		**347**	**319**	

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Appendix D9: Model Group 9: Pacific

(Alaska, California, Hawaii, Oregon, and Washington)

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Table D.9a 2014 NSDUH Person Weight GEM Modeling Summary (Model Group 9: Pacific)

Modeling Step[1]	Extreme Weight Proportions			UWE[2]	# XVAR[3]	Bounds[4]	
	% Unweighted	% Weighted	% Outwinsor			Nominal	Realized
res.sdu.nr	0.68	0.20	0.01	1.33458	255	(1.25, 1.70)	(1.25, 1.70)
	2.34	3.55	0.24	1.39150	136	(1.00, 3.17)	(1.00, 3.16)
						(1.20, 1.30)	(1.20, 1.20)
res.sdu.ps	2.34	3.55	0.24	1.39144	197	(0.66, 1.30)	(0.66, 1.30)
	1.63	3.52	0.92	1.44860	184	(0.57, 4.85)	(0.59, 4.82)
						(0.90, 2.93)	(0.90, 2.93)
sel.per.ps	2.99	6.61	1.79	1.88474	287	(0.58, 2.60)	(0.58, 2.60)
	1.82	3.95	0.73	1.87189	265	(0.51, 2.60)	(0.51, 2.59)
						(0.95, 1.05)	(1.00, 1.04)
res.per.nr	1.89	4.53	0.92	1.88801	287	(1.00, 2.90)	(1.01, 2.90)
	1.43	4.20	0.62	2.07107	270	(1.00, 2.90)	(1.00, 2.88)
						(1.40, 1.50)	(1.40, 1.50)
res.per.ps	1.55	4.59	0.75	2.07107	227	(0.20, 1.20)	(0.20, 1.20)
	0.75	1.80	0.20	2.15088	220	(0.20, 5.00)	(0.20, 5.00)
						(N/A, N/A)	(N/A, N/A)

[1] For a key to modeling abbreviations, see Chapter 5, Exhibit 5.1.

[2] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[3] Number of proposed covariates (XVAR) on top line and number finalized after modeling.

[4] There are six sets of bounds for each modeling step. Nominal bounds are used in defining maximum/minimum values for the generalized exponential model (GEM) adjustment factors. The realized bound is the actual adjustment produced by the modeling. The set of three bounds listed for each step correspond to the high extreme values, the nonextreme values, and the low extreme values.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table D.9b Distribution of Weight Adjustment Factors and Weight Products for the 2014 NSDUH Person Weight (Model Group 9: Pacific)

	sel.sdu.des[1]	*res.sdu.nr*[1]		*res.sdu.ps*[1]		*sel.per.des*[1]		*sel.per.ps*[1]		*res.per.nr*[1]		*res.per.ps*[1]	
	1-8[2]	**9**[3]	**1-9**[3]	**10**[4]	**1-10**[4]	**12**[5]	**1-12**[5]	**13**[5]	**1-13**[5]	**14**[6]	**1-14**[6]	**15**[6]	**1-15**[6]
Minimum	86	0.70	92	0.47	71	1.01	79	0.28	59	0.47	76	0.10	57
1%	93	1.02	106	0.72	101	1.01	123	0.60	124	1.01	170	0.20	158
5%	95	1.06	114	0.84	123	1.01	221	0.75	228	1.08	310	0.21	289
10%	113	1.10	135	0.89	144	1.01	384	0.83	378	1.12	530	0.66	462
25%	198	1.14	273	0.97	348	1.39	1,157	0.92	1,150	1.20	1,552	0.94	1,184
Median	1,113	1.21	1,356	1.07	1,415	2.71	2,619	1.00	2,658	1.32	3,349	1.03	3,281
75%	1,350	1.34	1,634	1.19	1,801	3.33	5,012	1.09	5,021	1.49	6,605	1.13	6,805
90%	1,446	1.49	1,860	1.33	2,187	5.42	8,868	1.19	8,827	1.70	12,345	1.35	12,580
95%	1,463	1.65	2,215	1.52	2,506	6.72	10,867	1.29	10,909	1.86	15,874	1.46	16,153
99%	1,634	2.27	2,993	2.25	3,553	9.06	14,523	1.57	14,780	2.28	22,886	1.72	24,193
Maximum	2,693	3.16	4,432	4.82	9,667	18.14	39,517	2.59	35,923	2.88	50,324	5.00	44,275
n	18,398	14,549	14,549	14,545	14,545	11,687	11,687	11,687	11,687	8,506	8,506	8,506	8,506
Max/Mean	2.99	-	3.89	-	7.67	-	10.67	-	9.72	-	9.91	-	8.72

Note 1: Weight component 11 and weight products 1-11 are excluded because weight 11 = 1 for all selected dwelling units.
Note 2: Weight component 16 and weight products 1-16 are excluded because weight 16 = 1 for all respondents.
Note 3: Under the generalized exponential model (GEM), nonresponse adjustment factors (weight components #9 and #14) could be less than 1 due to the built-in control for extreme values. For an explanation, see Chapter 2.

[1] Sel.sdu.des refers to selected screener dwelling unit design weight, and sel.per.des refers to selected person design weight. For a key to other modeling abbreviations, see Chapter 5, Exhibit 5.1.
[2] Based on eligible dwelling units.
[3] Based on screener-complete dwelling units.
[4] Based on screener-complete dwelling units, occupants verified eligible.
[5] Based on selected people.
[6] Based on questionnaire-complete people.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Model Group 9 Overview

Dwelling Unit Nonresponse

For the one-factor effects, College Dorm had to be collapsed with Other Group Quarter. Out of 23 proposed variables, 22 were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Black or African American, Rent/Housing × percent Black or African American, State × Population Density, State × Group Quarter, State × percent Black or African American, State × percent Hispanic or Latino, and State × Rent/Housing interactions. Out of 104 proposed variables, 80 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 128 proposed variables, 34 were included in the model.

In the final model, a total of 136 variables were included; see Exhibit D9.1.

Dwelling Unit Poststratification

All 18 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing was present in the Race × Hispanicity interaction. Out of 73 proposed variables, 72 were included in the model.

For the three-factor effects, variable collapsing was present in the Age × Race × Hispanicity, Race × Hispanicity × Gender, State × Age × Race, and State × Race × Hispanicity interactions. Out of 106 proposed variables, 94 were included in the model.

In the final model, a total of 184 variables was included; see Exhibit D9.2.

Selected Person-Level Poststratification

All 36 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Black or African American, Rent/Housing × percent Black or African American, State × percent Black or African American, State × percent Hispanic or Latino, and State × Rent/Housing interactions. Out of 145 proposed variables, 133 were included in the model.

For the three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, State × Age × Hispanicity, State × Race × Hispanicity, and State × Race × Gender interactions. Out of 106 proposed variables, 96 were included in the model.

In the final model, a total of 265 variables were included; see Exhibit D9.3.

Respondent Person-Level Nonresponse

All 36 proposed one-factor effects were included in the model.

For the two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Black or African American, Rent/Housing × percent Black or African American, State × percent Black or African American, State × percent Hispanic or Latino, and State × Rent/Housing interactions. Out of 145 proposed variables, 133 were included in the model.

Variable dropping was present in all three-factor effects except the Age × Race × Hispanicity, Age × Race × Gender, Age × Hispanicity × Gender, Race × Hispanicity × Gender, State × Age × Hispanicity, State × Age × Gender, and State × Hispanicity × Gender interactions. Out of 106 proposed variables, 101 were included in the model.

In the final model, a total of 270 variables were included; see Exhibit D9.4.

Respondent Person-Level Poststratification

All 19 proposed one-factor effects were included in the model.

All 81 proposed two-factor effects were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Race × Hispanicity, Age × Race × Gender, Age × Hispanicity × Gender, Race × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. Out of 127 proposed variables, 120 were included in the model.

In the final model, a total of 220 variables were included; see Exhibit D9.5.

Exhibit D9.1 Covariates for 2014 NSDUH Person Weights (res.sdu.nr), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**23**	**22**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	1	Coll. (1) & (2); conv.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**104**	**80**	
% Owner-Occupied × % Black or African American	3 × 3	4	3	Coll. (3,1) & (3,2); zero.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	5	Coll. (1,1) & (1,2), (2,1) & (2,2); zero. Coll. (4,1) & (4,2); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	5 × 4	12	12	All levels present.
State × Population Density	5 × 4	12	5	Coll. (1,1) & (1,2); zero. Keep (1,3), (3,1), (5,1), (5,2). Drop all others; zero, sing.
State × Group Quarter	5 × 3	8	3	Coll. (1,1) & (1,2), repeat for all states; hier. Drop (3,1/2); conv.
State × % Black or African American	5 × 3	8	3	Coll. (3,1) & (3,2); zero. Coll. (5,1) & (5,2); sing. Coll. (1,1) & (1,2); conv. Drop all others; zero, conv.
State × % Hispanic or Latino	5 × 3	8	6	Coll. (1,1) & (1,2), (2,1) & (2,2); zero.
State × % Owner-Occupied	5 × 3	8	8	All levels present.
State × Rent/Housing	5 × 5	16	15	Drop (3,4); sing.
Three-Factor Effects		**128**	**34**	
State × % Owner-Occupied × % Black or African American	5 × 3 × 3	16	3	Coll. (5,3,1) & (5,3,2); hier. Coll. (3,2,1) & (3,2,2); zero. Coll. (5,2,1) & (5,2,2); sing. Drop all others; hier., zero, sing., conv.
State × % Owner-Occupied × % Hispanic or Latino	5 × 3 × 3	16	8	Coll. (1,2,1) & (1,2,2), (2,3,1) & (2,3,2), (2,2,1) & (2,2,2); zero. Coll. (3,2,1) & (3,2,2); sing. Keep (5,3,1), (5,3,2), (5,2,1), (5,2,2). Drop all others; zero, sing.
State × % Owner-Occupied × Rent/Housing	5 × 3 × 5	32	11	Coll. (1,3,2) & (1,2,2), (2,3,2) & (2,2,2), (2,3,3) & (2,2,3); zero. Coll. (1,3,1) & (1,2,1), (3,3,1) & (3,2,1), (5,3,3) & (5,2,3); sing. Coll. (5,3,1) & (5,2,1), (5,3,2) & (5,2,2), (5,3,4) & (5,2,4); conv. Keep (3,3,1), (3,2,1). Drop all others; zero, sing.
State × Rent/Housing × % Black or African American	5 × 3 × 5	32	4	Coll. (1,1,1) & (1,1,2), (3,2,1) & (3,2,2), (5,1,1) & (5,1,2), (5,2,1) & (5,2,2); hier. Drop all others; hier., zero, sing., conv.
State × Rent/Housing × % Hispanic or Latino	5 × 3 × 5	32	8	Coll. (1,1,1) & (1,1,2), (2,3,1) & (2,3,2), (2,4,1) & (2,4,2), (3,2,1) & (3,2,2); zero. Coll. (3,1,1) & (3,1,2), (5,2,1) & (5,2,2), (5,3,1) & (5,3,2), (5,4,1) & (5,4,2); sing. Drop all others; hier., zero, sing.
Total		**255**	**136**	

Exhibit D9.2 Covariates for 2014 NSDUH Person Weights (res.sdu.ps), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**18**	**18**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**73**	**72**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	1	Coll. (2,1) & (3,1); conv.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	5 × 4	12	12	All levels present.
State × Age	5 × 5	16	16	All levels present.
State × Race (5 levels)	5 × 5	16	16	All levels present.
State × Hispanicity	5 × 2	4	4	All levels present.
State × Gender	5 × 2	4	4	All levels present.
Three-Factor Effects		**106**	**94**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all age levels; hier.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	1	Coll. (1,2,1) & (1,3,1); hier.
State × Age × Race (3 levels)	5 × 5 × 3	32	29	Coll. (2,1,2) & (2,1,3), zero. Coll. (2,2,2) & (2,2,3), (2,3,2) & (2,3,3); conv.
State × Age × Hispanicity	5 × 5 × 2	16	16	All levels present.
State × Age × Gender	5 × 5 × 2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Coll. (1,2,1) & (1,3,1), repeat for all states; hier.
State × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
State × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Total		**197**	**184**	

Exhibit D9.3 Covariates for 2014 NSDUH Person Weights (sel.per.ps), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**36**	**36**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**145**	**133**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	3	Drop (3,1); zero.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	5	Drop (1,1), (2,1); zero. Drop (4,1); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	5 × 4	12	12	All levels present.
State × Age	5 × 5	16	16	All levels present.
State × Race (5 levels)	5 × 5	16	16	All levels present.
State × Hispanicity	5 × 2	4	4	All levels present.
State × Gender	5 × 2	4	4	All levels present.
State × % Black or African American	5 × 3	8	3	Coll. (5,1) & (5,2); sing. Keep (1,2), (3,2). Drop all others.
State × % Hispanic or Latino	5 × 3	8	6	Drop (1,1), (2,1); zero.
State × % Owner-Occupied	5 × 3	8	8	All levels present.
State × Rent/Housing	5 × 5	16	15	Drop (3,4); sing.
Three-Factor Effects		**106**	**96**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	7	Coll. (4,2,1) & (4,3,1); conv.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	5 × 5 × 3	32	29	Drop (2,1,2); zero. Coll. (2,3,2) & (2,3,3); zero. Coll. (3,1,2) & (3,1,3); conv.
State × Age × Hispanicity	5 × 5 × 2	16	15	Drop (1,4,1); conv.
State × Age × Gender	5 × 5 × 2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5 × 3 × 2	8	4	Drop (2,2,1); zero. Coll. (3,2,1) & (3,3,1); sing. Coll. (1,2,1) & (1,3,1), (5,2,1) & (5,3,1); conv.
State × Race (3 levels) × Gender	5 × 3 × 2	8	7	Coll. (2,2,1) & (2,3,1); sing.
State × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Total		**287**	**265**	

Exhibit D9.4 Covariates for 2014 NSDUH Person Weights (res.per.nr), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**36**	**36**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	5	4	4	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Householder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
% Black or African American	3	2	2	All levels present.
% Hispanic or Latino	3	2	2	All levels present.
% Owner-Occupied	3	2	2	All levels present.
Rent/Housing	5	4	4	All levels present.
Two-Factor Effects		**145**	**133**	
Age × Race (3 levels)	5 × 3	8	8	All levels present.
Age × Hispanicity	5 × 2	4	4	All levels present.
Age × Gender	5 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
% Owner-Occupied × % Black or African American	3 × 3	4	3	Drop (3,1); zero.
% Owner-Occupied × % Hispanic or Latino	3 × 3	4	4	All levels present.
% Owner-Occupied × Rent/Housing	3 × 5	8	8	All levels present.
Rent/Housing × % Black or African American	3 × 5	8	5	Drop (1,1), (2,1); zero. Drop (4,1); sing.
Rent/Housing × % Hispanic or Latino	3 × 5	8	8	All levels present.
State × Quarter	5 × 4	12	12	All levels present.
State × Age	5 × 5	16	16	All levels present.
State × Race (5 levels)	5 × 5	16	16	All levels present.
State × Hispanicity	5 × 2	4	4	All levels present.
State × Gender	5 × 2	4	4	All levels present.
State × % Black or African American	5 × 3	8	3	Coll. (5,1) & (5,2); sing. Keep (1,2), (3,2). Drop all others; zero.
State × % Hispanic or Latino	5 × 3	8	6	Drop (1,1), (2,1); zero.
State × % Owner-Occupied	5 × 3	8	8	All levels present.
State × Rent/Housing	5 × 5	16	15	Drop (3,4); sing.
Three-Factor Effects		**106**	**101**	
Age × Race (3 levels) × Hispanicity	5 × 3 × 2	8	8	All levels present.
Age × Race (3 levels) × Gender	5 × 3 × 2	8	8	All levels present.
Age × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	5 × 5 × 3	32	30	Drop (2,1,2), (2,3,2); zero.
State × Age × Hispanicity	5 × 5 × 2	16	16	All levels present.
State × Age × Gender	5 × 5 × 2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5 × 3 × 2	8	6	Drop (2,2,1); zero. Drop (3,2,1); sing.
State × Race (3 levels) × Gender	5 × 3 × 2	8	7	Drop (2,2,1); sing.
State × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Total		**287**	**270**	

Exhibit D9.5 Covariates for 2014 NSDUH Person Weights (res.per.ps), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**19**	**19**	
Intercept	1	1	1	All levels present.
State	5	4	4	All levels present.
Quarter	4	3	3	All levels present.
Age	6	5	5	All levels present.
Race (5 levels)	5	4	4	All levels present.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Two-Factor Effects		**81**	**81**	
Age × Race (3 levels)	6 × 3	10	10	All levels present.
Age × Hispanicity	6 × 2	5	5	All levels present.
Age × Gender	6 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity	3 × 2	2	2	All levels present.
Race (3 levels) × Gender	3 × 2	2	2	All levels present.
Hispanicity × Gender	2 × 2	1	1	All levels present.
State × Quarter	5 × 4	12	12	All levels present.
State × Age	5 × 6	20	20	All levels present.
State × Race (5 levels)	5 × 5	16	16	All levels present.
State × Hispanicity	5 × 2	4	4	All levels present.
State × Gender	5 × 2	4	4	All levels present.
Three-Factor Effects		**127**	**120**	
Age × Race (3 levels) × Hispanicity	6 × 3 × 2	10	10	All levels present.
Age × Race (3 levels) × Gender	6 × 3 × 2	10	10	All levels present.
Age × Hispanicity × Gender	6 × 2 × 2	5	5	All levels present.
Race (3 levels) × Hispanicity × Gender	3 × 2 × 2	2	2	All levels present.
State × Age × Race (3 levels)	5 × 6 × 3	40	39	Coll. (2,3,2) & (2,3,3); zero.
State × Age × Hispanicity	5 × 6 × 2	20	18	Drop (1,5,1), (3,5,1); sing.
State × Age × Gender	5 × 6 × 2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	5 × 3 × 2	8	6	Coll. (2,2,1) & (2,3,1), (3,2,1) & (3,3,1); conv.
State × Race (3 levels) × Gender	5 × 3 × 2	8	6	Coll. (2,2,1) & (2,3,1), (3,2,1) & (3,3,1); conv.
State × Hispanicity × Gender	5 × 2 × 2	4	4	All levels present.
Total		**227**	**220**	

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Appendix E: Evaluation of Calibration Weights: Response Rates

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Table E.1 2014 NSDUH Weighted Response Rates: United States, District of Columbia, and the 50 States

Domain	Dwelling Unit (DU)					Person Level		Interview Response Rate	
	Selected DUs	Eligible DUs	Completed DUs	Eligibility Rate[1]	Screening Rate[1]	Selected People	Respondents	WT1-12[2]	WT1-13[3]
United States	185,013	154,533	127,605	83.67%	81.94%	91,640	67,901	71.20%	71.12%
Alabama	2,640	2,083	1,730	76.38%	82.92%	1,272	964	71.97%	71.51%
Alaska	2,985	2,346	1,950	78.92%	83.13%	1,386	947	67.80%	67.40%
Arizona	2,514	1,912	1,659	75.20%	86.87%	1,269	971	74.84%	74.56%
Arkansas	2,674	2,203	1,946	82.03%	88.05%	1,262	964	72.68%	72.61%
California	10,239	9,203	7,083	89.38%	76.31%	6,403	4,664	69.82%	69.71%
Colorado	2,607	2,254	1,843	86.23%	81.83%	1,357	1,008	72.95%	72.97%
Connecticut	2,790	2,484	1,997	89.05%	80.29%	1,438	980	64.87%	64.70%
Delaware	2,772	2,401	1,855	86.31%	77.44%	1,264	951	73.66%	73.79%
District of Columbia	4,330	3,706	2,802	85.54%	75.60%	1,219	935	72.83%	72.75%
Florida	10,269	8,222	6,823	77.48%	82.44%	4,385	3,331	70.33%	70.48%
Georgia	3,693	3,089	2,567	83.56%	83.01%	2,029	1,549	74.40%	74.32%
Hawaii	2,942	2,469	1,934	83.15%	77.80%	1,339	968	71.50%	71.45%
Idaho	1,932	1,690	1,477	87.46%	87.33%	1,267	987	75.54%	75.27%
Illinois	6,904	5,866	4,407	83.90%	75.00%	3,488	2,397	67.24%	67.17%
Indiana	2,504	2,078	1,782	82.96%	85.70%	1,294	967	72.26%	71.70%
Iowa	2,496	2,101	1,851	83.98%	87.94%	1,240	912	71.52%	71.70%
Kansas	2,304	1,990	1,705	86.65%	85.58%	1,296	982	73.83%	73.67%
Kentucky	2,556	2,080	1,827	81.51%	87.74%	1,284	946	69.25%	69.42%
Louisiana	2,435	1,987	1,742	82.28%	87.36%	1,302	992	73.51%	73.05%
Maine	3,342	2,364	2,106	67.74%	89.08%	1,230	940	75.33%	75.18%
Maryland	2,483	2,251	1,757	90.43%	77.14%	1,297	971	72.12%	71.60%
Massachusetts	2,948	2,541	2,068	83.07%	81.37%	1,437	1,000	66.32%	66.03%
Michigan	6,609	5,404	4,498	81.43%	83.31%	3,269	2,418	70.92%	71.44%
Minnesota	2,375	2,111	1,825	88.86%	86.44%	1,266	967	75.42%	74.91%
Mississippi	2,199	1,714	1,498	77.85%	87.30%	1,170	909	76.34%	75.89%

(continued)

Table E.1 2014 NSDUH Weighted Response Rates: United States, District of Columbia, and the 50 States (continued)

Domain	Dwelling Unit (DU)					Person Level		Interview Response Rate	
	Selected DUs	Eligible DUs	Completed DUs	Eligibility Rate[1]	Screening Rate[1]	Selected People	Respondents	WT1-12[2]	WT1-13[3]
Missouri	2,578	2,116	1,839	81.96%	86.82%	1,218	934	75.64%	75.65%
Montana	2,829	2,270	2,036	79.57%	89.64%	1,287	977	72.51%	72.03%
Nebraska	2,459	2,102	1,842	85.63%	87.61%	1,268	938	73.47%	73.33%
Nevada	2,421	2,047	1,592	84.17%	77.33%	1,279	961	72.75%	73.06%
New Hampshire	3,044	2,439	2,055	80.13%	84.32%	1,288	932	68.75%	68.71%
New Jersey	4,403	3,745	2,951	82.35%	78.97%	2,167	1,536	69.70%	69.13%
New Mexico	2,313	1,746	1,555	72.88%	89.09%	1,172	959	80.40%	80.17%
New York	11,063	9,562	6,603	86.23%	68.76%	4,835	3,284	64.15%	64.25%
North Carolina	4,185	3,443	2,972	82.26%	86.23%	1,956	1,533	76.58%	75.97%
North Dakota	3,043	2,363	2,136	77.58%	90.40%	1,240	969	77.32%	77.99%
Ohio	6,322	5,307	4,531	83.98%	85.14%	3,337	2,415	69.80%	69.48%
Oklahoma	2,259	1,828	1,609	80.96%	88.21%	1,284	937	68.47%	69.16%
Oregon	2,529	2,207	1,877	87.16%	85.36%	1,318	992	72.93%	73.15%
Pennsylvania	7,101	6,028	4,875	84.70%	80.53%	3,186	2,388	70.81%	70.99%
Rhode Island	2,681	2,251	1,859	83.49%	82.83%	1,334	991	72.13%	71.67%
South Carolina	2,843	2,307	1,958	80.92%	84.71%	1,308	998	75.19%	74.68%
South Dakota	2,163	1,779	1,679	82.32%	94.39%	1,275	981	75.06%	74.79%
Tennessee	2,326	1,939	1,676	83.42%	86.31%	1,204	946	78.68%	78.05%
Texas	7,004	5,857	5,066	83.41%	86.53%	4,581	3,383	70.38%	70.47%
Utah	1,534	1,344	1,275	87.42%	94.87%	1,186	972	80.57%	80.15%
Vermont	3,295	2,651	2,230	79.46%	83.96%	1,260	948	73.63%	73.46%
Virginia	3,671	3,261	2,678	88.71%	82.32%	2,020	1,539	73.13%	72.97%
Washington	2,449	2,173	1,705	89.05%	78.75%	1,241	935	74.01%	74.45%
West Virginia	3,204	2,612	2,282	81.28%	87.55%	1,355	933	67.70%	67.82%
Wisconsin	2,924	2,478	2,094	82.28%	84.25%	1,332	945	69.67%	70.49%
Wyoming	2,828	2,129	1,898	74.16%	89.09%	1,246	955	74.19%	74.52%

[1] DU Eligibility Rate was calculated as Eligible DUs divided by Selected DUs, using the design Weight Components #1-#8; DU Screening Rate was calculated as Completed DUs divided by Eligible DUs, using the design Weight Components #1-#8.

[2] This Interview Response Rate was calculated as Respondents divided by Selected People, using Weight Components #1-#12, which include DU-level and person-level design weights, DU nonresponse adjustment, and DU poststratification adjustment.

[3] This Interview Response Rate was calculated as Respondents divided by Selected People, using Weight Components #1-#13, which include DU-level and person-level design weights, DU nonresponse adjustment, DU poststratification adjustment, and selected person poststratification adjustment.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Appendix F: Evaluation of Calibration Weights: Dwelling Unit–Level Percentages of Extreme Weights and Outwinsors

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Table F.1 2014 NSDUH Dwelling Unit–Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States

Domain	*n*	Before nr[1] (WT1*...*WT8)			After nr[1] & Before ps[2] (WT1*...*WT9)			After ps[2] (WT1*...*WT10)		
		% Unweighted	% Weighted[3]	% Outwinsor[4]	% Unweighted	% Weighted[3]	% Outwinsor[4]	% Unweighted	% Weighted[3]	% Outwinsor[4]
United States	127,605	2.13%	2.38%	0.29%	1.96%	2.76%	0.43%	1.70%	3.32%	0.88%
Alabama	1,730	0.52%	1.11%	0.46%	2.89%	3.72%	0.30%	2.08%	4.89%	1.67%
Alaska	1,950	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.69%	3.45%	0.57%
Arizona	1,659	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.96%	2.72%	0.78%
Arkansas	1,946	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.46%	1.23%	0.30%
California	7,083	0.04%	0.09%	0.02%	3.49%	4.18%	0.48%	1.37%	2.91%	0.78%
Colorado	1,843	5.05%	6.02%	0.66%	1.19%	1.43%	0.12%	0.71%	1.57%	0.36%
Connecticut	1,997	18.48%	23.67%	2.35%	9.11%	12.65%	1.41%	2.60%	6.55%	1.43%
Delaware	1,855	0.00%	0.00%	0.00%	2.59%	3.22%	0.31%	1.02%	2.22%	0.57%
District of Columbia	2,802	0.07%	0.01%	0.02%	5.78%	8.79%	1.72%	2.21%	3.70%	0.77%
Florida	6,823	2.35%	4.70%	0.92%	1.33%	1.78%	0.18%	1.07%	2.20%	0.43%
Georgia	2,567	0.00%	0.00%	0.00%	2.77%	3.61%	0.39%	1.36%	2.50%	0.45%
Hawaii	1,934	4.96%	5.20%	2.00%	0.41%	0.65%	0.14%	2.07%	4.52%	0.83%
Idaho	1,477	2.91%	3.11%	0.04%	0.74%	1.34%	0.27%	1.42%	2.40%	0.57%
Illinois	4,407	0.20%	0.50%	0.04%	4.79%	6.46%	0.63%	0.50%	1.37%	0.47%
Indiana	1,782	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.20%	3.90%	1.30%
Iowa	1,851	0.00%	0.00%	0.00%	0.16%	0.58%	0.27%	1.13%	3.32%	1.09%
Kansas	1,705	0.00%	0.00%	0.00%	7.27%	12.24%	4.11%	3.05%	4.17%	1.01%
Kentucky	1,827	0.00%	0.00%	0.00%	0.60%	0.94%	0.12%	2.57%	3.50%	1.17%
Louisiana	1,742	0.00%	0.00%	0.00%	0.57%	0.67%	0.01%	1.32%	2.13%	0.44%
Maine	2,106	0.19%	0.40%	0.09%	0.00%	0.00%	0.00%	2.18%	2.00%	0.34%
Maryland	1,757	0.00%	0.00%	0.00%	4.38%	8.51%	1.06%	0.28%	0.36%	0.02%
Massachusetts	2,068	4.45%	5.89%	0.93%	3.77%	5.35%	0.36%	1.60%	4.78%	1.47%
Michigan	4,498	1.73%	1.88%	0.25%	0.98%	1.06%	0.01%	1.69%	2.70%	0.57%
Minnesota	1,825	0.00%	0.00%	0.00%	1.86%	3.53%	0.88%	1.26%	2.32%	0.48%
Mississippi	1,498	6.81%	6.82%	0.60%	10.21%	11.79%	1.29%	1.87%	2.89%	0.77%

(continued)

Table F.1 2014 NSDUH Dwelling Unit–Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before nr[1] (WT1*...*WT8)			After nr[1] & Before ps[2] (WT1*...*WT9)			After ps[2] (WT1*...*WT10)		
		% Unweighted	% Weighted[3]	% Outwinsor[4]	% Unweighted	% Weighted[3]	% Outwinsor[4]	% Unweighted	% Weighted[3]	% Outwinsor[4]
Missouri	1,839	0.00%	0.00%	0.00%	3.70%	3.85%	0.16%	0.82%	1.70%	0.34%
Montana	2,036	6.93%	9.38%	0.55%	2.16%	3.63%	0.26%	1.62%	2.96%	0.64%
Nebraska	1,842	8.03%	8.98%	0.52%	1.09%	2.86%	1.69%	2.88%	4.69%	1.65%
Nevada	1,592	0.00%	0.00%	0.00%	0.06%	0.19%	0.08%	1.38%	3.59%	1.00%
New Hampshire	2,055	0.15%	0.34%	0.15%	0.92%	1.39%	0.20%	2.24%	2.44%	0.38%
New Jersey	2,951	1.29%	3.14%	0.97%	0.47%	0.78%	0.07%	1.97%	5.67%	2.13%
New Mexico	1,555	5.14%	7.29%	1.00%	1.09%	2.53%	0.78%	2.25%	4.76%	1.16%
New York	6,603	3.71%	4.10%	0.48%	1.20%	2.03%	0.57%	1.86%	5.53%	1.70%
North Carolina	2,972	0.00%	0.00%	0.00%	0.81%	1.25%	0.21%	1.68%	3.27%	0.79%
North Dakota	2,136	6.32%	6.02%	0.37%	0.00%	0.00%	0.00%	1.36%	2.84%	0.90%
Ohio	4,531	0.00%	0.00%	0.00%	0.29%	0.46%	0.02%	0.42%	0.83%	0.19%
Oklahoma	1,609	0.19%	0.10%	0.02%	0.87%	1.07%	0.14%	1.31%	2.12%	0.39%
Oregon	1,877	0.00%	0.00%	0.00%	3.52%	3.41%	0.75%	1.33%	3.56%	1.05%
Pennsylvania	4,875	0.96%	1.61%	0.24%	3.61%	6.63%	2.10%	2.83%	4.83%	1.08%
Rhode Island	1,859	17.70%	24.16%	4.70%	4.14%	5.80%	0.68%	1.67%	4.40%	1.54%
South Carolina	1,958	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.82%	1.69%	0.17%
South Dakota	1,679	0.00%	0.00%	0.00%	1.13%	2.32%	0.94%	3.57%	5.17%	1.63%
Tennessee	1,676	2.21%	2.02%	0.05%	1.97%	1.72%	0.12%	3.82%	4.95%	1.24%
Texas	5,066	6.40%	6.96%	0.26%	0.95%	1.09%	0.02%	1.93%	4.24%	1.17%
Utah	1,275	2.27%	2.75%	0.20%	2.27%	2.61%	0.20%	2.67%	5.89%	1.92%
Vermont	2,230	0.00%	0.00%	0.00%	0.67%	0.91%	0.02%	1.08%	2.37%	0.51%
Virginia	2,678	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.68%	2.22%	0.36%
Washington	1,705	0.00%	0.00%	0.00%	1.17%	1.47%	0.15%	2.70%	6.26%	1.56%
West Virginia	2,282	0.18%	0.11%	0.02%	0.79%	2.50%	1.39%	3.55%	5.06%	1.17%
Wisconsin	2,094	4.30%	5.72%	0.88%	1.34%	1.04%	0.26%	1.29%	3.08%	0.61%
Wyoming	1,898	0.00%	0.00%	0.00%	1.48%	2.06%	0.38%	1.63%	3.40%	0.56%

[1] nr = nonresponse adjustment.
[2] ps = poststratification adjustment.
[3] Weighted extreme value percentage = $100*\sum_k w_{ek}/\sum_k w_k$, where w_{ek} denotes the weight for extreme weights and w_k denotes the weight for both extreme weights and nonextreme weights.
[4] Outwinsor weight percentage = $100*\sum_k(w_{ek} - b_k)/\sum_k w_k$, where b_k denotes the cutoff point for defining the extreme weight.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Appendix G: Evaluation of Calibration Weights: Person-Level Percentages of Extreme Weights and Outwinsors

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Table G.1 2014 NSDUH Selected Person-Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States

Domain	*n*	Before sel.per.ps[1] (WT1*...*WT12)			After sel.per.ps[1] (WT1*...*WT13)		
		% Unweighted	% Weighted[2]	% Outwinsor[3]	% Unweighted	% Weighted[2]	% Outwinsor[3]
United States	91,640	2.97%	6.72%	1.80%	1.80%	4.43%	0.94%
Alabama	1,272	2.99%	7.42%	2.08%	1.34%	3.39%	1.02%
Alaska	1,386	4.04%	7.50%	1.29%	1.66%	4.27%	1.06%
Arizona	1,269	2.05%	4.49%	1.20%	0.87%	2.50%	0.56%
Arkansas	1,262	1.58%	3.10%	0.78%	1.43%	3.06%	0.82%
California	6,403	2.78%	6.29%	1.58%	2.05%	4.65%	0.87%
Colorado	1,357	1.62%	2.79%	0.48%	1.25%	3.28%	0.78%
Connecticut	1,438	2.92%	7.94%	2.61%	1.74%	3.68%	0.88%
Delaware	1,264	1.90%	3.60%	0.87%	1.50%	3.70%	1.00%
District of Columbia	1,219	2.05%	3.28%	0.44%	1.72%	4.43%	1.00%
Florida	4,385	3.17%	7.39%	1.39%	1.57%	3.70%	0.63%
Georgia	2,029	2.66%	5.21%	1.08%	0.99%	2.55%	0.56%
Hawaii	1,339	1.72%	4.84%	1.23%	1.57%	3.59%	0.38%
Idaho	1,267	4.42%	7.55%	1.97%	1.97%	3.43%	0.50%
Illinois	3,488	2.12%	4.88%	1.14%	1.38%	2.85%	0.58%
Indiana	1,294	6.34%	8.56%	2.71%	2.86%	4.68%	0.90%
Iowa	1,240	3.31%	6.33%	2.13%	2.10%	4.13%	1.12%
Kansas	1,296	2.24%	4.27%	0.92%	1.62%	3.87%	0.66%
Kentucky	1,284	4.28%	6.08%	1.74%	0.93%	1.84%	0.65%
Louisiana	1,302	5.38%	12.25%	3.97%	4.53%	12.45%	3.29%
Maine	1,230	1.63%	2.79%	0.60%	0.33%	0.49%	0.15%
Maryland	1,297	0.69%	1.25%	0.11%	1.70%	4.93%	0.60%
Massachusetts	1,437	2.57%	8.06%	2.36%	2.51%	6.05%	1.42%
Michigan	3,269	3.09%	6.12%	1.60%	2.14%	4.37%	0.44%
Minnesota	1,266	3.55%	4.93%	1.22%	1.66%	3.89%	1.01%
Mississippi	1,170	2.65%	8.18%	1.53%	0.77%	2.08%	0.37%

(continued)

Table G.1 2014 NSDUH Selected Person-Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before sel.per.ps[1] (WT1*...*WT12)			After sel.per.ps[1] (WT1*...*WT13)		
		% Unweighted	% Weighted[2]	% Outwinsor[3]	% Unweighted	% Weighted[2]	% Outwinsor[3]
Missouri	1,218	2.22%	5.20%	1.58%	1.15%	2.17%	0.38%
Montana	1,287	3.26%	5.55%	1.20%	1.40%	1.74%	0.25%
Nebraska	1,268	2.37%	4.84%	1.60%	2.05%	3.98%	1.38%
Nevada	1,279	2.35%	4.86%	1.67%	1.56%	3.55%	0.94%
New Hampshire	1,288	2.25%	2.48%	0.50%	1.09%	2.02%	0.39%
New Jersey	2,167	3.37%	10.05%	4.39%	1.94%	3.77%	0.63%
New Mexico	1,172	2.82%	5.60%	1.13%	0.94%	2.17%	0.79%
New York	4,835	3.41%	8.60%	2.75%	2.90%	7.71%	2.05%
North Carolina	1,956	2.61%	5.11%	1.27%	0.82%	2.36%	0.63%
North Dakota	1,240	2.26%	3.59%	0.94%	1.61%	3.54%	0.60%
Ohio	3,337	2.19%	3.82%	0.84%	0.63%	0.89%	0.14%
Oklahoma	1,284	1.87%	3.79%	0.80%	0.93%	3.48%	1.02%
Oregon	1,318	3.41%	6.83%	2.16%	2.35%	4.79%	1.22%
Pennsylvania	3,186	5.99%	12.35%	2.96%	4.08%	9.64%	2.20%
Rhode Island	1,334	1.95%	3.87%	0.90%	1.27%	2.84%	0.72%
South Carolina	1,308	1.07%	1.70%	0.11%	0.84%	2.36%	0.59%
South Dakota	1,275	3.84%	6.38%	2.23%	2.04%	4.27%	0.92%
Tennessee	1,204	3.41%	6.34%	1.39%	0.91%	2.97%	0.61%
Texas	4,581	3.75%	8.85%	2.62%	2.58%	6.11%	0.98%
Utah	1,186	3.71%	9.82%	2.46%	1.85%	4.82%	1.14%
Vermont	1,260	2.54%	4.42%	1.10%	1.27%	2.36%	0.50%
Virginia	2,020	3.12%	5.72%	0.99%	1.53%	2.89%	0.47%
Washington	1,241	4.27%	11.05%	3.08%	2.01%	4.68%	0.93%
West Virginia	1,355	2.44%	4.66%	1.40%	1.40%	2.19%	0.54%
Wisconsin	1,332	2.63%	6.48%	1.67%	2.93%	6.85%	1.94%
Wyoming	1,246	1.69%	3.14%	0.75%	1.20%	2.27%	0.72%

[1] Before sel.per.ps (WT1*...*WT12) and after sel.per.ps (WT1*...*WT13) used demographic variables from screener data for all selected people; ps = poststratification adjustment.
[2] Weighted extreme value percentage = $100*\sum_k w_{ek}/\sum_k w_k$, where w_{ek} denotes the weight for extreme weights and w_k denotes the weight for both extreme weights and nonextreme weights.
[3] Outwinsor weight percentage = $100*\sum_k(w_{ek} - b_k)/\sum_k w_k$, where b_k denotes the cutoff point for defining the extreme weight.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table G.2 2014 NSDUH Respondent Person-Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States

Domain	*n*	Before res.per.nr[1] (WT1*…*WT13)			After res.per.nr[1] (WT1*…*WT14)			Before res.per.ps[2] (WT1*…*WT14)			After res.per.ps[2] (WT1*…*WT15)		
		% Unweighted	% Weighted[3]	% Outwinsor[4]	% Unweighted	% Weighted[3]	% Outwinsor[4]	% Unweighted	% Weighted[3]	% Outwinsor[4]	% Unweighted	% Weighted[3]	% Outwinsor[4]
United States	67,901	1.81%	4.42%	0.95%	1.50%	4.32%	0.87%	1.56%	4.51%	0.93%	0.94%	2.76%	0.53%
Alabama	964	0.93%	2.20%	0.38%	1.66%	4.46%	1.26%	1.87%	4.77%	1.30%	1.14%	3.22%	0.83%
Alaska	947	2.01%	5.65%	1.39%	1.37%	3.06%	0.59%	1.37%	3.06%	0.54%	1.16%	3.77%	1.01%
Arizona	971	0.93%	2.82%	0.72%	1.13%	3.14%	0.64%	1.13%	3.14%	0.62%	0.51%	2.65%	0.73%
Arkansas	964	2.07%	3.93%	0.93%	2.80%	5.81%	0.79%	2.90%	6.14%	0.87%	0.21%	0.85%	0.06%
California	4,664	2.02%	4.93%	0.94%	1.46%	4.40%	0.68%	1.57%	4.73%	0.85%	0.60%	1.91%	0.22%
Colorado	1,008	1.09%	3.75%	0.85%	0.79%	1.75%	0.26%	1.09%	2.44%	0.37%	0.40%	1.66%	0.45%
Connecticut	980	2.14%	5.43%	1.07%	2.55%	7.22%	1.47%	2.35%	6.89%	1.52%	0.92%	2.60%	0.22%
Delaware	951	1.89%	4.70%	1.31%	0.32%	1.95%	0.46%	0.32%	1.95%	0.46%	0.21%	0.91%	0.30%
District of Columbia	935	1.28%	3.82%	1.00%	1.60%	4.74%	0.92%	1.60%	4.67%	0.93%	1.82%	5.89%	1.69%
Florida	3,331	1.68%	3.77%	0.69%	1.59%	4.44%	0.54%	1.89%	5.17%	0.72%	0.39%	0.48%	0.05%
Georgia	1,549	0.90%	2.44%	0.67%	0.39%	0.67%	0.13%	0.52%	0.86%	0.14%	0.90%	2.89%	1.02%
Hawaii	968	1.45%	3.27%	0.38%	0.72%	1.75%	0.18%	0.62%	1.50%	0.18%	0.62%	1.23%	0.09%
Idaho	987	2.03%	3.27%	0.41%	1.32%	3.21%	0.58%	1.32%	3.23%	0.59%	0.81%	2.08%	0.46%
Illinois	2,397	1.38%	3.06%	0.59%	0.71%	1.84%	0.28%	0.75%	1.90%	0.28%	0.42%	1.08%	0.12%
Indiana	967	2.79%	4.53%	0.98%	3.31%	7.32%	1.97%	3.31%	7.32%	1.92%	2.07%	5.11%	1.60%
Iowa	912	2.41%	4.85%	1.36%	2.41%	5.39%	1.55%	2.30%	5.27%	1.94%	2.63%	4.74%	1.27%
Kansas	982	1.93%	4.77%	0.78%	0.51%	1.30%	0.37%	0.51%	1.51%	0.52%	0.92%	1.67%	0.11%
Kentucky	946	1.27%	2.66%	0.93%	0.85%	2.33%	0.43%	0.85%	2.33%	0.42%	0.53%	1.39%	0.20%
Louisiana	992	3.93%	11.11%	2.49%	3.02%	9.23%	2.55%	2.92%	8.88%	2.54%	0.50%	1.01%	0.15%
Maine	940	0.43%	0.65%	0.22%	1.06%	3.11%	0.39%	1.06%	3.11%	0.42%	0.21%	2.14%	1.33%
Maryland	971	1.44%	4.61%	0.65%	1.96%	5.65%	1.03%	1.96%	5.65%	1.04%	1.24%	4.96%	0.98%
Massachusetts	1,000	2.40%	4.70%	1.11%	2.40%	8.79%	1.58%	2.20%	8.55%	1.54%	0.40%	1.88%	0.27%
Michigan	2,418	2.07%	4.19%	0.43%	0.87%	1.50%	0.17%	0.95%	1.76%	0.33%	0.62%	2.43%	0.57%
Minnesota	967	1.76%	3.72%	0.80%	1.14%	2.31%	0.50%	1.14%	2.31%	0.49%	1.24%	3.03%	0.58%
Mississippi	909	0.66%	1.96%	0.34%	0.22%	1.08%	0.20%	0.44%	1.61%	0.25%	0.22%	0.85%	0.01%

(continued)

Table G.2 2014 NSDUH Respondent Person-Level Percentages of Extreme Weights and Outwinsors: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before res.per.nr[1] (WT1*…*WT13)			After res.per.nr[1] (WT1*…*WT14)			Before res.per.ps[2] (WT1*…*WT14)			After res.per.ps[2] (WT1*…*WT15)		
		% Unweighted	% Weighted[3]	% Outwinsor[4]	% Unweighted	% Weighted[3]	% Outwinsor[4]	% Unweighted	% Weighted[3]	% Outwinsor[4]	% Unweighted	% Weighted[3]	% Outwinsor[4]
Missouri	934	1.07%	2.18%	0.41%	0.75%	1.51%	0.51%	0.75%	1.51%	0.50%	1.07%	4.14%	0.76%
Montana	977	1.23%	1.58%	0.18%	0.72%	1.21%	0.32%	0.72%	1.21%	0.33%	0.31%	1.11%	0.07%
Nebraska	938	2.24%	4.54%	1.56%	1.28%	3.48%	1.07%	1.17%	3.40%	1.07%	1.17%	3.61%	0.80%
Nevada	961	1.77%	4.23%	1.19%	2.39%	6.48%	1.36%	2.60%	6.96%	1.47%	0.73%	3.90%	0.63%
New Hampshire	932	1.18%	2.12%	0.44%	0.86%	2.08%	0.30%	0.97%	2.35%	0.31%	1.18%	2.89%	0.84%
New Jersey	1,536	2.34%	4.60%	0.79%	1.76%	3.93%	0.88%	1.95%	4.43%	1.01%	2.47%	7.17%	1.45%
New Mexico	959	0.94%	2.51%	0.96%	1.25%	3.80%	1.25%	1.25%	3.80%	1.30%	1.04%	3.47%	0.56%
New York	3,284	3.01%	8.02%	2.24%	2.80%	9.36%	2.22%	2.80%	9.39%	2.21%	1.67%	7.00%	1.21%
North Carolina	1,533	0.65%	1.40%	0.31%	0.78%	2.49%	0.58%	0.98%	3.23%	0.69%	0.78%	2.37%	0.67%
North Dakota	969	1.24%	2.91%	0.62%	0.83%	3.00%	0.70%	0.83%	3.00%	0.70%	1.03%	2.13%	0.44%
Ohio	2,415	0.70%	1.04%	0.16%	0.99%	2.18%	0.54%	0.99%	2.34%	0.64%	0.70%	1.33%	0.20%
Oklahoma	937	0.53%	2.85%	1.30%	0.75%	2.62%	0.56%	0.64%	2.03%	0.55%	0.53%	1.87%	0.16%
Oregon	992	2.82%	6.56%	1.63%	1.71%	4.39%	1.02%	2.12%	4.91%	1.05%	1.41%	2.54%	0.28%
Pennsylvania	2,388	3.52%	8.23%	1.89%	2.60%	8.44%	2.01%	2.72%	8.75%	2.10%	1.30%	4.02%	0.77%
Rhode Island	991	1.11%	2.79%	0.72%	3.23%	11.00%	2.43%	3.33%	11.31%	2.58%	1.72%	7.18%	2.35%
South Carolina	998	0.90%	1.97%	0.48%	0.40%	0.91%	0.26%	0.50%	1.13%	0.28%	0.30%	1.47%	0.24%
South Dakota	981	2.14%	4.50%	0.96%	1.94%	6.33%	1.48%	1.83%	6.23%	1.44%	1.53%	4.56%	0.73%
Tennessee	946	1.16%	3.81%	0.79%	1.16%	4.38%	0.58%	1.48%	5.62%	0.82%	0.32%	1.49%	0.27%
Texas	3,383	2.39%	5.67%	0.94%	1.45%	3.64%	0.58%	1.36%	3.32%	0.56%	0.68%	1.27%	0.13%
Utah	972	2.06%	5.36%	1.16%	2.16%	5.02%	1.29%	2.06%	5.04%	1.24%	2.06%	5.59%	1.24%
Vermont	948	1.27%	2.74%	0.70%	0.95%	2.64%	0.48%	1.05%	3.05%	0.62%	0.84%	4.36%	1.77%
Virginia	1,539	1.62%	3.72%	0.60%	1.10%	2.90%	0.44%	1.10%	2.90%	0.44%	0.71%	2.68%	0.58%
Washington	935	1.82%	4.03%	0.97%	2.46%	5.71%	0.87%	2.57%	6.23%	0.87%	1.18%	2.29%	0.27%
West Virginia	933	1.39%	2.17%	0.50%	1.50%	2.86%	0.58%	1.50%	2.86%	0.61%	1.39%	3.22%	0.85%
Wisconsin	945	3.60%	8.34%	2.50%	2.54%	5.70%	1.31%	2.65%	5.84%	1.33%	2.33%	6.43%	1.12%
Wyoming	955	1.78%	2.88%	0.76%	1.36%	4.03%	1.16%	1.36%	4.03%	1.13%	0.94%	2.38%	0.26%

[1] Before res.per.nr (WT1*...*WT13) and after res.per.nr (WT1*...*WT14) used demographic variables from screener data for all respondents; nr = nonresponse adjustment.
[2] Before res.per.ps (WT1*...*WT14) and after res.per.ps (WT1*...*WT15) used demographic variables from questionnaire data for all respondents; ps = poststratification adjustment.
[3] Weighted outlier percentage = $100*\sum_k w_{ok}/\sum_k w_k$, where w_{ok} denotes the weight for outliers and w_k denotes the weight for both outliers and nonoutliers.
[4] Outwinsor weight percentage = $100*\sum_k(w_{ek} - b_k)/\sum_k w_k$, where b_k denotes the cutoff point for defining the extreme weight.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Appendix H: Evaluation of Calibration Weights: Slippage Rates

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Table H.1 2014 NSDUH Slippage Rates: UNITED STATES

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		67,901	265,122,865	265,122,864	265,122,864	0.00	0.00
Quarter	**Quarter 1**	15,730	66,055,752	66,055,751	66,055,751	0.00	0.00
	Quarter 2	18,739	66,196,045	66,196,045	66,196,045	0.00	0.00
	Quarter 3	16,927	66,357,824	66,357,824	66,357,824	0.00	0.00
	Quarter 4	16,505	66,513,245	66,513,245	66,513,245	0.00	0.00
Age Group	**12-17**	17,007	24,872,700	24,874,753	24,874,753	-0.01	0.00
	18-25	16,449	34,790,594	34,934,625	34,934,625	-0.41	0.00
	26-34	10,252	37,929,092	37,880,280	37,880,280	0.13	0.00
	35-49	13,590	60,551,809	60,269,902	60,269,902	0.47	0.00
	50-64	6,318	64,104,484	62,171,066	62,171,066	3.11	-0.00
	65+	4,285	42,874,186	44,992,239	44,992,239	-4.71	0.00
Race	**White**	49,661	197,671,959	207,941,589	207,941,589	-4.94	0.00
	Black or African American	8,738	34,143,957	33,472,832	33,472,832	2.00	0.00
	American Indian/Alaska Native	2,985	9,200,543	3,105,859	3,105,859	196.23	0.00
	Asian	3,577	16,849,007	15,345,074	15,345,074	9.80	0.00
	Two or More Races	2,940	7,257,399	5,257,511	5,257,511	38.04	0.00
Hispanicity	**Hispanic or Latino**	11,743	43,111,800	42,472,325	42,472,325	1.51	0.00
	Non-Hispanic or Latino	56,158	222,011,064	222,650,539	222,650,539	-0.29	0.00
Gender	**Male**	32,402	128,344,178	128,422,948	128,422,948	-0.06	0.00
	Female	35,499	136,778,687	136,699,917	136,699,917	0.06	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.2 2014 NSDUH Slippage Rates: ALABAMA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		964	4,042,640	4,042,640	4,042,640	0.00	0.00
Quarter	**Quarter 1**	199	1,009,012	1,009,012	1,009,012	0.00	0.00
	Quarter 2	278	1,009,904	1,009,904	1,009,904	0.00	0.00
	Quarter 3	272	1,011,217	1,011,217	1,011,217	0.00	0.00
	Quarter 4	215	1,012,507	1,012,507	1,012,507	0.00	0.00
Age Group	**12-17**	230	380,444	381,574	381,574	-0.30	0.00
	18-25	238	546,144	533,886	533,886	2.30	0.00
	26-34	136	530,941	540,948	540,948	-1.85	0.00
	35-49	199	891,248	896,117	896,117	-0.54	0.00
	50-64	99	1,017,034	965,755	965,755	5.31	0.00
	65+	62	676,828	724,360	724,360	-6.56	-0.00
Race	**White**	599	2,794,505	2,864,631	2,864,631	-2.45	-0.00
	Black or African American	306	1,043,308	1,043,249	1,043,249	0.01	0.00
	American Indian/Alaska Native	14	41,741	28,364	28,364	47.16	0.00
	Asian	13	71,142	57,901	57,901	22.87	0.00
	Two or More Races	32	91,943	48,494	48,494	89.60	0.00
Hispanicity	**Hispanic or Latino**	28	156,912	140,931	140,931	11.34	0.00
	Non-Hispanic or Latino	936	3,885,728	3,901,709	3,901,709	-0.41	0.00
Gender	**Male**	454	1,918,593	1,922,885	1,922,885	-0.22	-0.00
	Female	510	2,124,046	2,119,754	2,119,754	0.20	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.3 2014 NSDUH Slippage Rates: ALASKA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		947	580,556	580,556	580,556	0.00	0.00
Quarter	**Quarter 1**	230	145,076	145,076	145,076	0.00	0.00
	Quarter 2	246	145,160	145,160	145,160	0.00	0.00
	Quarter 3	252	145,206	145,206	145,206	0.00	0.00
	Quarter 4	219	145,114	145,114	145,114	0.00	0.00
Age Group	**12-17**	253	59,580	59,580	59,580	0.00	0.00
	18-25	218	82,690	83,648	83,648	-1.15	0.00
	26-34	138	94,724	95,507	95,507	-0.82	0.00
	35-49	178	133,397	129,150	129,150	3.29	0.00
	50-64	109	144,950	144,385	144,385	0.39	0.00
	65+	51	65,216	68,287	68,287	-4.50	0.00
Race	**White**	587	387,796	400,457	400,457	-3.16	0.00
	Black or African American	31	23,983	20,843	20,843	15.07	0.00
	American Indian/Alaska Native	183	92,608	82,188	82,188	12.68	0.00
	Asian	68	45,369	43,791	43,791	3.60	0.00
	Two or More Races	78	30,799	33,277	33,277	-7.45	0.00
Hispanicity	**Hispanic or Latino**	56	38,627	35,688	35,688	8.24	0.00
	Non-Hispanic or Latino	891	541,929	544,869	544,869	-0.54	0.00
Gender	**Male**	487	295,420	297,366	297,366	-0.65	0.00
	Female	460	285,136	283,191	283,191	0.69	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.4 2014 NSDUH Slippage Rates: ARIZONA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		971	5,545,689	5,545,689	5,545,689	-0.00	0.00
Quarter	**Quarter 1**	214	1,377,915	1,377,915	1,377,915	-0.00	0.00
	Quarter 2	347	1,383,659	1,383,659	1,383,659	-0.00	0.00
	Quarter 3	174	1,389,448	1,389,448	1,389,448	0.00	0.00
	Quarter 4	236	1,394,667	1,394,667	1,394,667	0.00	0.00
Age Group	**12-17**	230	549,450	545,127	545,127	0.79	0.00
	18-25	244	734,404	737,788	737,788	-0.46	0.00
	26-34	138	756,310	773,311	773,311	-2.20	0.00
	35-49	199	1,246,417	1,215,524	1,215,524	2.54	0.00
	50-64	100	1,448,092	1,217,192	1,217,192	18.97	0.00
	65+	60	811,016	1,056,747	1,056,747	-23.25	0.00
Race	**White**	737	4,527,478	4,713,614	4,713,614	-3.95	0.00
	Black or African American	58	270,627	244,171	244,171	10.84	0.00
	American Indian/Alaska Native	99	383,822	271,078	271,078	41.59	0.00
	Asian	46	267,373	198,947	198,947	34.39	0.00
	Two or More Races	31	96,390	117,880	117,880	-18.23	0.00
Hispanicity	**Hispanic or Latino**	349	1,530,157	1,551,141	1,551,141	-1.35	0.00
	Non-Hispanic or Latino	622	4,015,532	3,994,549	3,994,549	0.53	0.00
Gender	**Male**	457	2,712,962	2,704,800	2,704,800	0.30	0.00
	Female	514	2,832,728	2,840,890	2,840,890	-0.29	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.5 2014 NSDUH Slippage Rates: ARKANSAS

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		964	2,443,636	2,443,636	2,443,636	0.00	0.00
Quarter	**Quarter 1**	216	609,935	609,935	609,935	0.00	0.00
	Quarter 2	339	610,379	610,379	610,379	0.00	-0.00
	Quarter 3	159	611,200	611,200	611,200	0.00	0.00
	Quarter 4	250	612,121	612,121	612,121	0.00	0.00
Age Group	**12-17**	249	236,364	236,364	236,364	0.00	0.00
	18-25	209	323,031	319,018	319,018	1.26	0.00
	26-34	145	326,352	334,734	334,734	-2.50	0.00
	35-49	182	554,736	535,331	535,331	3.62	0.00
	50-64	89	458,900	567,407	567,407	-19.12	-0.00
	65+	90	544,253	450,781	450,781	20.74	0.00
Race	**White**	708	1,941,552	1,980,471	1,980,471	-1.97	0.00
	Black or African American	180	358,734	361,061	361,061	-0.64	0.00
	American Indian/Alaska Native	27	53,630	23,016	23,016	133.01	0.00
	Asian	18	47,432	42,472	42,473	11.68	-0.00
	Two or More Races	31	42,288	36,616	36,616	15.49	0.00
Hispanicity	**Hispanic or Latino**	95	160,326	149,107	149,107	7.52	0.00
	Non-Hispanic or Latino	869	2,283,310	2,294,528	2,294,528	-0.49	0.00
Gender	**Male**	491	1,176,216	1,180,586	1,180,586	-0.37	0.00
	Female	473	1,267,420	1,263,050	1,263,050	0.35	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.6 2014 NSDUH Slippage Rates: CALIFORNIA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		4,664	32,201,663	32,201,663	32,201,663	0.00	0.00
Quarter	**Quarter 1**	1,040	8,017,595	8,017,595	8,017,595	0.00	0.00
	Quarter 2	1,236	8,039,016	8,039,016	8,039,016	0.00	0.00
	Quarter 3	1,144	8,061,841	8,061,841	8,061,841	0.00	0.00
	Quarter 4	1,244	8,083,210	8,083,210	8,083,210	0.00	0.00
Age Group	**12-17**	1,117	3,079,721	3,065,381	3,065,381	0.47	0.00
	18-25	1,133	4,441,206	4,473,314	4,473,314	-0.72	0.00
	26-34	710	5,060,210	4,994,395	4,994,395	1.32	0.00
	35-49	956	7,673,016	7,639,977	7,639,977	0.43	0.00
	50-64	481	7,647,141	7,127,677	7,127,677	7.29	0.00
	65+	267	4,300,370	4,900,919	4,900,919	-12.25	0.00
Race	**White**	2,992	20,890,542	23,640,750	23,640,750	-11.63	0.00
	Black or African American	327	2,179,204	2,044,933	2,044,933	6.57	0.00
	American Indian/Alaska Native	461	2,498,982	519,747	519,747	380.81	0.00
	Asian	621	5,390,398	5,000,773	5,000,773	7.79	0.00
	Two or More Races	263	1,242,538	995,460	995,460	24.82	0.00
Hispanicity	**Hispanic or Latino**	2,180	11,693,569	11,641,787	11,641,787	0.44	0.00
	Non-Hispanic or Latino	2,484	20,508,094	20,559,876	20,559,876	-0.25	0.00
Gender	**Male**	2,261	15,728,266	15,760,663	15,760,663	-0.21	0.00
	Female	2,403	16,473,397	16,441,001	16,441,001	0.20	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.7 2014 NSDUH Slippage Rates: COLORADO

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		1,008	4,426,092	4,426,092	4,426,093	-0.00	-0.00
Quarter	**Quarter 1**	233	1,099,107	1,099,107	1,099,107	-0.00	0.00
	Quarter 2	248	1,104,136	1,104,136	1,104,136	0.00	-0.00
	Quarter 3	266	1,109,168	1,109,168	1,109,168	-0.00	0.00
	Quarter 4	261	1,113,681	1,113,681	1,113,681	0.00	0.00
Age Group	**12-17**	256	413,304	411,672	411,672	0.40	0.00
	18-25	309	578,357	580,685	580,685	-0.40	0.00
	26-34	128	693,537	692,842	692,842	0.10	0.00
	35-49	166	1,062,806	1,042,256	1,042,256	1.97	-0.00
	50-64	87	978,348	1,034,450	1,034,450	-5.42	0.00
	65+	62	699,739	664,188	664,188	5.35	0.00
Race	**White**	786	3,699,503	3,925,153	3,925,153	-5.75	0.00
	Black or African American	54	187,048	182,948	182,948	2.24	-0.00
	American Indian/Alaska Native	81	256,608	66,652	66,652	284.99	0.00
	Asian	38	158,527	148,478	148,478	6.77	0.00
	Two or More Races	49	124,408	102,861	102,861	20.95	0.00
Hispanicity	**Hispanic or Latino**	298	883,766	851,448	851,449	3.80	-0.00
	Non-Hispanic or Latino	710	3,542,327	3,574,644	3,574,644	-0.90	0.00
Gender	**Male**	469	2,189,102	2,189,102	2,189,102	-0.00	0.00
	Female	539	2,236,990	2,236,990	2,236,990	-0.00	-0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.8 2014 NSDUH Slippage Rates: CONNECTICUT

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		980	3,054,946	3,054,946	3,054,946	0.00	0.00
Quarter	**Quarter 1**	185	763,002	763,002	763,002	0.00	0.00
	Quarter 2	258	763,239	763,239	763,239	0.00	0.00
	Quarter 3	285	763,934	763,934	763,934	0.00	0.00
	Quarter 4	252	764,772	764,772	764,772	0.00	0.00
Age Group	**12-17**	256	285,567	285,016	285,016	0.19	0.00
	18-25	219	396,645	384,157	384,157	3.25	0.00
	26-34	143	372,028	389,804	389,804	-4.56	0.00
	35-49	221	692,456	692,510	692,510	-0.01	0.00
	50-64	84	817,189	767,577	767,577	6.46	0.00
	65+	57	491,061	535,883	535,883	-8.36	0.00
Race	**White**	739	2,442,564	2,518,627	2,518,627	-3.02	0.00
	Black or African American	123	337,863	332,413	332,413	1.64	0.00
	American Indian/Alaska Native	21	50,117	14,696	14,696	241.03	0.00
	Asian	58	158,563	137,412	137,412	15.39	0.00
	Two or More Races	39	65,839	51,799	51,799	27.11	0.00
Hispanicity	**Hispanic or Latino**	171	408,063	417,662	417,662	-2.30	0.00
	Non-Hispanic or Latino	809	2,646,883	2,637,283	2,637,283	0.36	0.00
Gender	**Male**	451	1,468,084	1,472,660	1,472,660	-0.31	0.00
	Female	529	1,586,862	1,582,286	1,582,286	0.29	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.9 2014 NSDUH Slippage Rates: DELAWARE

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		951	784,116	784,117	784,117	-0.00	0.00
Quarter	**Quarter 1**	199	195,134	195,134	195,134	0.00	0.00
	Quarter 2	323	195,726	195,726	195,726	0.00	0.00
	Quarter 3	248	196,343	196,343	196,343	-0.00	0.00
	Quarter 4	181	196,913	196,913	196,913	0.00	0.00
Age Group	**12-17**	264	68,288	68,288	68,288	-0.00	0.00
	18-25	234	101,947	100,409	100,409	1.53	0.00
	26-34	127	102,107	106,070	106,070	-3.74	0.00
	35-49	173	171,682	168,918	168,918	1.64	0.00
	50-64	90	195,098	190,545	190,545	2.39	0.00
	65+	63	144,994	149,886	149,886	-3.26	0.00
Race	**White**	617	550,897	568,368	568,368	-3.07	0.00
	Black or African American	232	171,495	166,436	166,436	3.04	0.00
	American Indian/Alaska Native	14	8,048	1,892	4,954	62.44	-61.81
	Asian	40	35,115	32,998	29,936	17.30	10.23
	Two or More Races	48	18,561	14,423	14,423	28.69	0.00
Hispanicity	**Hispanic or Latino**	108	58,701	61,624	61,624	-4.74	0.00
	Non-Hispanic or Latino	843	725,416	722,493	722,493	0.40	0.00
Gender	**Male**	432	372,297	372,446	372,446	-0.04	0.00
	Female	519	411,820	411,670	411,670	0.04	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.10 2014 NSDUH Slippage Rates: DISTRICT OF COLUMBIA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		935	564,072	564,072	564,072	0.00	0.00
Quarter	**Quarter 1**	244	140,366	140,366	140,366	0.00	0.00
	Quarter 2	230	140,755	140,755	140,755	0.00	0.00
	Quarter 3	250	141,225	141,225	141,225	0.00	0.00
	Quarter 4	211	141,727	141,727	141,727	0.00	0.00
Age Group	**12-17**	233	30,727	30,727	30,727	0.00	0.00
	18-25	237	95,359	93,220	93,220	2.29	0.00
	26-34	136	127,609	133,045	133,045	-4.09	0.00
	35-49	172	130,791	127,869	127,869	2.28	0.00
	50-64	90	104,167	106,803	106,803	-2.47	0.00
	65+	67	75,420	72,408	72,408	4.16	0.00
Race	**White**	352	236,377	254,982	254,983	-7.30	-0.00
	Black or African American	473	272,463	268,708	268,708	1.40	0.00
	American Indian/Alaska Native	44	16,762	3,894	3,027	453.76	28.66
	Asian	36	24,365	23,703	24,570	-0.83	-3.53
	Two or More Races	30	14,105	12,785	12,785	10.33	0.00
Hispanicity	**Hispanic or Latino**	102	58,282	54,654	54,654	6.64	0.00
	Non-Hispanic or Latino	833	505,790	509,418	509,418	-0.71	0.00
Gender	**Male**	444	262,494	262,494	262,494	0.00	0.00
	Female	491	301,578	301,578	301,578	0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.11 2014 NSDUH Slippage Rates: FLORIDA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		3,331	16,916,262	16,916,262	16,916,262	0.00	0.00
Quarter	**Quarter 1**	983	4,203,560	4,203,560	4,203,560	0.00	0.00
	Quarter 2	772	4,219,946	4,219,946	4,219,946	0.00	0.00
	Quarter 3	843	4,237,727	4,237,727	4,237,727	0.00	0.00
	Quarter 4	733	4,255,029	4,255,029	4,255,029	0.00	0.00
Age Group	**12-17**	867	1,393,796	1,392,741	1,392,741	0.08	0.00
	18-25	848	2,027,935	1,987,479	1,987,479	2.04	0.00
	26-34	491	2,132,263	2,186,881	2,186,881	-2.50	0.00
	35-49	676	3,676,666	3,650,364	3,650,364	0.72	0.00
	50-64	255	4,193,614	3,971,625	3,971,625	5.59	0.00
	65+	194	3,491,988	3,727,171	3,727,171	-6.31	0.00
Race	**White**	2,353	12,704,316	13,443,659	13,443,659	-5.50	0.00
	Black or African American	619	2,677,381	2,634,584	2,634,584	1.62	0.00
	American Indian/Alaska Native	116	531,172	127,233	82,227	545.99	54.73
	Asian	114	626,332	448,525	493,532	26.91	-9.12
	Two or More Races	129	377,060	262,260	262,260	43.77	0.00
Hispanicity	**Hispanic or Latino**	1,059	4,071,082	3,955,725	3,955,725	2.92	0.00
	Non-Hispanic or Latino	2,272	12,845,180	12,960,537	12,960,537	-0.89	0.00
Gender	**Male**	1,582	8,134,017	8,122,357	8,122,357	0.14	0.00
	Female	1,749	8,782,245	8,793,905	8,793,905	-0.13	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.12 2014 NSDUH Slippage Rates: GEORGIA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		1,549	8,240,647	8,240,647	8,240,647	-0.00	0.00
Quarter	**Quarter 1**	390	2,050,878	2,050,878	2,050,878	0.00	0.00
	Quarter 2	370	2,057,169	2,057,169	2,057,169	0.00	0.00
	Quarter 3	392	2,063,479	2,063,479	2,063,479	-0.00	0.00
	Quarter 4	397	2,069,120	2,069,121	2,069,121	-0.00	0.00
Age Group	**12-17**	367	841,562	841,562	841,562	0.00	0.00
	18-25	425	1,089,312	1,112,868	1,112,868	-2.12	0.00
	26-34	264	1,203,398	1,185,282	1,185,282	1.53	0.00
	35-49	266	1,998,734	2,011,001	2,011,001	-0.61	0.00
	50-64	136	1,854,663	1,868,574	1,868,574	-0.74	0.00
	65+	91	1,252,978	1,221,361	1,221,361	2.59	0.00
Race	**White**	831	5,050,828	5,221,418	5,221,418	-3.27	-0.00
	Black or African American	567	2,495,708	2,525,202	2,525,202	-1.17	0.00
	American Indian/Alaska Native	40	156,107	38,771	39,750	292.73	-2.46
	Asian	58	359,825	331,139	330,160	8.99	0.30
	Two or More Races	53	178,178	124,117	124,117	43.56	0.00
Hispanicity	**Hispanic or Latino**	178	712,666	671,859	671,859	6.07	0.00
	Non-Hispanic or Latino	1,371	7,527,981	7,568,788	7,568,788	-0.54	0.00
Gender	**Male**	700	3,919,971	3,922,139	3,922,139	-0.06	0.00
	Female	849	4,320,676	4,318,508	4,318,508	0.05	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.13 2014 NSDUH Slippage Rates: HAWAII

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		968	1,149,245	1,149,245	1,149,245	0.00	0.00
Quarter	**Quarter 1**	195	286,501	286,501	286,501	0.00	0.00
	Quarter 2	330	287,003	287,003	287,003	0.00	0.00
	Quarter 3	243	287,605	287,605	287,605	0.00	0.00
	Quarter 4	200	288,136	288,136	288,136	0.00	0.00
Age Group	**12-17**	248	96,265	96,703	96,703	-0.45	0.00
	18-25	207	137,261	141,189	141,189	-2.78	0.00
	26-34	124	171,566	169,315	169,315	1.33	0.00
	35-49	208	246,468	248,038	248,038	-0.63	0.00
	50-64	98	278,620	269,862	269,862	3.25	0.00
	65+	83	219,065	224,138	224,138	-2.26	0.00
Race	**White**	218	286,947	302,948	302,948	-5.28	0.00
	Black or African American	11	22,837	20,797	20,797	9.81	0.00
	American Indian/Alaska Native	7	7,032	4,576	4,576	53.68	0.00
	Asian	482	579,267	584,080	584,080	-0.82	0.00
	Two or More Races	250	253,162	236,843	236,843	6.89	0.00
Hispanicity	**Hispanic or Latino**	123	113,560	97,356	97,356	16.64	0.00
	Non-Hispanic or Latino	845	1,035,685	1,051,889	1,051,889	-1.54	0.00
Gender	**Male**	467	562,823	562,344	562,344	0.09	0.00
	Female	501	586,422	586,901	586,901	-0.08	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.14 2014 NSDUH Slippage Rates: IDAHO

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		987	1,326,157	1,326,157	1,326,157	0.00	0.00
Quarter	**Quarter 1**	224	329,656	329,656	329,656	0.00	0.00
	Quarter 2	279	330,909	330,909	330,909	0.00	0.00
	Quarter 3	224	332,202	332,202	332,202	0.00	0.00
	Quarter 4	260	333,390	333,390	333,390	0.00	0.00
Age Group	**12-17**	230	141,774	143,867	143,867	-1.46	0.00
	18-25	248	176,454	174,040	174,040	1.39	0.00
	26-34	138	181,367	187,775	187,775	-3.41	0.00
	35-49	222	296,691	289,315	289,315	2.55	0.00
	50-64	78	277,656	302,143	302,143	-8.10	0.00
	65+	71	252,214	229,016	229,016	10.13	0.00
Race	**White**	891	1,227,297	1,248,302	1,248,302	-1.68	0.00
	Black or African American	19	14,051	9,661	9,661	45.44	0.00
	American Indian/Alaska Native	32	24,430	21,432	21,432	13.99	0.00
	Asian	19	20,294	21,928	21,928	-7.45	0.00
	Two or More Races	26	40,085	24,834	24,834	61.41	0.00
Hispanicity	**Hispanic or Latino**	161	144,105	140,824	140,824	2.33	0.00
	Non-Hispanic or Latino	826	1,182,051	1,185,332	1,185,332	-0.28	0.00
Gender	**Male**	490	657,138	655,808	655,808	0.20	0.00
	Female	497	669,018	670,348	670,348	-0.20	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.15 2014 NSDUH Slippage Rates: ILLINOIS

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		2,397	10,738,475	10,738,476	10,738,476	-0.00	0.00
Quarter	**Quarter 1**	539	2,682,638	2,682,638	2,682,638	0.00	0.00
	Quarter 2	724	2,683,441	2,683,441	2,683,441	-0.00	0.00
	Quarter 3	532	2,685,268	2,685,268	2,685,268	-0.00	0.00
	Quarter 4	602	2,687,128	2,687,128	2,687,128	0.00	0.00
Age Group	**12-17**	558	1,033,367	1,027,930	1,027,930	0.53	0.00
	18-25	557	1,384,211	1,394,050	1,394,050	-0.71	0.00
	26-34	401	1,559,150	1,573,828	1,573,828	-0.93	0.00
	35-49	485	2,529,306	2,496,053	2,496,053	1.33	0.00
	50-64	246	2,607,693	2,517,276	2,517,276	3.59	0.00
	65+	150	1,624,748	1,729,338	1,729,338	-6.05	0.00
Race	**White**	1,720	7,990,681	8,427,989	8,427,989	-5.19	0.00
	Black or African American	380	1,571,219	1,514,677	1,514,677	3.73	0.00
	American Indian/Alaska Native	101	381,965	74,572	59,629	540.57	25.06
	Asian	124	599,621	571,989	586,933	2.16	-2.55
	Two or More Races	72	194,989	149,248	149,248	30.65	0.00
Hispanicity	**Hispanic or Latino**	451	1,685,830	1,644,966	1,644,966	2.48	0.00
	Non-Hispanic or Latino	1,946	9,052,646	9,093,510	9,093,510	-0.45	0.00
Gender	**Male**	1,128	5,155,329	5,203,403	5,203,403	-0.92	0.00
	Female	1,269	5,583,147	5,535,073	5,535,073	0.87	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.16 2014 NSDUH Slippage Rates: INDIANA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		967	5,460,095	5,460,095	5,460,095	0.00	-0.00
Quarter	**Quarter 1**	245	1,362,024	1,362,024	1,362,024	0.00	-0.00
	Quarter 2	235	1,363,736	1,363,736	1,363,736	0.00	-0.00
	Quarter 3	286	1,366,028	1,366,028	1,366,028	0.00	0.00
	Quarter 4	201	1,368,307	1,368,307	1,368,307	0.00	-0.00
Age Group	**12-17**	248	538,519	540,851	540,851	-0.43	-0.00
	18-25	228	739,990	742,327	742,327	-0.31	0.00
	26-34	140	753,139	741,684	741,684	1.54	0.00
	35-49	199	1,209,788	1,227,344	1,227,345	-1.43	-0.00
	50-64	93	1,344,583	1,300,995	1,300,995	3.35	0.00
	65+	59	874,077	906,893	906,894	-3.62	-0.00
Race	**White**	761	4,624,791	4,762,425	4,762,425	-2.89	-0.00
	Black or African American	135	497,663	487,036	487,036	2.18	-0.00
	American Indian/Alaska Native	6	38,512	6,463	21,406	79.91	-69.81
	Asian	20	139,198	128,080	113,137	23.03	13.21
	Two or More Races	45	159,931	76,091	76,091	110.18	0.00
Hispanicity	**Hispanic or Latino**	39	315,644	312,548	312,548	0.99	-0.00
	Non-Hispanic or Latino	928	5,144,451	5,147,547	5,147,547	-0.06	-0.00
Gender	**Male**	447	2,666,900	2,654,677	2,654,677	0.46	-0.00
	Female	520	2,793,196	2,805,418	2,805,418	-0.44	-0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.17 2014 NSDUH Slippage Rates: IOWA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		912	2,582,849	2,582,849	2,582,849	-0.00	0.00
Quarter	**Quarter 1**	215	644,166	644,166	644,166	0.00	0.00
	Quarter 2	284	644,994	644,995	644,995	-0.00	0.00
	Quarter 3	196	646,202	646,203	646,203	-0.00	0.00
	Quarter 4	217	647,486	647,486	647,486	0.00	0.00
Age Group	**12-17**	201	240,964	242,540	242,540	-0.65	0.00
	18-25	257	357,582	355,200	355,200	0.67	0.00
	26-34	132	338,641	348,473	348,473	-2.82	0.00
	35-49	164	588,868	546,115	546,115	7.83	0.00
	50-64	91	606,671	621,328	621,328	-2.36	0.00
	65+	67	450,124	469,194	469,194	-4.06	-0.00
Race	**White**	815	2,379,983	2,402,887	2,402,887	-0.95	0.00
	Black or African American	39	83,168	78,184	78,184	6.37	0.00
	American Indian/Alaska Native	6	26,010	11,269	11,269	130.81	0.00
	Asian	37	68,264	59,277	59,277	15.16	0.00
	Two or More Races	15	25,423	31,233	31,233	-18.60	0.00
Hispanicity	**Hispanic or Latino**	45	106,322	123,263	123,263	-13.74	0.00
	Non-Hispanic or Latino	867	2,476,528	2,459,587	2,459,587	0.69	0.00
Gender	**Male**	461	1,274,268	1,274,268	1,274,268	-0.00	0.00
	Female	451	1,308,581	1,308,581	1,308,581	-0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.18 2014 NSDUH Slippage Rates: KANSAS

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		982	2,356,686	2,356,686	2,356,686	0.00	0.00
Quarter	**Quarter 1**	242	588,014	588,014	588,014	0.00	0.00
	Quarter 2	254	588,652	588,652	588,652	0.00	0.00
	Quarter 3	235	589,572	589,572	589,572	0.00	0.00
	Quarter 4	251	590,448	590,448	590,448	0.00	0.00
Age Group	**12-17**	213	237,294	237,294	237,294	0.00	0.00
	18-25	277	323,863	327,370	327,370	-1.07	0.00
	26-34	154	339,088	335,581	335,581	1.05	0.00
	35-49	198	506,537	502,473	502,473	0.81	0.00
	50-64	81	572,257	556,149	556,149	2.90	0.00
	65+	59	377,646	397,819	397,819	-5.07	0.00
Race	**White**	772	1,989,741	2,073,891	2,073,891	-4.06	0.00
	Black or African American	87	137,353	135,683	135,683	1.23	0.00
	American Indian/Alaska Native	35	55,518	27,451	27,451	102.24	0.00
	Asian	40	90,243	69,181	69,181	30.45	0.00
	Two or More Races	48	83,831	50,480	50,480	66.07	0.00
Hispanicity	**Hispanic or Latino**	129	239,410	233,889	233,889	2.36	0.00
	Non-Hispanic or Latino	853	2,117,276	2,122,797	2,122,797	-0.26	0.00
Gender	**Male**	464	1,155,447	1,155,447	1,155,447	0.00	0.00
	Female	518	1,201,239	1,201,239	1,201,239	0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.19 2014 NSDUH Slippage Rates: KENTUCKY

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		946	3,653,138	3,653,138	3,653,138	-0.00	0.00
Quarter	**Quarter 1**	229	911,642	911,642	911,642	0.00	0.00
	Quarter 2	256	912,582	912,582	912,582	-0.00	0.00
	Quarter 3	252	913,862	913,862	913,862	0.00	0.00
	Quarter 4	209	915,053	915,053	915,053	0.00	-0.00
Age Group	**12-17**	255	336,832	339,725	339,725	-0.85	0.00
	18-25	243	473,316	473,910	473,910	-0.13	0.00
	26-34	136	488,077	485,069	485,069	0.62	0.00
	35-49	195	832,670	832,191	832,191	0.06	0.00
	50-64	71	909,767	889,748	889,748	2.25	-0.00
	65+	46	612,477	632,496	632,496	-3.17	0.00
Race	**White**	773	3,223,933	3,264,278	3,264,278	-1.24	-0.00
	Black or African American	119	283,268	280,341	280,341	1.04	0.00
	American Indian/Alaska Native	11	22,904	10,466	10,466	118.85	0.00
	Asian	14	70,914	51,763	51,763	37.00	0.00
	Two or More Races	29	52,119	46,291	46,291	12.59	0.00
Hispanicity	**Hispanic or Latino**	46	106,829	102,912	102,912	3.81	0.00
	Non-Hispanic or Latino	900	3,546,309	3,550,226	3,550,226	-0.11	-0.00
Gender	**Male**	417	1,766,909	1,766,909	1,766,909	-0.00	-0.00
	Female	529	1,886,229	1,886,229	1,886,229	0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.20 2014 NSDUH Slippage Rates: LOUISIANA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		992	3,798,948	3,798,948	3,798,948	0.00	0.00
Quarter	**Quarter 1**	211	947,677	947,677	947,677	0.00	0.00
	Quarter 2	312	948,901	948,901	948,901	0.00	0.00
	Quarter 3	224	950,453	950,453	950,453	0.00	0.00
	Quarter 4	245	951,916	951,916	951,916	0.00	-0.00
Age Group	**12-17**	255	366,064	367,731	367,731	-0.45	0.00
	18-25	269	521,405	517,271	517,271	0.80	0.00
	26-34	124	551,561	572,268	572,268	-3.62	-0.00
	35-49	204	825,943	828,768	828,768	-0.34	0.00
	50-64	86	908,614	899,731	899,731	0.99	0.00
	65+	54	625,360	613,180	613,180	1.99	0.00
Race	**White**	612	2,350,857	2,476,475	2,476,475	-5.07	-0.00
	Black or African American	299	1,235,321	1,177,227	1,177,227	4.93	-0.00
	American Indian/Alaska Native	22	67,432	28,705	28,705	134.91	0.00
	Asian	23	84,190	72,078	72,078	16.80	0.00
	Two or More Races	36	61,148	44,462	44,462	37.53	0.00
Hispanicity	**Hispanic or Latino**	77	167,516	171,889	171,889	-2.54	0.00
	Non-Hispanic or Latino	915	3,631,431	3,627,059	3,627,059	0.12	0.00
Gender	**Male**	447	1,811,201	1,811,201	1,811,201	0.00	0.00
	Female	545	1,987,747	1,987,747	1,987,747	0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.21 2014 NSDUH Slippage Rates: MAINE

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		940	1,151,035	1,151,035	1,151,035	0.00	-0.00
Quarter	**Quarter 1**	222	287,481	287,481	287,481	0.00	0.00
	Quarter 2	234	287,636	287,636	287,636	0.00	-0.00
	Quarter 3	281	287,869	287,869	287,869	0.00	0.00
	Quarter 4	203	288,049	288,049	288,049	0.00	0.00
Age Group	**12-17**	197	93,894	93,311	93,311	0.63	0.00
	18-25	223	125,812	126,789	126,789	-0.77	0.00
	26-34	150	133,114	135,293	135,293	-1.61	0.00
	35-49	210	247,492	245,880	245,880	0.66	0.00
	50-64	90	319,454	313,198	313,198	2.00	0.00
	65+	70	231,269	236,565	236,565	-2.24	-0.00
Race	**White**	857	1,092,469	1,101,020	1,101,020	-0.78	0.00
	Black or African American	13	10,567	13,899	13,899	-23.98	0.00
	American Indian/Alaska Native	11	6,269	1,353	7,520	-16.64	-82.00
	Asian	17	12,387	4,279	13,811	-10.31	-69.01
	Two or More Races	42	29,343	30,483	14,785	98.46	106.17
Hispanicity	**Hispanic or Latino**	30	17,553	15,249	15,249	15.11	0.00
	Non-Hispanic or Latino	910	1,133,482	1,135,787	1,135,787	-0.20	-0.00
Gender	**Male**	430	561,050	558,998	558,998	0.37	-0.00
	Female	510	589,986	592,037	592,037	-0.35	-0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.22 2014 NSDUH Slippage Rates: MARYLAND

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		971	4,988,662	4,988,662	4,988,662	0.00	0.00
Quarter	**Quarter 1**	174	1,244,126	1,244,126	1,244,126	0.00	0.00
	Quarter 2	337	1,245,936	1,245,936	1,245,936	0.00	0.00
	Quarter 3	199	1,248,205	1,248,205	1,248,205	0.00	0.00
	Quarter 4	261	1,250,395	1,250,395	1,250,395	0.00	0.00
Age Group	**12-17**	262	455,432	455,432	455,432	0.00	0.00
	18-25	225	625,815	628,947	628,947	-0.50	0.00
	26-34	152	718,446	724,925	724,925	-0.89	0.00
	35-49	192	1,170,189	1,167,744	1,167,744	0.21	0.00
	50-64	84	1,190,578	1,212,011	1,212,011	-1.77	0.00
	65+	56	828,202	799,604	799,604	3.58	0.00
Race	**White**	550	2,860,132	3,055,541	3,055,541	-6.40	0.00
	Black or African American	270	1,410,551	1,479,163	1,479,163	-4.64	0.00
	American Indian/Alaska Native	49	148,551	37,225	26,852	453.22	38.63
	Asian	58	372,045	315,455	325,827	14.18	-3.18
	Two or More Races	44	197,383	101,279	101,279	94.89	0.00
Hispanicity	**Hispanic or Latino**	117	424,647	421,341	421,341	0.78	0.00
	Non-Hispanic or Latino	854	4,564,015	4,567,321	4,567,321	-0.07	0.00
Gender	**Male**	466	2,378,776	2,373,482	2,373,482	0.22	0.00
	Female	505	2,609,886	2,615,180	2,615,180	-0.20	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.23 2014 NSDUH Slippage Rates: MASSACHUSETTS

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		1,000	5,769,623	5,769,623	5,769,623	-0.00	0.00
Quarter	**Quarter 1**	179	1,438,389	1,438,390	1,438,390	-0.00	0.00
	Quarter 2	315	1,440,721	1,440,721	1,440,721	0.00	0.00
	Quarter 3	216	1,443,722	1,443,722	1,443,722	0.00	0.00
	Quarter 4	290	1,446,790	1,446,790	1,446,790	-0.00	0.00
Age Group	**12-17**	268	486,036	488,379	488,379	-0.48	0.00
	18-25	268	776,605	786,469	786,469	-1.25	0.00
	26-34	136	829,931	824,578	824,578	0.65	0.00
	35-49	182	1,309,012	1,301,518	1,301,518	0.58	0.00
	50-64	81	1,398,050	1,388,785	1,388,785	0.67	0.00
	65+	65	969,989	979,893	979,893	-1.01	0.00
Race	**White**	771	4,589,035	4,826,126	4,826,126	-4.91	0.00
	Black or African American	87	555,775	449,929	449,929	23.53	0.00
	American Indian/Alaska Native	31	89,865	23,769	26,262	242.19	-9.49
	Asian	74	403,880	387,540	367,011	10.05	5.59
	Two or More Races	37	131,068	82,260	100,296	30.68	-17.98
Hispanicity	**Hispanic or Latino**	189	684,592	562,785	562,785	21.64	0.00
	Non-Hispanic or Latino	811	5,085,031	5,206,838	5,206,838	-2.34	0.00
Gender	**Male**	492	2,765,276	2,767,985	2,767,985	-0.10	-0.00
	Female	508	3,004,347	3,001,638	3,001,638	0.09	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.24 2014 NSDUH Slippage Rates: MICHIGAN

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		2,418	8,372,529	8,372,529	8,372,529	0.00	-0.00
Quarter	**Quarter 1**	540	2,090,596	2,090,596	2,090,596	0.00	0.00
	Quarter 2	718	2,091,855	2,091,855	2,091,855	0.00	0.00
	Quarter 3	593	2,093,980	2,093,980	2,093,980	0.00	-0.00
	Quarter 4	567	2,096,099	2,096,099	2,096,099	0.00	-0.00
Age Group	**12-17**	597	796,470	793,168	793,168	0.42	-0.00
	18-25	554	1,108,701	1,116,715	1,116,715	-0.72	-0.00
	26-34	364	1,062,868	1,053,310	1,053,310	0.91	0.00
	35-49	507	1,850,917	1,824,607	1,824,607	1.44	0.00
	50-64	237	2,160,090	2,090,113	2,090,113	3.35	0.00
	65+	159	1,393,483	1,494,616	1,494,616	-6.77	0.00
Race	**White**	1,920	6,742,310	6,796,238	6,796,238	-0.79	-0.00
	Black or African American	319	1,123,276	1,131,264	1,131,264	-0.71	0.00
	American Indian/Alaska Native	29	84,316	58,237	58,237	44.78	0.00
	Asian	52	251,368	240,437	240,437	4.55	-0.00
	Two or More Races	98	171,259	146,353	146,353	17.02	0.00
Hispanicity	**Hispanic or Latino**	151	361,924	351,607	351,607	2.93	0.00
	Non-Hispanic or Latino	2,267	8,010,605	8,020,923	8,020,923	-0.13	-0.00
Gender	**Male**	1,155	4,053,793	4,060,713	4,060,713	-0.17	0.00
	Female	1,263	4,318,736	4,311,816	4,311,816	0.16	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.25 2014 NSDUH Slippage Rates: MINNESOTA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		967	4,544,275	4,544,275	4,544,275	0.00	0.00
Quarter	**Quarter 1**	244	1,132,852	1,132,852	1,132,852	0.00	0.00
	Quarter 2	229	1,134,813	1,134,813	1,134,813	0.00	0.00
	Quarter 3	287	1,137,178	1,137,178	1,137,178	0.00	0.00
	Quarter 4	207	1,139,431	1,139,431	1,139,431	0.00	0.00
Age Group	**12-17**	252	425,636	425,574	425,574	0.01	0.00
	18-25	246	562,465	571,957	571,957	-1.66	0.00
	26-34	126	667,004	668,694	668,694	-0.25	-0.00
	35-49	187	1,026,042	1,014,924	1,014,924	1.10	0.00
	50-64	93	1,107,320	1,112,019	1,112,019	-0.42	0.00
	65+	63	755,807	751,108	751,108	0.63	0.00
Race	**White**	791	3,915,531	3,971,874	3,971,875	-1.42	-0.00
	Black or African American	71	263,105	235,985	235,985	11.49	0.00
	American Indian/Alaska Native	23	71,861	52,559	52,559	36.72	0.00
	Asian	45	210,153	207,208	207,208	1.42	0.00
	Two or More Races	37	83,625	76,648	76,648	9.10	0.00
Hispanicity	**Hispanic or Latino**	52	196,289	196,734	196,734	-0.23	0.00
	Non-Hispanic or Latino	915	4,347,986	4,347,541	4,347,541	0.01	0.00
Gender	**Male**	464	2,240,988	2,243,196	2,243,196	-0.10	0.00
	Female	503	2,303,287	2,301,079	2,301,079	0.10	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.26 2014 NSDUH Slippage Rates: MISSISSIPPI

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		909	2,438,813	2,438,813	2,438,813	0.00	0.00
Quarter	**Quarter 1**	212	609,027	609,027	609,027	0.00	-0.00
	Quarter 2	236	609,377	609,377	609,377	-0.00	0.00
	Quarter 3	263	609,941	609,941	609,941	0.00	0.00
	Quarter 4	198	610,468	610,468	610,468	0.00	-0.00
Age Group	**12-17**	216	246,133	244,895	244,895	0.51	-0.00
	18-25	226	332,351	339,298	339,299	-2.05	-0.00
	26-34	122	335,394	331,875	331,875	1.06	0.00
	35-49	182	546,882	536,534	536,534	1.93	0.00
	50-64	96	592,595	571,261	571,261	3.73	-0.00
	65+	67	385,458	414,948	414,949	-7.11	-0.00
Race	**White**	528	1,470,974	1,494,555	1,494,555	-1.58	0.00
	Black or African American	330	883,562	883,310	883,310	0.03	0.00
	American Indian/Alaska Native	15	19,905	13,311	13,311	49.54	0.00
	Asian	11	28,483	26,743	26,743	6.51	0.00
	Two or More Races	25	35,888	20,894	20,894	71.77	0.00
Hispanicity	**Hispanic or Latino**	27	72,828	61,701	61,701	18.03	0.00
	Non-Hispanic or Latino	882	2,365,985	2,377,112	2,377,112	-0.47	0.00
Gender	**Male**	449	1,154,766	1,152,830	1,152,831	0.17	-0.00
	Female	460	1,284,047	1,285,982	1,285,982	-0.15	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.27 2014 NSDUH Slippage Rates: MISSOURI

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		934	5,033,932	5,033,932	5,033,932	0.00	0.00
Quarter	**Quarter 1**	237	1,256,000	1,256,000	1,256,000	-0.00	0.00
	Quarter 2	277	1,257,400	1,257,400	1,257,400	0.00	-0.00
	Quarter 3	214	1,259,313	1,259,313	1,259,313	0.00	0.00
	Quarter 4	206	1,261,219	1,261,219	1,261,219	-0.00	0.00
Age Group	**12-17**	238	468,692	470,232	470,232	-0.33	0.00
	18-25	206	650,723	657,419	657,419	-1.02	0.00
	26-34	166	712,374	700,938	700,938	1.63	0.00
	35-49	174	1,080,856	1,088,977	1,088,977	-0.75	-0.00
	50-64	81	1,111,444	1,219,827	1,219,827	-8.89	0.00
	65+	69	1,009,844	896,541	896,541	12.64	0.00
Race	**White**	729	4,155,452	4,261,941	4,261,941	-2.50	0.00
	Black or African American	137	569,530	559,977	559,977	1.71	0.00
	American Indian/Alaska Native	9	29,805	27,015	27,015	10.33	-0.00
	Asian	22	120,367	103,689	103,689	16.09	0.00
	Two or More Races	37	158,779	81,311	81,311	95.27	0.00
Hispanicity	**Hispanic or Latino**	42	168,419	173,659	173,659	-3.02	0.00
	Non-Hispanic or Latino	892	4,865,513	4,860,273	4,860,273	0.11	0.00
Gender	**Male**	453	2,451,194	2,431,749	2,431,749	0.80	0.00
	Female	481	2,582,738	2,602,183	2,602,183	-0.75	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.28 2014 NSDUH Slippage Rates: MONTANA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		977	857,904	857,904	857,904	0.00	0.00
Quarter	**Quarter 1**	204	213,757	213,757	213,757	0.00	0.00
	Quarter 2	286	214,218	214,218	214,218	-0.00	0.00
	Quarter 3	255	214,736	214,736	214,736	0.00	0.00
	Quarter 4	232	215,194	215,194	215,194	-0.00	0.00
Age Group	**12-17**	222	74,224	74,224	74,224	-0.00	0.00
	18-25	266	112,487	111,155	111,155	1.20	0.00
	26-34	159	111,679	113,011	113,011	-1.18	0.00
	35-49	217	171,698	171,698	171,698	0.00	0.00
	50-64	70	235,180	221,257	221,257	6.29	0.00
	65+	43	152,637	166,560	166,560	-8.36	0.00
Race	**White**	810	772,116	778,782	778,782	-0.86	0.00
	Black or African American	6	6,141	4,314	4,314	42.37	0.00
	American Indian/Alaska Native	110	53,546	48,912	48,912	9.47	0.00
	Asian	11	8,418	7,718	7,718	9.07	0.00
	Two or More Races	40	17,683	18,179	18,179	-2.73	0.00
Hispanicity	**Hispanic or Latino**	44	27,527	25,963	25,963	6.02	0.00
	Non-Hispanic or Latino	933	830,377	831,941	831,941	-0.19	0.00
Gender	**Male**	470	427,166	427,166	427,166	0.00	0.00
	Female	507	430,739	430,739	430,739	0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.29 2014 NSDUH Slippage Rates: NEBRASKA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		938	1,536,175	1,536,175	1,536,175	0.00	0.00
Quarter	**Quarter 1**	250	382,887	382,887	382,887	0.00	0.00
	Quarter 2	235	383,575	383,575	383,575	-0.00	0.00
	Quarter 3	228	384,433	384,433	384,433	0.00	0.00
	Quarter 4	225	385,280	385,280	385,280	-0.00	0.00
Age Group	**12-17**	240	148,935	149,974	149,974	-0.69	0.00
	18-25	219	210,556	210,685	210,685	-0.06	0.00
	26-34	136	226,372	223,830	223,830	1.14	0.00
	35-49	186	324,970	330,873	330,873	-1.78	0.00
	50-64	98	384,946	361,118	361,118	6.60	0.00
	65+	59	240,397	259,696	259,696	-7.43	0.00
Race	**White**	828	1,369,676	1,391,915	1,391,915	-1.60	0.00
	Black or African American	44	67,543	68,729	68,729	-1.72	0.00
	American Indian/Alaska Native	16	21,449	18,025	18,025	18.99	0.00
	Asian	17	40,136	35,351	35,351	13.53	0.00
	Two or More Races	33	37,370	22,155	22,155	68.68	0.00
Hispanicity	**Hispanic or Latino**	122	137,970	134,617	134,617	2.49	0.00
	Non-Hispanic or Latino	816	1,398,205	1,401,557	1,401,557	-0.24	0.00
Gender	**Male**	440	756,725	756,725	756,725	0.00	0.00
	Female	498	779,449	779,449	779,449	0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.30 2014 NSDUH Slippage Rates: NEVADA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		961	2,359,905	2,359,905	2,359,905	0.00	0.00
Quarter	**Quarter 1**	176	586,014	586,015	586,015	-0.00	0.00
	Quarter 2	310	588,714	588,714	588,714	-0.00	0.00
	Quarter 3	257	591,391	591,391	591,391	-0.00	0.00
	Quarter 4	218	593,786	593,786	593,786	0.00	0.00
Age Group	**12-17**	223	221,339	221,973	221,973	-0.29	0.00
	18-25	242	291,134	288,475	288,475	0.92	0.00
	26-34	162	348,108	353,577	353,577	-1.55	0.00
	35-49	188	559,558	562,899	562,899	-0.59	0.00
	50-64	80	492,647	536,117	536,117	-8.11	0.00
	65+	66	447,120	396,863	396,863	12.66	0.00
Race	**White**	650	1,654,408	1,817,891	1,817,891	-8.99	0.00
	Black or African American	99	210,743	205,360	205,360	2.62	0.00
	American Indian/Alaska Native	70	134,071	37,283	37,283	259.60	0.00
	Asian	77	263,763	224,435	224,435	17.52	0.00
	Two or More Races	65	96,918	74,936	74,936	29.34	0.00
Hispanicity	**Hispanic or Latino**	347	632,726	602,843	602,843	4.96	0.00
	Non-Hispanic or Latino	614	1,727,179	1,757,062	1,757,062	-1.70	0.00
Gender	**Male**	479	1,171,172	1,171,172	1,171,172	0.00	0.00
	Female	482	1,188,733	1,188,733	1,188,733	-0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.31 2014 NSDUH Slippage Rates: NEW HAMPSHIRE

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		932	1,144,239	1,144,239	1,144,239	0.00	-0.00
Quarter	**Quarter 1**	231	285,447	285,447	285,447	0.00	0.00
	Quarter 2	242	285,843	285,843	285,843	0.00	0.00
	Quarter 3	230	286,286	286,286	286,286	0.00	-0.00
	Quarter 4	229	286,663	286,663	286,663	0.00	0.00
Age Group	**12-17**	256	98,198	99,122	99,122	-0.93	0.00
	18-25	234	142,047	141,805	141,805	0.17	0.00
	26-34	125	133,554	136,980	136,980	-2.50	0.00
	35-49	160	252,660	254,174	254,174	-0.60	0.00
	50-64	98	327,216	308,747	308,747	5.98	0.00
	65+	59	190,564	203,411	203,411	-6.32	-0.00
Race	**White**	846	1,067,012	1,082,689	1,082,689	-1.45	0.00
	Black or African American	11	14,028	15,656	15,656	-10.40	-0.00
	American Indian/Alaska Native	14	13,692	3,243	3,243	322.14	0.00
	Asian	31	29,787	28,380	28,380	4.96	0.00
	Two or More Races	30	19,720	14,271	14,271	38.18	-0.00
Hispanicity	**Hispanic or Latino**	45	34,194	32,772	32,772	4.34	0.00
	Non-Hispanic or Latino	887	1,110,045	1,111,467	1,111,467	-0.13	-0.00
Gender	**Male**	467	562,024	562,024	562,024	0.00	0.00
	Female	465	582,215	582,215	582,215	0.00	-0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.32 2014 NSDUH Slippage Rates: NEW JERSEY

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		1,536	7,522,494	7,522,494	7,522,494	0.00	0.00
Quarter	**Quarter 1**	351	1,876,996	1,876,996	1,876,996	-0.00	0.00
	Quarter 2	451	1,878,815	1,878,816	1,878,816	-0.00	0.00
	Quarter 3	344	1,881,719	1,881,719	1,881,719	0.00	0.00
	Quarter 4	390	1,884,963	1,884,963	1,884,963	0.00	0.00
Age Group	**12-17**	390	696,422	699,694	699,694	-0.47	0.00
	18-25	388	900,173	893,781	893,781	0.72	0.00
	26-34	222	1,003,512	1,019,070	1,019,070	-1.53	0.00
	35-49	315	1,811,544	1,801,587	1,801,587	0.55	0.00
	50-64	141	1,922,075	1,832,113	1,832,113	4.91	0.00
	65+	80	1,188,767	1,276,249	1,276,249	-6.85	0.00
Race	**White**	982	5,154,299	5,572,327	5,572,327	-7.50	0.00
	Black or African American	236	1,091,146	1,066,998	1,066,999	2.26	-0.00
	American Indian/Alaska Native	49	234,446	41,237	42,771	448.15	-3.59
	Asian	207	834,629	718,842	717,309	16.36	0.21
	Two or More Races	62	207,973	123,089	123,089	68.96	0.00
Hispanicity	**Hispanic or Latino**	294	1,389,663	1,365,173	1,365,173	1.79	0.00
	Non-Hispanic or Latino	1,242	6,132,831	6,157,320	6,157,320	-0.40	0.00
Gender	**Male**	716	3,626,045	3,623,972	3,623,972	0.06	0.00
	Female	820	3,896,449	3,898,522	3,898,522	-0.05	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.33 2014 NSDUH Slippage Rates: NEW MEXICO

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		959	1,712,519	1,712,519	1,712,519	0.00	0.00
Quarter	**Quarter 1**	253	427,920	427,920	427,920	0.00	-0.00
	Quarter 2	242	428,026	428,026	428,026	0.00	0.00
	Quarter 3	220	428,235	428,235	428,235	0.00	0.00
	Quarter 4	244	428,338	428,338	428,338	-0.00	0.00
Age Group	**12-17**	256	164,278	165,894	165,894	-0.97	0.00
	18-25	220	227,449	227,928	227,928	-0.21	0.00
	26-34	136	242,417	239,780	239,780	1.10	-0.00
	35-49	192	356,539	356,229	356,229	0.09	0.00
	50-64	100	478,389	408,920	408,920	16.99	0.00
	65+	55	243,447	313,769	313,769	-22.41	0.00
Race	**White**	715	1,386,397	1,435,785	1,435,785	-3.44	0.00
	Black or African American	22	43,437	40,083	40,083	8.37	0.00
	American Indian/Alaska Native	156	205,160	169,577	169,577	20.98	0.00
	Asian	28	44,002	32,306	32,306	36.20	0.00
	Two or More Races	38	33,524	34,768	34,768	-3.58	0.00
Hispanicity	**Hispanic or Latino**	508	779,390	781,595	781,595	-0.28	0.00
	Non-Hispanic or Latino	451	933,129	930,925	930,925	0.24	0.00
Gender	**Male**	426	831,552	832,667	832,667	-0.13	0.00
	Female	533	880,967	879,853	879,853	0.13	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.34 2014 NSDUH Slippage Rates: NEW YORK

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		3,284	16,716,169	16,716,169	16,716,169	0.00	0.00
Quarter	**Quarter 1**	659	4,172,908	4,172,908	4,172,908	0.00	0.00
	Quarter 2	1,023	4,175,731	4,175,731	4,175,731	0.00	0.00
	Quarter 3	788	4,180,858	4,180,858	4,180,858	0.00	0.00
	Quarter 4	814	4,186,672	4,186,672	4,186,672	-0.00	0.00
Age Group	**12-17**	815	1,435,283	1,433,846	1,433,846	0.10	0.00
	18-25	724	2,196,601	2,238,419	2,238,419	-1.87	0.00
	26-34	568	2,573,254	2,509,026	2,509,026	2.56	0.00
	35-49	634	3,785,453	3,814,399	3,814,399	-0.76	0.00
	50-64	317	3,919,035	3,912,987	3,912,987	0.15	0.00
	65+	226	2,806,543	2,807,492	2,807,492	-0.03	0.00
Race	**White**	2,163	10,751,376	11,920,973	11,920,973	-9.81	0.00
	Black or African American	566	2,961,073	2,845,959	2,845,959	4.04	0.00
	American Indian/Alaska Native	211	872,441	164,648	154,460	464.83	6.60
	Asian	214	1,632,906	1,460,427	1,470,615	11.04	-0.69
	Two or More Races	130	498,372	324,164	324,164	53.74	0.00
Hispanicity	**Hispanic or Latino**	701	2,905,309	2,943,877	2,943,877	-1.31	0.00
	Non-Hispanic or Latino	2,583	13,810,860	13,772,292	13,772,292	0.28	0.00
Gender	**Male**	1,506	7,996,268	7,999,556	7,999,556	-0.04	0.00
	Female	1,778	8,719,901	8,716,613	8,716,613	0.04	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.35 2014 NSDUH Slippage Rates: NORTH CAROLINA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		1,533	8,216,513	8,216,513	8,216,513	-0.00	-0.00
Quarter	**Quarter 1**	341	2,044,991	2,044,991	2,044,991	-0.00	0.00
	Quarter 2	430	2,050,974	2,050,974	2,050,974	0.00	-0.00
	Quarter 3	365	2,057,366	2,057,366	2,057,366	-0.00	0.00
	Quarter 4	397	2,063,182	2,063,182	2,063,182	-0.00	0.00
Age Group	**12-17**	380	778,361	774,595	774,595	0.49	0.00
	18-25	388	1,056,266	1,059,045	1,059,045	-0.26	0.00
	26-34	229	1,091,075	1,103,040	1,103,040	-1.08	0.00
	35-49	315	1,967,544	1,928,215	1,928,215	2.04	0.00
	50-64	128	1,944,955	1,928,109	1,928,109	0.87	-0.00
	65+	93	1,378,312	1,423,510	1,423,510	-3.18	0.00
Race	**White**	1,040	5,748,978	5,976,128	5,976,128	-3.80	0.00
	Black or African American	330	1,784,474	1,766,640	1,766,640	1.01	0.00
	American Indian/Alaska Native	75	261,116	61,834	122,036	113.97	-49.33
	Asian	41	241,444	285,007	224,805	7.40	26.78
	Two or More Races	47	180,501	126,904	126,904	42.23	0.00
Hispanicity	**Hispanic or Latino**	194	640,021	628,018	628,018	1.91	0.00
	Non-Hispanic or Latino	1,339	7,576,492	7,588,495	7,588,495	-0.16	-0.00
Gender	**Male**	695	3,898,143	3,906,585	3,906,585	-0.22	0.00
	Female	838	4,318,370	4,309,928	4,309,928	0.20	-0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.36 2014 NSDUH Slippage Rates: NORTH DAKOTA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		969	605,994	605,994	605,994	-0.00	0.00
Quarter	**Quarter 1**	228	150,298	150,298	150,298	-0.00	0.00
	Quarter 2	286	151,037	151,037	151,037	0.00	0.00
	Quarter 3	216	151,885	151,885	151,885	-0.00	0.00
	Quarter 4	239	152,774	152,774	152,774	0.00	0.00
Age Group	**12-17**	228	51,216	51,216	51,216	0.00	0.00
	18-25	269	101,198	102,157	102,157	-0.94	0.00
	26-34	148	93,134	92,175	92,175	1.04	0.00
	35-49	160	119,107	120,446	120,446	-1.11	0.00
	50-64	96	147,515	140,730	140,730	4.82	0.00
	65+	68	93,824	99,271	99,271	-5.49	-0.00
Race	**White**	839	547,017	549,191	549,191	-0.40	0.00
	Black or African American	24	12,418	11,121	11,121	11.67	0.00
	American Indian/Alaska Native	67	36,660	28,544	28,544	28.43	0.00
	Asian	21	2,573	8,341	8,341	-69.15	-0.00
	Two or More Races	18	7,326	8,798	8,798	-16.72	0.00
Hispanicity	**Hispanic or Latino**	25	15,165	16,413	16,413	-7.60	0.00
	Non-Hispanic or Latino	944	590,829	589,581	589,581	0.21	0.00
Gender	**Male**	514	308,614	308,614	308,614	-0.00	0.00
	Female	455	297,379	297,380	297,380	-0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.37 2014 NSDUH Slippage Rates: OHIO

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		2,415	9,706,544	9,706,544	9,706,544	0.00	-0.00
Quarter	**Quarter 1**	479	2,423,266	2,423,266	2,423,266	-0.00	-0.00
	Quarter 2	700	2,424,921	2,424,921	2,424,921	0.00	0.00
	Quarter 3	680	2,427,730	2,427,730	2,427,730	0.00	-0.00
	Quarter 4	556	2,430,627	2,430,627	2,430,627	0.00	-0.00
Age Group	**12-17**	606	916,997	919,721	919,721	-0.30	0.00
	18-25	542	1,213,894	1,232,774	1,232,774	-1.53	0.00
	26-34	424	1,314,996	1,288,033	1,288,033	2.09	0.00
	35-49	481	2,141,669	2,131,397	2,131,397	0.48	0.00
	50-64	211	2,410,470	2,401,275	2,401,275	0.38	-0.00
	65+	151	1,708,519	1,733,344	1,733,344	-1.43	-0.00
Race	**White**	1,900	8,087,083	8,181,607	8,181,607	-1.16	0.00
	Black or African American	361	1,136,946	1,149,655	1,149,655	-1.11	-0.00
	American Indian/Alaska Native	15	58,981	26,238	26,238	124.80	0.00
	Asian	52	216,395	199,687	199,687	8.37	0.00
	Two or More Races	87	207,139	149,357	149,357	38.69	0.00
Hispanicity	**Hispanic or Latino**	93	259,168	293,632	293,632	-11.74	0.00
	Non-Hispanic or Latino	2,322	9,447,376	9,412,912	9,412,912	0.37	-0.00
Gender	**Male**	1,122	4,692,683	4,691,465	4,691,465	0.03	-0.00
	Female	1,293	5,013,861	5,015,079	5,015,079	-0.02	-0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.38 2014 NSDUH Slippage Rates: OKLAHOMA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		937	3,156,090	3,156,090	3,156,090	0.00	-0.00
Quarter	**Quarter 1**	247	786,561	786,561	786,561	0.00	0.00
	Quarter 2	200	788,017	788,017	788,017	0.00	0.00
	Quarter 3	248	789,830	789,830	789,830	0.00	-0.00
	Quarter 4	242	791,682	791,682	791,682	0.00	0.00
Age Group	**12-17**	197	308,240	310,671	310,671	-0.78	0.00
	18-25	233	424,453	430,351	430,351	-1.37	-0.00
	26-34	165	470,109	458,690	458,690	2.49	0.00
	35-49	186	664,790	681,100	681,100	-2.39	0.00
	50-64	88	707,123	729,760	729,760	-3.10	0.00
	65+	68	581,375	545,518	545,518	6.57	-0.00
Race	**White**	622	2,248,669	2,427,041	2,427,041	-7.35	0.00
	Black or African American	62	223,463	228,471	228,471	-2.19	-0.00
	American Indian/Alaska Native	83	282,662	272,818	272,818	3.61	0.00
	Asian	16	87,711	72,195	72,195	21.49	-0.00
	Two or More Races	154	313,585	155,565	155,565	101.58	0.00
Hispanicity	**Hispanic or Latino**	109	245,776	267,417	267,417	-8.09	-0.00
	Non-Hispanic or Latino	828	2,910,314	2,888,673	2,888,673	0.75	0.00
Gender	**Male**	447	1,534,108	1,533,470	1,533,470	0.04	-0.00
	Female	490	1,621,982	1,622,620	1,622,620	-0.04	-0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.39 2014 NSDUH Slippage Rates: OREGON

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		992	3,365,496	3,365,496	3,365,496	0.00	0.00
Quarter	**Quarter 1**	204	837,750	837,750	837,750	0.00	0.00
	Quarter 2	294	840,160	840,160	840,160	0.00	0.00
	Quarter 3	219	842,677	842,677	842,677	0.00	0.00
	Quarter 4	275	844,910	844,910	844,910	0.00	0.00
Age Group	**12-17**	282	289,243	290,940	290,940	-0.58	0.00
	18-25	241	407,477	413,519	413,519	-1.46	0.00
	26-34	138	502,371	481,437	481,437	4.35	0.00
	35-49	207	740,082	753,276	753,276	-1.75	0.00
	50-64	74	865,146	802,578	802,578	7.80	0.00
	65+	50	561,177	623,745	623,745	-10.03	0.00
Race	**White**	817	2,882,223	2,985,918	2,985,918	-3.47	0.00
	Black or African American	21	48,898	63,744	63,744	-23.29	0.00
	American Indian/Alaska Native	39	122,539	56,204	56,204	118.02	0.00
	Asian	65	159,268	159,215	159,215	0.03	0.00
	Two or More Races	50	152,569	100,415	100,415	51.94	0.00
Hispanicity	**Hispanic or Latino**	132	371,626	364,552	364,552	1.94	0.00
	Non-Hispanic or Latino	860	2,993,870	3,000,944	3,000,944	-0.24	0.00
Gender	**Male**	469	1,647,200	1,646,659	1,646,659	0.03	0.00
	Female	523	1,718,296	1,718,837	1,718,837	-0.03	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.40 2014 NSDUH Slippage Rates: PENNSYLVANIA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		2,388	10,828,027	10,828,027	10,828,027	-0.00	0.00
Quarter	**Quarter 1**	689	2,704,676	2,704,676	2,704,676	0.00	0.00
	Quarter 2	541	2,705,250	2,705,250	2,705,250	-0.00	0.00
	Quarter 3	603	2,707,600	2,707,600	2,707,600	-0.00	0.00
	Quarter 4	555	2,710,501	2,710,501	2,710,501	-0.00	0.00
Age Group	**12-17**	604	930,411	937,266	937,266	-0.73	0.00
	18-25	600	1,392,950	1,374,219	1,374,219	1.36	0.00
	26-34	355	1,418,261	1,431,748	1,431,748	-0.94	0.00
	35-49	482	2,345,662	2,327,992	2,327,992	0.76	0.00
	50-64	217	3,061,630	2,696,133	2,696,133	13.56	0.00
	65+	130	1,679,112	2,060,669	2,060,669	-18.52	0.00
Race	**White**	1,913	8,906,996	9,131,227	9,131,227	-2.46	0.00
	Black or African American	264	1,226,877	1,158,990	1,158,990	5.86	-0.00
	American Indian/Alaska Native	37	122,658	25,806	34,460	255.94	-25.11
	Asian	105	428,097	366,006	357,351	19.80	2.42
	Two or More Races	69	143,400	145,998	145,998	-1.78	-0.00
Hispanicity	**Hispanic or Latino**	229	635,462	618,480	618,480	2.75	0.00
	Non-Hispanic or Latino	2,159	10,192,565	10,209,547	10,209,547	-0.17	0.00
Gender	**Male**	1,176	5,209,363	5,223,580	5,223,580	-0.27	0.00
	Female	1,212	5,618,664	5,604,448	5,604,448	0.25	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.41 2014 NSDUH Slippage Rates: RHODE ISLAND

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		991	902,080	902,079	902,080	0.00	-0.00
Quarter	**Quarter 1**	189	225,173	225,173	225,173	0.00	0.00
	Quarter 2	246	225,349	225,349	225,349	0.00	0.00
	Quarter 3	283	225,633	225,633	225,633	0.00	-0.00
	Quarter 4	273	225,925	225,925	225,925	0.00	0.00
Age Group	**12-17**	251	76,939	75,595	75,595	1.78	0.00
	18-25	214	128,612	130,594	130,594	-1.52	0.00
	26-34	171	119,817	120,885	120,885	-0.88	0.00
	35-49	211	200,421	195,129	195,129	2.71	0.00
	50-64	88	234,319	220,701	220,701	6.17	0.00
	65+	56	141,972	159,176	159,176	-10.81	-0.00
Race	**White**	731	734,698	779,478	779,478	-5.74	0.00
	Black or African American	78	63,088	64,137	64,137	-1.64	0.00
	American Indian/Alaska Native	56	31,092	13,005	7,561	311.22	72.00
	Asian	60	38,760	27,076	32,520	19.19	-16.74
	Two or More Races	66	34,441	18,384	18,384	87.35	0.00
Hispanicity	**Hispanic or Latino**	187	116,670	113,338	113,338	2.94	0.00
	Non-Hispanic or Latino	804	785,410	788,742	788,742	-0.42	-0.00
Gender	**Male**	510	432,634	431,978	431,978	0.15	-0.00
	Female	481	469,445	470,101	470,101	-0.14	-0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.42 2014 NSDUH Slippage Rates: SOUTH CAROLINA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		998	4,008,720	4,008,720	4,008,720	0.00	0.00
Quarter	**Quarter 1**	205	996,996	996,996	996,996	0.00	0.00
	Quarter 2	287	1,000,532	1,000,532	1,000,532	0.00	0.00
	Quarter 3	218	1,004,021	1,004,021	1,004,021	0.00	0.00
	Quarter 4	288	1,007,171	1,007,171	1,007,171	0.00	0.00
Age Group	**12-17**	240	366,558	363,511	363,511	0.84	0.00
	18-25	242	516,368	521,002	521,002	-0.89	0.00
	26-34	152	535,918	532,749	532,749	0.59	0.00
	35-49	192	883,135	884,719	884,719	-0.18	0.00
	50-64	109	1,118,772	962,150	962,150	16.28	0.00
	65+	63	587,968	744,590	744,590	-21.03	0.00
Race	**White**	589	2,719,694	2,801,860	2,801,860	-2.93	0.00
	Black or African American	347	1,077,600	1,072,571	1,072,571	0.47	0.00
	American Indian/Alaska Native	16	78,825	19,736	20,435	285.74	-3.42
	Asian	23	78,288	65,442	64,743	20.92	1.08
	Two or More Races	23	54,312	49,112	49,112	10.59	0.00
Hispanicity	**Hispanic or Latino**	75	187,872	186,813	186,813	0.57	0.00
	Non-Hispanic or Latino	923	3,820,848	3,821,908	3,821,908	-0.03	0.00
Gender	**Male**	447	1,902,972	1,902,972	1,902,972	0.00	0.00
	Female	551	2,105,748	2,105,748	2,105,748	0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.43 2014 NSDUH Slippage Rates: SOUTH DAKOTA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		981	691,583	691,583	691,583	0.00	0.00
Quarter	**Quarter 1**	266	172,286	172,286	172,286	0.00	0.00
	Quarter 2	241	172,661	172,661	172,661	0.00	0.00
	Quarter 3	226	173,106	173,106	173,106	0.00	0.00
	Quarter 4	248	173,530	173,530	173,530	0.00	0.00
Age Group	**12-17**	247	64,606	65,995	65,995	-2.10	0.00
	18-25	239	94,562	93,613	93,613	1.01	0.00
	26-34	150	97,438	97,558	97,558	-0.12	0.00
	35-49	192	141,661	141,103	141,103	0.40	0.00
	50-64	93	180,996	169,316	169,316	6.90	0.00
	65+	60	112,319	123,999	123,999	-9.42	0.00
Race	**White**	827	606,097	607,481	607,481	-0.23	0.00
	Black or African American	13	11,633	11,504	11,504	1.12	0.00
	American Indian/Alaska Native	103	56,419	52,421	52,421	7.63	0.00
	Asian	8	5,230	9,205	9,205	-43.19	0.00
	Two or More Races	30	12,204	10,973	10,973	11.23	0.00
Hispanicity	**Hispanic or Latino**	35	21,615	20,951	20,951	3.17	0.00
	Non-Hispanic or Latino	946	669,969	670,632	670,632	-0.10	0.00
Gender	**Male**	447	344,185	343,907	343,907	0.08	0.00
	Female	534	347,398	347,677	347,677	-0.08	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.44 2014 NSDUH Slippage Rates: TENNESSEE

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		946	5,459,207	5,459,207	5,459,207	0.00	0.00
Quarter	**Quarter 1**	227	1,359,956	1,359,956	1,359,956	0.00	0.00
	Quarter 2	270	1,362,957	1,362,957	1,362,957	0.00	0.00
	Quarter 3	243	1,366,454	1,366,454	1,366,454	-0.00	0.00
	Quarter 4	206	1,369,839	1,369,839	1,369,839	-0.00	0.00
Age Group	**12-17**	239	510,589	507,431	507,431	0.62	0.00
	18-25	185	699,374	703,094	703,094	-0.53	0.00
	26-34	134	745,082	743,925	743,925	0.16	0.00
	35-49	214	1,280,132	1,248,816	1,248,816	2.51	0.00
	50-64	90	1,201,638	1,298,431	1,298,431	-7.45	-0.00
	65+	84	1,022,392	957,510	957,510	6.78	-0.00
Race	**White**	716	4,280,856	4,378,598	4,378,598	-2.23	0.00
	Black or African American	165	889,354	889,256	889,256	0.01	-0.00
	American Indian/Alaska Native	19	60,149	23,271	23,271	158.47	0.00
	Asian	22	110,582	97,201	97,201	13.77	0.00
	Two or More Races	24	118,265	70,881	70,881	66.85	0.00
Hispanicity	**Hispanic or Latino**	103	235,407	230,272	230,272	2.23	0.00
	Non-Hispanic or Latino	843	5,223,799	5,228,934	5,228,934	-0.10	-0.00
Gender	**Male**	457	2,611,799	2,617,477	2,617,477	-0.22	0.00
	Female	489	2,847,408	2,841,730	2,841,730	0.20	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.45 2014 NSDUH Slippage Rates: TEXAS

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		3,383	21,690,765	21,690,765	21,690,765	0.00	0.00
Quarter	**Quarter 1**	820	5,384,412	5,384,412	5,384,412	0.00	0.00
	Quarter 2	841	5,409,523	5,409,523	5,409,523	0.00	0.00
	Quarter 3	841	5,435,789	5,435,789	5,435,789	0.00	0.00
	Quarter 4	881	5,461,041	5,461,041	5,461,041	0.00	0.00
Age Group	**12-17**	925	2,336,678	2,342,547	2,342,547	-0.25	0.00
	18-25	784	3,012,664	3,034,761	3,034,761	-0.73	0.00
	26-34	512	3,428,751	3,406,264	3,406,264	0.66	0.00
	35-49	662	5,217,655	5,215,238	5,215,238	0.05	0.00
	50-64	313	4,884,824	4,678,783	4,678,783	4.40	0.00
	65+	187	2,810,193	3,013,173	3,013,173	-6.74	0.00
Race	**White**	2,616	16,510,887	17,483,535	17,483,535	-5.56	0.00
	Black or African American	338	2,627,745	2,626,564	2,626,564	0.04	0.00
	American Indian/Alaska Native	159	873,411	219,193	219,193	298.47	0.00
	Asian	162	1,106,335	1,044,763	1,044,763	5.89	0.00
	Two or More Races	108	572,387	316,710	316,710	80.73	0.00
Hispanicity	**Hispanic or Latino**	1,499	8,047,844	7,908,830	7,908,830	1.76	0.00
	Non-Hispanic or Latino	1,884	13,642,921	13,781,935	13,781,935	-1.01	0.00
Gender	**Male**	1,607	10,567,008	10,569,532	10,569,532	-0.02	0.00
	Female	1,776	11,123,757	11,121,233	11,121,233	0.02	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.46 2014 NSDUH Slippage Rates: UTAH

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		972	2,299,458	2,299,458	2,299,458	0.00	0.00
Quarter	**Quarter 1**	259	571,148	571,148	571,148	0.00	0.00
	Quarter 2	235	573,531	573,531	573,531	0.00	0.00
	Quarter 3	271	576,123	576,123	576,123	0.00	0.00
	Quarter 4	207	578,656	578,656	578,656	0.00	0.00
Age Group	**12-17**	241	283,541	285,236	285,236	-0.59	0.00
	18-25	212	369,134	374,751	374,751	-1.50	0.00
	26-34	133	385,506	388,276	388,276	-0.71	0.00
	35-49	226	539,437	530,770	530,770	1.63	0.00
	50-64	106	484,343	429,635	429,635	12.73	0.00
	65+	54	237,496	290,790	290,790	-18.33	0.00
Race	**White**	904	2,101,495	2,115,184	2,115,184	-0.65	0.00
	Black or African American	5	34,033	28,575	28,575	19.10	-0.00
	American Indian/Alaska Native	18	55,326	33,080	33,080	67.25	0.00
	Asian	34	81,823	80,332	80,332	1.86	0.00
	Two or More Races	11	26,780	42,287	42,287	-36.67	0.00
Hispanicity	**Hispanic or Latino**	158	288,486	287,289	287,289	0.42	0.00
	Non-Hispanic or Latino	814	2,010,971	2,012,169	2,012,169	-0.06	0.00
Gender	**Male**	488	1,146,278	1,143,455	1,143,455	0.25	0.00
	Female	484	1,153,179	1,156,002	1,156,002	-0.24	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.47 2014 NSDUH Slippage Rates: VERMONT

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		948	543,332	543,332	543,332	0.00	0.00
Quarter	**Quarter 1**	227	135,775	135,775	135,775	0.00	0.00
	Quarter 2	272	135,799	135,799	135,799	0.00	0.00
	Quarter 3	251	135,859	135,859	135,859	0.00	0.00
	Quarter 4	198	135,900	135,900	135,900	0.00	0.00
Age Group	**12-17**	230	43,604	44,175	44,175	-1.29	0.00
	18-25	228	75,621	73,958	73,958	2.25	0.00
	26-34	147	63,937	64,136	64,136	-0.31	0.00
	35-49	177	111,836	112,758	112,758	-0.82	0.00
	50-64	92	140,359	145,370	145,370	-3.45	0.00
	65+	74	107,975	102,936	102,936	4.90	-0.00
Race	**White**	872	510,927	518,729	518,729	-1.50	0.00
	Black or African American	21	6,279	6,048	6,048	3.82	0.00
	American Indian/Alaska Native	10	5,519	5,244	2,029	172.07	158.53
	Asian	18	9,093	3,057	8,611	5.60	-64.50
	Two or More Races	27	11,515	10,255	7,916	45.45	29.54
Hispanicity	**Hispanic or Latino**	27	10,892	8,941	8,941	21.82	0.00
	Non-Hispanic or Latino	921	532,440	534,391	534,391	-0.37	0.00
Gender	**Male**	469	264,714	265,855	265,855	-0.43	0.00
	Female	479	278,618	277,478	277,478	0.41	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.48 2014 NSDUH Slippage Rates: VIRGINIA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		1,539	6,870,308	6,870,308	6,870,308	0.00	0.00
Quarter	**Quarter 1**	323	1,712,321	1,712,321	1,712,321	0.00	0.00
	Quarter 2	435	1,715,655	1,715,655	1,715,655	0.00	0.00
	Quarter 3	354	1,719,458	1,719,458	1,719,458	0.00	0.00
	Quarter 4	427	1,722,874	1,722,874	1,722,874	0.00	0.00
Age Group	**12-17**	390	624,087	623,660	623,660	0.07	0.00
	18-25	396	893,025	897,977	897,977	-0.55	0.00
	26-34	202	993,635	995,298	995,298	-0.17	0.00
	35-49	307	1,584,923	1,597,845	1,597,845	-0.81	0.00
	50-64	136	1,550,271	1,635,257	1,635,257	-5.20	0.00
	65+	108	1,224,368	1,120,272	1,120,272	9.29	0.00
Race	**White**	1,012	4,739,701	4,939,366	4,939,366	-4.04	0.00
	Black or African American	299	1,288,585	1,303,951	1,303,951	-1.18	0.00
	American Indian/Alaska Native	68	179,676	43,991	35,563	405.24	23.70
	Asian	93	471,949	438,057	446,486	5.70	-1.89
	Two or More Races	67	190,398	144,943	144,943	31.36	0.00
Hispanicity	**Hispanic or Latino**	190	577,187	552,802	552,802	4.41	0.00
	Non-Hispanic or Latino	1,349	6,293,122	6,317,506	6,317,506	-0.39	0.00
Gender	**Male**	744	3,296,936	3,299,347	3,299,347	-0.07	0.00
	Female	795	3,573,372	3,570,962	3,570,962	0.07	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.49 2014 NSDUH Slippage Rates: WASHINGTON

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		935	5,879,524	5,879,524	5,879,524	-0.00	0.00
Quarter	**Quarter 1**	225	1,462,667	1,462,667	1,462,667	-0.00	0.00
	Quarter 2	244	1,467,456	1,467,456	1,467,456	-0.00	0.00
	Quarter 3	249	1,472,457	1,472,457	1,472,457	0.00	0.00
	Quarter 4	217	1,476,943	1,476,943	1,476,943	-0.00	0.00
Age Group	**12-17**	213	528,589	530,698	530,698	-0.40	0.00
	18-25	222	735,400	744,057	744,057	-1.16	0.00
	26-34	147	884,941	885,666	885,666	-0.08	0.00
	35-49	208	1,357,542	1,348,555	1,348,555	0.67	0.00
	50-64	89	1,450,761	1,396,819	1,396,819	3.86	0.00
	65+	56	922,290	973,729	973,729	-5.28	0.00
Race	**White**	739	4,678,648	4,817,241	4,817,241	-2.88	0.00
	Black or African American	41	255,758	221,114	221,114	15.67	-0.00
	American Indian/Alaska Native	29	134,009	101,542	101,542	31.97	0.00
	Asian	86	566,490	530,060	530,060	6.87	0.00
	Two or More Races	40	244,619	209,567	209,567	16.73	0.00
Hispanicity	**Hispanic or Latino**	123	633,857	616,008	616,008	2.90	0.00
	Non-Hispanic or Latino	812	5,245,667	5,263,516	5,263,516	-0.34	0.00
Gender	**Male**	465	2,898,024	2,898,025	2,898,025	-0.00	0.00
	Female	470	2,981,499	2,981,499	2,981,499	-0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.50 2014 NSDUH Slippage Rates: WEST VIRGINIA

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		933	1,571,398	1,571,398	1,571,398	0.00	0.00
Quarter	**Quarter 1**	201	392,933	392,933	392,933	0.00	0.00
	Quarter 2	254	392,763	392,763	392,763	0.00	0.00
	Quarter 3	266	392,810	392,810	392,810	0.00	0.00
	Quarter 4	212	392,893	392,893	392,893	0.00	0.00
Age Group	**12-17**	245	128,939	129,536	129,536	-0.46	0.00
	18-25	198	187,848	190,099	190,099	-1.18	0.00
	26-34	129	196,109	189,778	189,778	3.34	0.00
	35-49	197	334,051	342,571	342,571	-2.49	0.00
	50-64	93	410,306	399,103	399,103	2.81	0.00
	65+	71	314,146	320,313	320,313	-1.93	-0.00
Race	**White**	862	1,457,162	1,484,145	1,484,145	-1.82	0.00
	Black or African American	30	55,578	51,756	51,756	7.39	-0.00
	American Indian/Alaska Native	9	16,699	4,053	3,784	341.28	7.09
	Asian	5	12,794	13,183	13,452	-4.89	-1.99
	Two or More Races	27	29,165	18,262	18,262	59.70	0.00
Hispanicity	**Hispanic or Latino**	17	19,197	19,961	19,961	-3.82	0.00
	Non-Hispanic or Latino	916	1,552,201	1,551,438	1,551,438	0.05	0.00
Gender	**Male**	466	765,918	766,871	766,871	-0.12	0.00
	Female	467	805,481	804,528	804,528	0.12	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.51 2014 NSDUH Slippage Rates: WISCONSIN

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		945	4,833,121	4,833,121	4,833,121	-0.00	0.00
Quarter	**Quarter 1**	200	1,206,225	1,206,225	1,206,225	0.00	0.00
	Quarter 2	271	1,207,404	1,207,404	1,207,404	-0.00	-0.00
	Quarter 3	244	1,209,002	1,209,002	1,209,002	0.00	-0.00
	Quarter 4	230	1,210,489	1,210,489	1,210,489	0.00	0.00
Age Group	**12-17**	280	448,684	447,209	447,209	0.33	0.00
	18-25	200	624,223	623,296	623,296	0.15	0.00
	26-34	137	636,924	647,074	647,074	-1.57	-0.00
	35-49	180	1,058,814	1,057,793	1,057,793	0.10	0.00
	50-64	89	1,194,896	1,208,652	1,208,652	-1.14	-0.00
	65+	59	869,580	849,098	849,098	2.41	0.00
Race	**White**	814	4,191,173	4,316,926	4,316,926	-2.91	0.00
	Black or African American	53	320,577	282,596	282,596	13.44	0.00
	American Indian/Alaska Native	24	110,277	48,597	48,597	126.92	0.00
	Asian	24	137,868	123,500	123,500	11.63	0.00
	Two or More Races	30	73,227	61,503	61,503	19.06	0.00
Hispanicity	**Hispanic or Latino**	73	276,874	267,027	267,027	3.69	0.00
	Non-Hispanic or Latino	872	4,556,247	4,566,094	4,566,094	-0.22	0.00
Gender	**Male**	450	2,376,109	2,376,109	2,376,109	-0.00	-0.00
	Female	495	2,457,012	2,457,012	2,457,012	0.00	0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table H.52 2014 NSDUH Slippage Rates: WYOMING

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		955	480,520	480,519	480,520	0.00	-0.00
Quarter	**Quarter 1**	235	120,020	120,020	120,020	0.00	0.00
	Quarter 2	236	120,089	120,089	120,089	0.00	-0.00
	Quarter 3	298	120,176	120,176	120,176	0.00	-0.00
	Quarter 4	186	120,235	120,235	120,235	0.00	0.00
Age Group	**12-17**	247	44,561	44,364	44,364	0.44	0.00
	18-25	215	63,494	63,692	63,692	-0.31	0.00
	26-34	150	70,995	71,853	71,853	-1.19	-0.00
	35-49	204	101,316	100,825	100,825	0.49	-0.00
	50-64	76	112,086	120,569	120,569	-7.04	0.00
	65+	63	88,068	79,218	79,218	11.17	0.00
Race	**White**	845	437,881	448,952	448,952	-2.47	0.00
	Black or African American	16	7,479	7,363	7,363	1.57	-0.00
	American Indian/Alaska Native	45	15,747	11,423	11,423	37.85	0.00
	Asian	9	5,550	5,422	5,422	2.38	0.00
	Two or More Races	40	13,862	7,360	7,360	88.34	0.00
Hispanicity	**Hispanic or Latino**	110	44,285	42,395	42,395	4.46	0.00
	Non-Hispanic or Latino	845	436,234	438,125	438,125	-0.43	-0.00
Gender	**Male**	467	243,259	243,259	243,259	0.00	-0.00
	Female	488	237,260	237,260	237,260	0.00	-0.00

[1] WT1*...*WT14 (before person poststratification).
[2] WT1*...*WT15 (after person poststratification).

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Appendix I: Evaluation of Calibration Weights: Weight Summary Statistics

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Table I.1 2014 NSDUH Dwelling Unit–Level Weight Summary Statistics: United States, District of Columbia, and the 50 States

Domain	*n*	Before res.du.nr (WT1*...*WT8)[1]						After res.du.nr & Before res.du.ps (WT1*...*WT9)[1]						After res.du.ps (WT1*...*WT10)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
United States	127,605	5	407	749	952	4,235	1.30	33	464	895	1,187	5,780	1.34	14	467	950	1,288	9,667	1.41
Alaska	1,950	91	94	96	111	119	1.01	92	112	122	136	178	1.01	71	117	134	152	464	1.06
Alabama	1,730	588	774	795	875	1,794	1.01	683	909	967	1,110	1,488	1.02	178	899	1,024	1,227	5,435	1.14
Arkansas	1,946	401	416	475	585	607	1.02	419	466	566	666	767	1.03	154	490	577	700	2,354	1.07
Arizona	1,659	862	898	1,166	1,374	1,624	1.03	891	1,061	1,416	1,546	2,092	1.04	459	1,170	1,540	1,777	6,946	1.12
California	7,083	968	1,141	1,220	1,420	2,693	1.01	1,152	1,489	1,617	1,776	4,432	1.05	827	1,539	1,760	2,052	8,241	1.08
Colorado	1,843	345	775	832	851	1,636	1.01	753	937	1,002	1,108	1,427	1.02	261	968	1,139	1,296	4,001	1.08
Connecticut	1,997	475	496	512	532	705	1.02	516	594	633	699	1,194	1.03	160	535	616	801	2,898	1.15
District of Columbia	2,802	5	68	74	81	112	1.01	33	87	95	99	274	1.05	14	90	101	117	449	1.08
Delaware	1,855	112	119	146	165	173	1.02	126	169	184	207	791	1.07	37	156	190	220	896	1.09
Florida	6,823	715	745	773	896	2,994	1.07	736	876	957	1,104	3,139	1.07	234	951	1,109	1,316	4,839	1.10
Georgia	2,567	955	997	1,017	1,141	1,410	1.01	1,005	1,165	1,256	1,360	3,640	1.02	436	1,275	1,428	1,614	5,699	1.05
Hawaii	1,934	86	135	192	195	418	1.05	95	157	225	262	433	1.08	81	177	235	291	1,021	1.17
Iowa	1,851	449	467	550	626	665	1.02	474	538	603	715	2,257	1.04	97	558	648	784	3,071	1.10
Idaho	1,477	308	321	326	337	360	1.00	320	351	369	401	1,518	1.02	105	373	409	448	1,634	1.04
Illinois	4,407	281	649	735	878	1,984	1.03	398	870	1,028	1,173	2,503	1.06	291	921	1,076	1,262	6,276	1.08
Indiana	1,782	1,020	1,072	1,186	1,253	1,297	1.01	1,131	1,264	1,376	1,460	1,848	1.01	236	1,299	1,444	1,610	7,734	1.08
Kansas	1,705	224	466	543	593	614	1.01	224	558	609	638	3,072	1.14	156	577	671	750	2,441	1.09
Kentucky	1,827	691	731	760	822	867	1.00	745	809	876	943	1,512	1.01	153	854	955	1,042	4,630	1.08
Louisiana	1,742	546	697	815	945	4,235	1.45	565	830	974	1,084	4,982	1.48	183	830	980	1,123	5,214	1.30
Massachusetts	2,068	770	809	924	971	1,964	1.05	919	1,030	1,124	1,244	2,791	1.06	265	1,031	1,207	1,473	7,307	1.17
Maryland	1,757	563	703	919	980	1,216	1.03	660	887	1,114	1,259	5,780	1.12	149	918	1,159	1,529	3,469	1.13
Maine	2,106	185	192	204	247	460	1.02	199	216	240	277	403	1.02	55	243	274	304	870	1.05
Michigan	4,498	589	607	709	717	1,435	1.01	652	768	822	880	1,080	1.01	217	753	854	956	4,513	1.06
Minnesota	1,825	878	915	939	1,002	1,054	1.00	954	1,023	1,057	1,156	2,785	1.02	382	1,062	1,174	1,296	3,958	1.04
Missouri	1,839	911	954	1,070	1,103	1,162	1.01	939	1,129	1,202	1,277	3,749	1.02	323	1,117	1,281	1,505	5,683	1.06

(continued)

Table I.1 2014 NSDUH Dwelling Unit–Level Weight Summary Statistics: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before res.du.nr (WT1*...*WT8)[1]						After res.du.nr & Before res.du.ps (WT1*...*WT9)[1]						After res.du.ps (WT1*...*WT10)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
Mississippi	1,498	145	502	575	594	733	1.02	349	585	635	737	1,087	1.03	124	631	721	870	3,121	1.10
Montana	2,036	141	145	152	166	272	1.03	142	160	169	201	314	1.03	53	182	200	228	803	1.05
North Carolina	2,972	767	928	999	1,088	1,240	1.01	936	1,060	1,200	1,309	3,834	1.02	298	1,148	1,292	1,471	6,409	1.07
North Dakota	2,136	94	98	113	122	130	1.01	95	111	124	136	221	1.03	40	128	141	155	524	1.06
Nebraska	1,842	319	332	338	350	393	1.00	325	375	387	412	1,156	1.04	93	364	403	436	1,930	1.07
New Hampshire	2,055	191	197	202	214	473	1.00	212	228	243	255	455	1.01	60	243	259	278	725	1.02
New Jersey	2,951	669	691	769	900	2,359	1.04	678	898	1,001	1,133	2,428	1.04	463	913	1,052	1,232	5,906	1.14
New Mexico	1,555	340	352	374	391	973	1.03	351	392	418	466	1,006	1.03	101	424	487	563	2,063	1.10
Nevada	1,592	293	405	454	516	567	1.02	333	503	586	696	1,786	1.04	144	528	641	781	3,831	1.14
New York	6,603	618	633	792	815	1,280	1.02	629	940	1,069	1,221	4,046	1.08	402	906	1,057	1,250	8,241	1.19
Ohio	4,531	660	685	805	871	916	1.01	663	830	936	1,043	1,507	1.03	317	890	1,013	1,134	4,590	1.04
Oklahoma	1,609	410	697	729	787	857	1.01	596	791	832	891	1,264	1.01	155	834	986	1,115	2,932	1.10
Oregon	1,877	464	485	647	759	799	1.04	471	583	798	863	1,103	1.03	349	684	827	960	3,581	1.10
Pennsylvania	4,875	712	735	758	815	1,313	1.01	716	854	907	978	3,729	1.08	425	919	986	1,081	5,572	1.08
Rhode Island	1,859	110	156	162	167	250	1.04	154	182	198	212	657	1.04	33	187	209	255	1,253	1.14
South Carolina	1,958	582	608	684	791	920	1.02	632	731	806	978	1,218	1.03	289	804	938	1,111	3,023	1.06
South Dakota	1,679	156	161	168	180	187	1.00	158	170	178	187	461	1.02	33	181	196	211	858	1.06
Tennessee	1,676	1,131	1,183	1,306	1,346	1,396	1.00	1,170	1,351	1,467	1,563	2,788	1.02	258	1,368	1,547	1,745	6,506	1.11
Texas	5,066	1,271	1,358	1,381	1,490	1,734	1.00	1,392	1,541	1,618	1,719	2,123	1.01	438	1,562	1,790	2,000	7,583	1.07
Utah	1,275	571	599	632	669	813	1.01	582	629	664	714	844	1.01	180	637	707	801	3,318	1.11
Virginia	2,678	793	837	859	1,044	1,096	1.01	840	1,010	1,135	1,253	1,493	1.02	198	1,025	1,169	1,325	3,707	1.06
Vermont	2,230	78	79	95	105	129	1.02	84	94	116	127	185	1.03	33	97	115	134	425	1.07
Washington	1,705	830	1,052	1,091	1,242	1,384	1.01	998	1,314	1,394	1,574	2,931	1.03	759	1,320	1,510	1,765	9,667	1.13
Wisconsin	2,094	727	750	914	969	2,267	1.04	792	894	1,111	1,205	2,059	1.03	379	927	1,113	1,282	3,921	1.09
West Virginia	2,282	183	271	284	297	388	1.01	266	299	322	353	1,049	1.05	82	304	322	366	1,191	1.05
Wyoming	1,898	83	87	100	103	148	1.02	89	100	110	118	387	1.03	34	102	119	142	394	1.07

[1] WT1*…*WT8 are design-based weight components; nr = nonresponse adjustment; ps = poststratification adjustment.
[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[3] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table I.2 2014 NSDUH Selected Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States

Domain	*n*	Before sel.per.ps (WT1*...*WT12)[1]						After sel.per.ps (WT1*...*WT13)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
United States	91,640	16	1,000	1,923	3,687	54,829	2.02	4	986	1,920	3,700	47,865	2.01
Alaska	1,386	79	193	356	521	2,002	1.51	59	196	345	527	2,728	1.51
Alabama	1,272	187	1,526	2,351	4,039	25,938	1.62	79	1,536	2,370	4,036	17,890	1.60
Arkansas	1,262	195	916	1,532	2,563	9,117	1.52	55	944	1,545	2,576	10,072	1.50
Arizona	1,269	619	1,972	2,974	5,229	27,689	1.68	165	2,034	3,198	5,442	26,005	1.63
California	6,403	1,035	2,423	4,235	6,367	34,026	1.45	844	2,478	4,153	6,400	31,135	1.44
Colorado	1,357	280	1,277	2,088	4,256	15,964	1.63	145	1,197	2,108	4,456	23,079	1.72
Connecticut	1,438	177	900	1,413	2,444	16,826	1.84	41	847	1,427	2,527	13,279	1.90
District of Columbia	1,219	16	215	437	650	1,942	1.41	4	195	438	653	3,652	1.46
Delaware	1,264	46	235	420	735	3,211	1.73	36	238	441	758	6,098	1.80
Florida	4,385	349	1,476	2,572	4,019	29,100	1.92	307	1,481	2,557	4,270	27,845	1.92
Georgia	2,029	440	1,791	2,858	4,972	19,539	1.57	456	1,820	2,849	5,146	19,698	1.60
Hawaii	1,339	99	346	643	1,130	8,986	1.83	93	347	617	1,118	5,813	1.75
Iowa	1,240	98	853	1,504	2,897	9,288	1.52	62	843	1,576	2,978	11,428	1.60
Idaho	1,267	189	465	859	1,234	9,728	1.62	66	481	820	1,215	5,019	1.58
Illinois	3,488	428	1,444	2,436	3,769	29,575	1.56	360	1,490	2,402	3,722	14,113	1.50
Indiana	1,294	280	1,974	3,456	4,673	45,450	1.67	262	1,881	3,300	5,011	20,406	1.55
Kansas	1,296	187	822	1,336	2,063	10,344	1.67	102	797	1,302	2,121	12,991	1.75
Kentucky	1,284	264	1,135	1,862	3,364	12,432	1.67	53	1,092	1,933	3,386	12,673	1.77
Louisiana	1,302	215	1,099	1,903	3,633	29,230	1.82	74	1,059	1,855	3,673	17,428	1.86
Massachusetts	1,437	353	1,504	2,811	4,613	40,175	1.95	265	1,480	2,708	4,899	32,309	1.90
Maryland	1,297	246	1,608	2,830	4,734	16,103	1.60	114	1,515	2,784	4,746	36,923	1.84
Maine	1,230	74	388	620	1,054	4,437	1.77	33	381	613	1,079	4,710	1.84
Michigan	3,269	247	1,219	1,978	2,917	21,601	1.63	296	1,220	1,920	2,990	13,154	1.59
Minnesota	1,266	465	1,360	2,866	4,456	15,554	1.66	105	1,403	2,520	4,617	34,587	1.72
Missouri	1,218	636	1,828	2,991	4,674	43,256	1.73	276	1,796	2,891	5,012	18,622	1.67

(continued)

Table I.2 2014 NSDUH Selected Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before sel.per.ps (WT1*...*WT12)[1]						After sel.per.ps (WT1*...*WT13)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
Mississippi	1,170	171	1,022	1,579	2,579	12,457	1.62	43	1,001	1,645	2,802	11,672	1.50
Montana	1,287	74	280	448	615	3,947	1.82	83	286	453	606	3,569	2.01
North Carolina	1,956	308	1,793	3,144	4,790	19,760	1.63	331	1,777	3,005	5,096	34,618	1.70
North Dakota	1,240	78	239	371	545	2,270	1.54	18	223	378	608	2,255	1.58
Nebraska	1,268	115	607	896	1,347	6,663	1.48	39	542	903	1,421	5,046	1.60
New Hampshire	1,288	135	376	628	974	3,764	1.71	59	348	621	1,118	5,493	1.65
New Jersey	2,167	566	1,305	2,454	4,031	54,829	2.03	463	1,381	2,343	4,180	18,479	1.74
New Mexico	1,172	170	603	1,097	1,699	7,137	1.61	51	583	1,037	1,794	7,207	1.72
Nevada	1,279	182	814	1,330	2,208	11,335	1.70	90	772	1,283	2,234	9,925	1.76
New York	4,835	406	1,567	2,463	4,141	53,116	1.68	355	1,551	2,510	4,433	27,297	1.65
Ohio	3,337	333	1,338	2,127	3,242	18,996	1.61	194	1,340	2,026	3,397	14,474	1.66
Oklahoma	1,284	197	1,195	1,922	2,894	15,491	1.57	62	1,189	1,877	2,925	36,003	1.70
Oregon	1,318	386	892	1,692	3,077	14,611	1.87	327	913	1,603	2,948	17,446	1.94
Pennsylvania	3,186	430	1,454	2,687	3,692	24,913	1.74	334	1,485	2,499	3,635	25,809	1.79
Rhode Island	1,334	56	270	512	717	2,848	1.64	27	266	518	772	3,792	1.75
South Carolina	1,308	406	1,417	2,297	3,782	14,748	1.59	314	1,407	2,237	3,736	21,854	1.61
South Dakota	1,275	45	266	414	575	5,590	1.72	12	254	411	610	3,482	1.61
Tennessee	1,204	310	1,959	3,563	5,322	21,687	1.59	161	1,867	3,597	6,215	27,221	1.60
Texas	4,581	584	2,287	3,935	5,663	44,636	1.49	469	2,265	3,972	6,031	35,118	1.45
Utah	1,186	203	1,137	1,697	2,698	10,180	1.36	168	1,153	1,626	2,607	10,578	1.32
Virginia	2,020	232	1,476	2,715	4,211	15,375	1.56	104	1,459	2,644	4,388	25,783	1.57
Vermont	1,260	44	188	300	466	2,606	1.79	10	191	306	489	2,288	1.71
Washington	1,241	866	2,052	3,456	5,200	39,517	1.71	873	2,056	3,560	5,615	35,923	1.65
Wisconsin	1,332	527	1,510	2,739	3,965	28,597	1.69	399	1,464	2,577	4,148	47,865	1.89
West Virginia	1,355	123	475	866	1,213	8,489	1.77	71	486	831	1,282	5,365	1.74
Wyoming	1,246	34	173	287	428	1,927	1.70	7	160	289	443	2,027	1.75

[1] WT1*...*WT12 and WT1*...*WT13 used demographic variables from screener data; ps = poststratification adjustment.
[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[3] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Table I.3 2014 NSDUH Respondent Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States

Domain	*n*	Before res.per.nr (WT1*...*WT13)[1]						After res.per.nr (WT1*...*WT14)[1]						Before res.per.ps (WT1*...*WT14)[2]						Final Weight After res.per.ps (WT1*...*WT15)[2]					
		Min	Q1[3]	Med	Q3[3]	Max	UWE[4]	Min	Q1[3]	Med	Q3[3]	Max	UWE[4]	Min	Q1[3]	Med	Q3[3]	Max	UWE[4]	Min	Q1[3]	Med	Q3[3]	Max	UWE[4]
United States	67,901	4	954	1,840	3,520	47,865	2.04	4	1,209	2,403	4,834	59,535	2.24	4	1,209	2,403	4,834	59,535	2.24	1	1,127	2,379	4,890	72,502	2.30
Alaska	947	59	191	319	509	2,728	1.56	76	262	470	775	2,600	1.58	76	262	470	775	2,600	1.58	57	248	454	792	5,471	1.68
Alabama	964	79	1,504	2,261	3,600	14,035	1.58	262	1,761	2,764	5,170	28,591	1.86	262	1,761	2,764	5,170	28,591	1.86	73	1,767	2,772	5,204	29,731	1.92
Arkansas	964	55	905	1,448	2,391	7,852	1.51	56	1,058	1,846	3,445	17,704	1.72	56	1,058	1,846	3,445	17,704	1.72	17	1,062	1,871	3,199	16,620	1.75
Arizona	971	165	1,869	3,019	5,183	26,005	1.68	165	2,315	3,968	7,231	33,814	1.77	165	2,315	3,968	7,231	33,814	1.77	239	2,234	4,102	7,281	72,502	1.90
California	4,664	844	2,367	3,942	6,052	31,135	1.47	888	3,028	5,214	8,867	50,324	1.63	888	3,028	5,214	8,867	50,324	1.63	251	2,916	5,263	9,247	44,275	1.71
Colorado	1,008	145	1,169	2,002	4,422	23,079	1.77	148	1,468	2,663	6,507	23,877	1.79	148	1,468	2,663	6,507	23,877	1.79	66	1,474	2,513	6,537	39,951	1.91
Connecticut	980	41	823	1,400	2,403	13,279	1.90	42	1,022	1,915	3,686	26,588	2.26	42	1,022	1,915	3,686	26,588	2.26	35	986	1,904	3,924	24,108	2.18
District of Columbia	935	4	178	408	633	3,652	1.49	4	207	511	873	3,689	1.61	4	207	511	873	3,689	1.61	1	195	514	864	4,094	1.69
Delaware	951	36	233	417	723	6,098	1.86	71	291	529	1,020	7,604	1.93	71	291	529	1,020	7,604	1.93	29	286	536	1,020	4,544	1.89
Florida	3,331	339	1,429	2,444	3,919	27,726	1.92	460	1,743	3,099	5,302	47,580	2.29	460	1,743	3,099	5,302	47,580	2.29	146	1,719	3,063	5,508	42,808	2.34
Georgia	1,549	456	1,774	2,708	5,026	19,698	1.62	514	2,252	3,612	7,047	24,630	1.67	514	2,252	3,612	7,047	24,630	1.67	185	2,252	3,628	6,872	65,380	1.80
Hawaii	968	93	337	598	1,096	5,813	1.78	118	438	833	1,546	7,020	1.82	118	438	833	1,546	7,020	1.82	66	454	816	1,566	6,422	1.81
Iowa	912	62	822	1,517	2,859	11,269	1.62	64	1,059	2,054	3,948	20,168	1.74	64	1,059	2,054	3,948	20,168	1.74	63	1,054	2,032	3,912	12,396	1.70
Idaho	987	66	477	804	1,170	4,952	1.57	66	611	996	1,491	8,393	1.72	66	611	996	1,491	8,393	1.72	32	605	1,005	1,551	10,377	1.77
Illinois	2,397	360	1,454	2,337	3,565	14,113	1.52	360	1,993	3,270	5,562	28,418	1.61	360	1,993	3,270	5,562	28,418	1.61	72	1,977	3,352	5,721	26,954	1.64
Indiana	967	262	1,791	3,027	4,780	20,406	1.58	275	2,320	4,016	6,656	42,739	1.72	275	2,320	4,016	6,656	42,739	1.72	136	2,480	4,136	6,374	45,418	1.76
Kansas	982	102	769	1,264	2,038	12,991	1.80	138	970	1,615	2,906	12,264	1.86	138	970	1,615	2,906	12,264	1.86	59	914	1,642	2,940	14,208	1.92
Kentucky	946	53	1,079	1,795	3,203	12,673	1.79	53	1,378	2,370	4,435	27,859	2.14	53	1,378	2,370	4,435	27,859	2.14	12	1,374	2,395	4,538	31,915	2.19
Louisiana	992	74	1,048	1,778	3,468	17,428	1.87	75	1,398	2,329	4,721	27,618	2.01	75	1,398	2,329	4,721	27,618	2.01	15	1,425	2,409	4,792	22,756	1.93
Massachusetts	1,000	265	1,422	2,466	4,564	23,970	1.92	266	1,786	3,305	7,365	59,535	2.26	266	1,786	3,305	7,365	59,535	2.26	56	1,808	3,432	7,221	46,402	2.17
Maryland	971	114	1,503	2,655	4,465	36,923	1.82	114	1,834	3,253	6,340	49,118	2.09	114	1,834	3,253	6,340	49,118	2.09	28	1,694	3,398	6,292	47,089	2.15
Maine	940	33	381	604	1,063	4,710	1.83	37	462	772	1,428	9,300	2.02	37	462	772	1,428	9,300	2.02	13	468	775	1,429	22,520	2.27
Michigan	2,418	296	1,187	1,846	2,882	12,285	1.60	352	1,545	2,458	4,023	18,623	1.69	352	1,545	2,458	4,023	18,623	1.69	146	1,560	2,456	4,021	24,928	1.73
Minnesota	967	105	1,387	2,451	4,584	33,755	1.69	105	1,724	3,086	6,236	35,133	1.75	105	1,724	3,086	6,236	35,133	1.75	22	1,761	2,968	6,094	34,947	1.81
Missouri	934	276	1,765	2,891	4,913	18,189	1.67	276	2,134	3,826	6,591	28,522	1.75	276	2,134	3,826	6,591	28,522	1.75	91	2,082	3,885	6,708	44,456	1.89

(continued)

Table I.3 2014 NSDUH Respondent Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before res.per.nr (WT1*...*WT13)[1]						After res.per.nr (WT1*...*WT14)[1]						Before res.per.ps (WT1*...*WT14)[2]						Final Weight After res.per.ps (WT1*...*WT15)[2]					
		Min	Q1[3]	Med	Q3[3]	Max	UWE[4]	Min	Q1[3]	Med	Q3[3]	Max	UWE[4]	Min	Q1[3]	Med	Q3[3]	Max	UWE[4]	Min	Q1[3]	Med	Q3[3]	Max	UWE[4]
Mississippi	909	43	990	1,601	2,679	11,672	1.52	43	1,190	1,956	3,544	13,578	1.63	43	1,190	1,956	3,544	13,578	1.63	16	1,187	1,978	3,437	16,664	1.67
Montana	977	83	279	443	591	3,569	2.02	89	343	557	817	5,432	2.27	89	343	557	817	5,432	2.27	58	347	569	821	6,525	2.30
North Carolina	1,533	331	1,754	2,924	4,970	19,446	1.67	333	2,127	3,683	6,445	43,709	1.87	333	2,127	3,683	6,445	43,709	1.87	162	2,082	3,574	6,513	68,030	1.94
North Dakota	969	18	223	375	614	2,186	1.59	18	258	477	786	4,131	1.63	18	258	477	786	4,131	1.63	36	256	475	795	3,086	1.63
Nebraska	938	39	531	883	1,451	4,922	1.61	39	656	1,173	2,071	16,266	1.72	39	656	1,173	2,071	16,266	1.72	32	627	1,163	2,010	16,314	1.79
New Hampshire	932	67	337	596	1,067	5,493	1.66	92	433	738	1,612	7,656	1.85	92	433	738	1,612	7,656	1.85	18	434	741	1,700	8,662	1.89
New Jersey	1,536	463	1,347	2,268	3,969	18,479	1.78	586	1,818	3,067	5,615	36,431	1.90	586	1,818	3,067	5,615	36,431	1.90	150	1,794	3,038	5,563	43,248	2.02
New Mexico	959	51	576	1,008	1,745	7,207	1.74	52	689	1,181	2,124	9,298	1.81	52	689	1,181	2,124	9,298	1.81	23	677	1,171	2,132	13,743	1.91
Nevada	961	90	751	1,246	2,146	9,739	1.76	99	946	1,677	2,902	16,528	1.91	99	946	1,677	2,902	16,528	1.91	20	974	1,676	2,981	24,596	2.06
New York	3,284	355	1,458	2,357	3,964	27,297	1.68	440	1,986	3,430	6,359	42,987	1.90	440	1,986	3,430	6,359	42,987	1.90	105	1,897	3,452	6,588	42,769	1.95
Ohio	2,415	194	1,305	1,954	3,179	14,474	1.68	194	1,717	2,643	4,557	41,860	1.83	194	1,717	2,643	4,557	41,860	1.83	135	1,741	2,680	4,480	23,848	1.84
Oklahoma	937	62	1,167	1,761	2,727	36,003	1.81	72	1,482	2,398	3,953	30,364	1.82	72	1,482	2,398	3,953	30,364	1.82	26	1,459	2,449	4,066	25,493	1.89
Oregon	992	327	903	1,549	2,904	17,446	1.97	407	1,155	2,066	3,753	30,578	2.14	407	1,155	2,066	3,753	30,578	2.14	139	1,121	2,128	3,806	29,746	2.15
Pennsylvania	2,388	334	1,430	2,372	3,402	25,809	1.81	398	1,770	2,987	4,839	40,501	2.03	398	1,770	2,987	4,839	40,501	2.03	97	1,754	3,151	4,900	50,645	2.04
Rhode Island	991	27	256	502	751	3,792	1.76	27	320	625	1,032	7,876	2.12	27	320	625	1,032	7,876	2.12	5	260	638	1,071	15,817	2.32
South Carolina	998	314	1,401	2,188	3,576	15,086	1.61	335	1,704	2,787	4,868	19,764	1.73	335	1,704	2,787	4,868	19,764	1.73	258	1,648	2,793	4,875	34,122	1.81
South Dakota	981	12	248	398	595	3,482	1.63	13	292	488	836	5,498	1.82	13	292	488	836	5,498	1.82	4	295	475	846	3,898	1.78
Tennessee	946	169	1,815	3,543	6,181	27,221	1.62	171	2,258	4,533	8,079	34,077	1.65	171	2,258	4,533	8,079	34,077	1.65	34	2,262	4,430	7,781	43,719	1.71
Texas	3,383	469	2,180	3,738	5,707	35,118	1.46	501	2,755	4,795	8,154	38,804	1.61	501	2,755	4,795	8,154	38,804	1.61	260	2,809	4,787	8,294	35,513	1.62
Utah	972	168	1,135	1,586	2,543	10,578	1.34	176	1,308	1,888	3,140	9,564	1.41	176	1,308	1,888	3,140	9,564	1.41	197	1,325	1,895	3,087	12,702	1.42
Virginia	1,539	104	1,439	2,473	4,133	25,783	1.58	128	1,730	3,066	5,633	34,376	1.75	128	1,730	3,066	5,633	34,376	1.75	33	1,773	3,042	5,807	50,225	1.82
Vermont	948	10	189	299	471	2,288	1.72	10	235	382	675	3,136	1.84	10	235	382	675	3,136	1.84	3	234	391	708	8,608	2.17
Washington	935	873	2,022	3,489	5,395	35,923	1.68	895	2,606	4,546	7,645	42,201	1.70	895	2,606	4,546	7,645	42,201	1.70	363	2,674	4,575	7,442	32,466	1.71
Wisconsin	945	399	1,384	2,371	4,139	47,865	1.97	468	1,807	3,482	6,335	47,865	1.89	468	1,807	3,482	6,335	47,865	1.89	116	1,742	3,568	6,410	42,591	1.90
West Virginia	933	71	470	807	1,281	5,365	1.76	101	642	1,166	1,974	9,208	1.79	101	642	1,166	1,974	9,208	1.79	27	646	1,179	1,981	13,542	1.81
Wyoming	955	7	153	283	436	1,995	1.74	7	195	357	575	4,036	1.88	7	195	357	575	4,036	1.88	5	199	353	580	3,794	1.94

[1] WT1*...*WT13 and WT1*...*WT14 used demographic variables from screener data; nr = nonresponse adjustment.
[2] WT1*...*WT14 and WT1*...*WT15 used demographic variables from questionnaire data; ps = poststratification adjustment.
[3] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[4] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2014.

Appendix J: Evaluation of Calibration Weights: Comparing Weight Summary Statistics for 2014 and 2013

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Table J.1 NSDUH Dwelling Unit–Level Weight Summary Statistics: 2014 and 2013

Domain	*n*	Before res.du.nr[1]						After res.du.nr & Before res.du.ps[1]						After res.du.ps[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
2014 Weights																			
United States	127,605	5	407	749	952	4,235	1.30	33	464	895	1,187	5,780	1.34	14	467	950	1,288	9,667	1.41
State Group 1[4]	7,083	968	1,141	1,220	1,420	2,693	1.01	1,152	1,489	1,617	1,776	4,432	1.05	827	1,539	1,760	2,052	8,241	1.08
State Group 2[4]	18,492	618	753	834	1,339	2,994	1.10	629	934	1,122	1,540	4,046	1.09	234	987	1,212	1,643	8,241	1.16
State Group 3[4]	18,311	281	708	736	850	1,984	1.02	398	825	900	1,020	3,729	1.06	217	862	972	1,119	6,276	1.07
State Group 4[4]	11,168	669	851	983	1,062	2,359	1.03	678	1,025	1,158	1,278	3,834	1.03	198	1,052	1,234	1,434	6,409	1.09
State Group 5[4]	1,934	86	135	192	195	418	1.05	95	157	225	262	433	1.08	81	177	235	291	1,021	1.17
State Group 6[4]	70,617	5	186	518	837	4,235	1.49	33	213	607	991	5,780	1.53	14	232	614	1,061	9,667	1.61
2013 Weights																			
United States	160,325	32	311	491	777	7,453	1.44	46	351	582	914	7,681	1.46	11	392	620	1,002	9,709	1.54
Large States[5]	66,388	32	419	491	693	6,685	1.29	154	499	589	942	2,920	1.28	81	528	649	1,019	9,709	1.36
Small States[5]	93,937	37	158	493	808	7,453	1.57	46	186	561	906	7,681	1.63	11	204	575	995	9,346	1.70

[1] nr = nonresponse adjustment; ps = poststratification adjustment. The extreme weight adjustment (ev) step was not necessary at either the dwelling unit level or the person level for both 2013 and 2014, so the extreme weight adjustment factors were all 1.

[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.

[3] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[4] The 2014 sample design divided the 50 states plus the District of Columbia into six groups: Group 1 includes California; Group 2 includes Florida, New York, and Texas; Group 3 includes Illinois, Michigan, Ohio, and Pennsylvania; Group 4 includes Georgia, New Jersey, North Carolina, and Virginia; Group 5 includes Hawaii; and Group 6 includes the remaining 37 states and the District of Columbia. The sample was designed to yield the same number of respondents for states in the same group.

[5] The 2013 sample design divided the 50 states plus the District of Columbia into two groups: eight states (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas) were referred to as the "large" states, whereas the remaining 43 were referred to as the "small" states. The sample was designed to yield 3,600 respondents for large states and 900 respondents for small states.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014.

Table J.2 NSDUH Selected Person-Level Weight Summary Statistics: 2014 and 2013

Domain	*n*	Before sel.per.ps[1]						After sel.per.ps[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
2014 Weights													
United States	91,640	16	1,000	1,923	3,687	54,829	2.02	4	986	1,920	3,700	47,865	2.01
State Group 1[4]	6,403	1,035	2,423	4,235	6,367	34,026	1.45	844	2,478	4,153	6,400	31,135	1.44
State Group 2[4]	13,801	349	1,734	2,841	4,813	53,116	1.70	307	1,742	2,889	5,060	35,118	1.67
State Group 3[4]	13,280	247	1,364	2,235	3,401	29,575	1.66	194	1,381	2,185	3,468	25,809	1.66
State Group 4[4]	8,172	232	1,591	2,755	4,539	54,829	1.70	104	1,598	2,697	4,735	34,618	1.67
State Group 5[4]	1,339	99	346	643	1,130	8,986	1.83	93	347	617	1,118	5,813	1.75
State Group 6[4]	48,645	16	584	1,299	2,778	45,450	2.35	4	574	1,288	2,760	47,865	2.38
2013 Weights													
United States	88,742	11	665	1,321	3,470	87,768	2.87	2	646	1,310	3,485	78,134	3.08
Large States[5]	38,792	87	759	1,592	4,104	87,768	2.52	24	760	1,595	4,133	78,134	2.58
Small States[5]	49,950	11	523	1,194	2,934	79,356	3.22	2	480	1,161	2,938	72,618	3.58

[1] nr = nonresponse adjustment; ps = poststratification adjustment. The extreme weight adjustment (ev) step was not necessary at either the dwelling unit level or the person level for both 2013 and 2014, so the extreme weight adjustment factors were all 1.

[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.

[3] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[4] The 2014 sample design divided the 50 states plus the District of Columbia into six groups: Group 1 includes California; Group 2 includes Florida, New York, and Texas; Group 3 includes Illinois, Michigan, Ohio, and Pennsylvania; Group 4 includes Georgia, New Jersey, North Carolina, and Virginia; Group 5 includes Hawaii; and Group 6 includes the remaining 37 states and the District of Columbia. The sample was designed to yield the same number of respondents for states in the same group.

[5] The 2013 sample design divided the 50 states plus the District of Columbia into two groups: eight states (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas) were referred to as the "large" states, whereas the remaining 43 were referred to as the "small" states. The sample was designed to yield 3,600 respondents for large states and 900 respondents for small states.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014.

Table J.3 NSDUH Respondent Person-Level Weight Summary Statistics: 2014 and 2013

Domain	*n*	Before res.per.nr[1]						After res.per.nr[1]						Before res.per.ps[1]						Final Weight After res.per.ps[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
2014 Weights																									
United States	67,901	4	954	1,840	3,520	47,865	2.04	4	1,209	2,403	4,834	59,535	2.24	4	1,209	2,403	4,834	59,535	2.24	1	1,127	2,379	4,890	72,502	2.30
State Group 1[4]	4,664	844	2,367	3,942	6,052	31,135	1.47	888	3,028	5,214	8,867	50,324	1.63	888	3,028	5,214	8,867	50,324	1.63	251	2,916	5,263	9,247	44,275	1.71
State Group 2[4]	9,998	339	1,668	2,738	4,714	35,118	1.68	440	2,138	3,656	6,850	47,580	1.90	440	2,138	3,656	6,850	47,580	1.90	105	2,081	3,716	6,971	42,808	1.93
State Group 3[4]	9,618	194	1,341	2,090	3,292	25,809	1.68	194	1,757	2,830	4,796	41,860	1.82	194	1,757	2,830	4,796	41,860	1.82	72	1,757	2,843	4,826	50,645	1.84
State Group 4[4]	6,157	104	1,568	2,597	4,545	25,783	1.68	128	1,971	3,358	6,165	43,709	1.81	128	1,971	3,358	6,165	43,709	1.81	33	1,960	3,348	6,178	68,030	1.90
State Group 5[4]	968	93	337	598	1,096	5,813	1.78	118	438	833	1,546	7,020	1.82	118	438	833	1,546	7,020	1.82	66	454	816	1,566	6,422	1.81
State Group 6[4]	36,496	4	561	1,254	2,640	47,865	2.41	4	717	1,613	3,569	59,535	2.59	4	717	1,613	3,569	59,535	2.59	1	690	1,615	3,585	72,502	2.65
2013 Weights																									
United States	67,838	2	624	1,237	3,161	77,933	3.15	2	769	1,552	4,195	130,534	3.56	2	769	1,552	4,195	130,534	3.56	1	739	1,553	4,181	181,411	3.68
Large States[5]	28,989	24	743	1,468	3,676	77,933	2.64	41	944	1,855	5,076	118,542	2.97	41	944	1,855	5,076	118,542	2.97	8	930	1,878	5,040	79,958	3.05
Small States[5]	38,849	2	457	1,107	2,681	71,678	3.65	2	552	1,378	3,453	130,534	4.15	2	552	1,378	3,453	130,534	4.15	1	513	1,359	3,407	181,411	4.32

[1] nr = nonresponse adjustment; ps = poststratification adjustment. The extreme weight adjustment (ev) step was not necessary at either the dwelling unit level or the person level for both 2013 and 2014, so the extreme weight adjustment factors were all 1.

[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.

[3] Unequal weighting effect (UWE) is defined as $1 + [(n - 1)/n]*CV^2$, where CV = coefficient of variation of weights.

[4] The 2014 sample design divided the 50 states plus the District of Columbia into six groups: Group 1 includes California; Group 2 includes Florida, New York, and Texas; Group 3 includes Illinois, Michigan, Ohio, and Pennsylvania; Group 4 includes Georgia, New Jersey, North Carolina, and Virginia; Group 5 includes Hawaii; and Group 6 includes the remaining 37 states and the District of Columbia. The sample was designed to yield the same number of respondents for states in the same group.

[5] The 2013 sample design divided the 50 states plus the District of Columbia into two groups: eight states (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas) were referred to as the "large" states, whereas the remaining 43 were referred to as the "small" states. The sample was designed to yield 3,600 respondents for large states and 900 respondents for small states.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014.