2002 National Survey on Drug Use and Health

Person-Level Sampling Weight Calibration

Contract No. 283-98-9008
RTI Project No. 7190
Deliverable No. 28

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Patrick Chen
Lanting Dai
Harper Gordek
Weihua Shi
Avinash C. Singh
Matthew Westlake

Project Director: Thomas G. Virag

Prepared for:

Substance Abuse and Mental Health Services Administration
Rockville, Maryland 20857

Prepared by:

RTI International
Research Triangle Park, North Carolina 27709

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Preface

This report contains a brief review of the sampling weight calibration methodology used for the 2002 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 its application to the survey data. The constrained exponential modeling method used in NHSDAs prior to 1999 was modified (referred to in this report as the generalized exponential model [GEM]) in order to have more flexibility in dealing with the extreme weights internally and to be able to set bounds directly on the weight adjustment factors so that they become suitable for nonresponse and poststratification adjustments. The highlights of the new 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 the additional step of poststratification of the selected persons to estimated controls from the large first-phase sample of persons. This additional step results in stable controls for the later step of nonresponse adjustment at the respondent-person level. These two steps were combined into one step in NHSDAs prior to 1999, but they have been kept separate from 1999 onward.

- Another poststratification step at the respondent-household level in the first phase of the screening interview was added. This step 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 drug use interview. This step again takes advantage of the inherent two-phase design of the study.

- The built-in control on extreme weights in the GEM was supplemented by a separate step of extreme value adjustment after the final poststratification, whenever the extreme weight proportion in the initial unadjusted weights was considered to be too large. This was accomplished by using the GEM so that the sample demographic distribution was preserved. This method represents an improvement over the trimming method implemented before the nonresponse adjustment in NHSDAs prior to 1999 and the extreme value adjustment before the nonresponse adjustment used for the 1999 NHSDA.

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. The implementation of GEM under a tight project schedule was a challenge, but it was met successfully by the diligence and perseverance of the members of the weighting team consisting of Patrick Chen, Lanting Dai, Harper Gordek, Weihua Shi, and Matthew Westlake.

This report consists of several chapters describing the implementation and evaluation of the GEM and of appendices comprised mainly of 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 work was completed for the Substance Abuse and Mental Health Services Administration (SAMHSA), Office of Applied Studies (OAS), by RTI

International[1], North Carolina, under Contract No. 283-98-9008. The authors are grateful to Art Hughes of SAMHSA and Ralph Folsom of RTI for their useful comments and suggestions.

Avi Singh, Task Leader
Research Triangle Park, NC
January 2004

[1]RTI International is a trade name of Research Triangle Institute.

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List of Terms and Abbreviations

DU Dwelling unit.

ev Extreme value. See Section 4.1 for more detail.

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.

nr Nonresponse.

Outwinsor Signifies the proportion of weights trimmed after extreme value adjustment via winsorization.

ps Poststratification.

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 value adjustment step. See Section 5.1.4 for more detail.

sel.per.ps Selected person poststratification adjustment step. See Section 5.2.2 for more detail.

res.per.nr Respondent person nonresponse adjustment step. See Section 5.2.3 for more detail.

res.per.ps Respondent person poststratification adjustment step. See Section 5.2.4 for more detail.

res.per.ev Respondent person extreme value adjustment step. See Section 5.2.5 for more detail.

sandwich SE Sandwich standard error. See Section 6.5 for more detail.

SE Standard error.

SES Socioeconomic status indicator. See Exhibit 3.1 for more detail.

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.

Winsorization A method of extreme value adjustment that replaces extreme values with the critical values used for defining low and high extreme values.

1. Introduction

The design for the National Survey on Drug Use and Health (NSDUH) changed in 1999 from a single national survey (with California and Arizona supplements) to a statewide survey that includes 50 States and the District of Columbia. Henceforth, this will be referred to as the 51-State design. The target population includes civilian, noninstitutionalized persons aged 12 or older. The main reason for the change was to produce more efficient, direct State-level estimates, which could be further improved by using small area estimation (SAE) techniques. To meet the required precision at the State level, the total sample size was increased from 25,500 in 1998 to a planned size of 67,500 beginning in 1999. This large sample size would allow the Substance Abuse and Mental Health Services Administration (SAMHSA) to continue to report drug use estimates for demographic subgroups at the national level with adequate precision and without the need to oversample specially targeted demographic subgroups, as had been required in the past. For the 2002 survey, eight States (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas), referred to as the "large" States, had a sample designed to yield 3,600 respondents per State, while the remaining 43 "small" States had a sample designed to yield 900 respondents per State. For the 2002 NSDUH, which followed the 2002 design plan, the total realized sample size was 68,126 persons (corresponding to 48,088 responding dwelling units [DUs] selected at the second phase out of 136,430 DUs screened at the first phase), with a low of 674 for New Mexico to a high of 977 for Connecticut among small States, and a low of 3,554 for Ohio to a high of 3,792 for Michigan among large States.

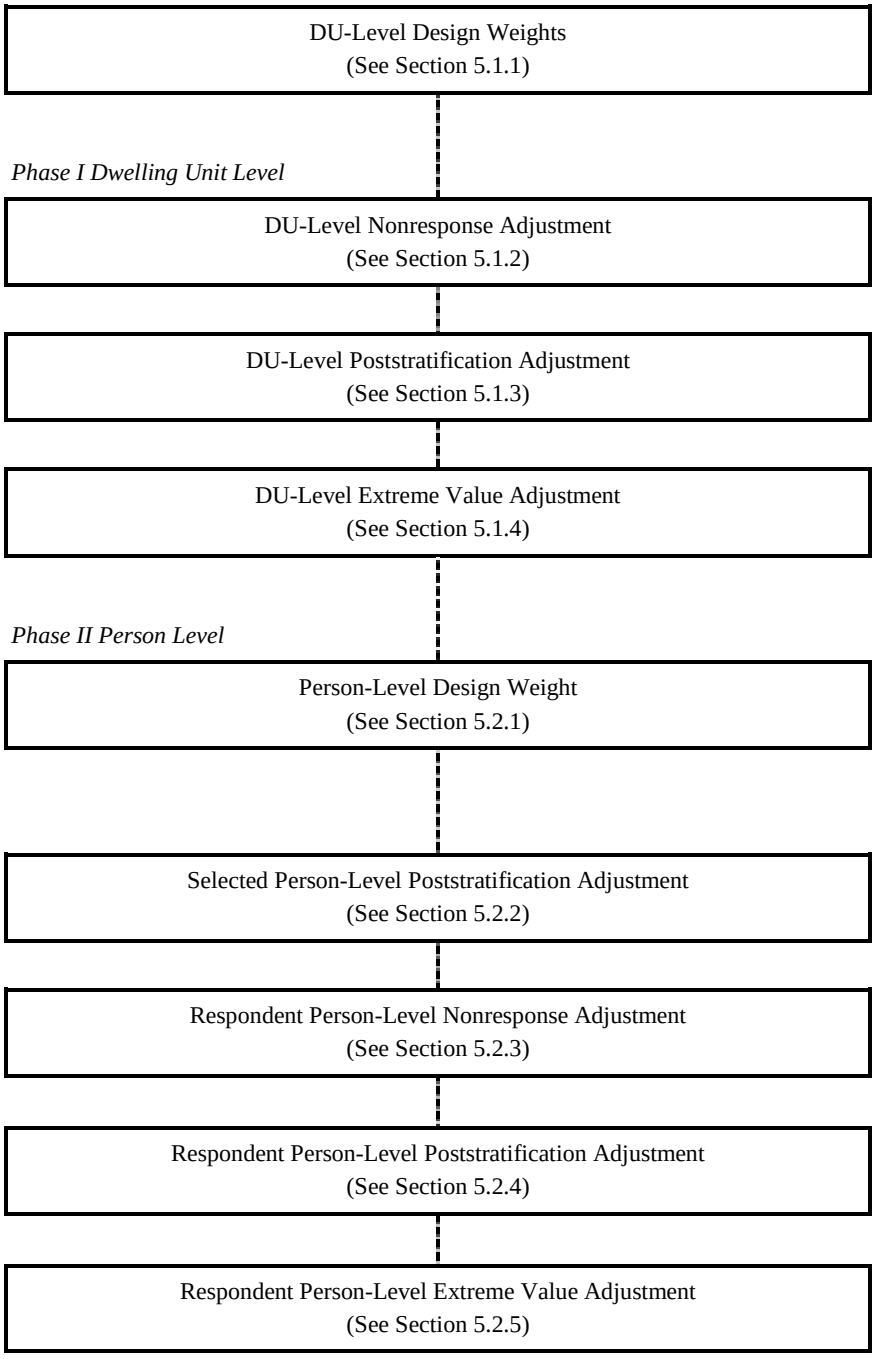
In the 2002 NSDUH design, States served as the primary strata, and field interviewer (FI) regions within each State served as the secondary strata. In the small States, 12 FI regions were created, while 48 were formed in the large States. Segments within FI regions formed first-stage sample units, which were drawn with probabilities proportional to composite size measures using Chromy's algorithm (Chromy, 1981; Williams & Chromy, 1980). DUs within segments formed the second-stage units that were drawn according to a random systematic scheme with an equal probability selection method goal (EPSEM). Within each FI region, segments were formed to contain a minimum of 175 DUs. From each FI region, two segments were drawn per quarter for a total of eight segments per year. On average, about 30 DUs were selected per segment with an objective of 10 completed person-level interviews. This average of three selected DUs per completed person-interview reflected various levels of attrition, such as DU eligibility, DU-level nonresponse, and person-level nonresponse. The 2002 NSDUH design was a multistage design with deep stratification, which could be viewed as a two-phase design with the second-phase units of persons nested within the first-phase DUs. After the DU was selected, first-phase information (e.g., eligibility, age, race/ethnicity, and gender) was collected for each member of the DU, then age was used to define deep stratification for the second-phase sample of persons within eligible DUs. At this phase, either zero, one, or two persons were selected within each DU using an adaptation of Brewer's sampling scheme. The 51-State sample used a computer-assisted interviewing (CAI) methodology.

As in the 1999, 2000, and 2001 National Household Surveys on Drug Abuse (NHSDAs), the sample weighting of the 2002 NSDUH posed challenges because of the sheer magnitude of the number of State-specific predictors for use in 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. Bureau of Census 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.

An important feature of the 2002 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 drug use 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 persons (including respondents and nonrespondents) to estimated controls from the large first-phase sample of persons for various predictor variables at the segment, DU, and person levels. This gave 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.

Exhibit 1.1 Sampling Weight Calibration Steps



As in the 1999, 2000, and 2001 NHSDAs, a modification of the earlier methodology of (scaled) constrained exponential modeling was used in order to meet the new demands on weighting mentioned above (i.e., the two-phase design and large number of available predictors). The modified methodology, the GEM, has several features:

- Like constrained exponential modeling, GEM can utilize 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 value 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 value 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 above 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 is provided of how GEM provides a unified approach to all three procedures of extreme value adjustment and adjustments for nonresponse and poststratification. In Chapter 3, potential predictor variables for use with extreme value, nonresponse, and poststratification 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 2001 NHSDA 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 some technical details about GEM, Appendix B documents the creation and source of the poststratification control totals, and Appendix C contains information on imputation methodology. Appendix D summarizes the modeling, and the remaining five appendices contain various tables.

2. Generalized Exponential Model for Weight Calibration

In survey practice, design weights are typically adjusted in three steps via the following methods: (1) winsorization for extreme values, (2) weighting class adjustments for nonresponse, and (3) raking-ratio adjustments for poststratification. If weights are not treated for extreme values, the resulting estimates, although unbiased, will tend to have low precision. The bias introduced by winsorization is alleviated to some extent through poststratification. The nonresponse 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 possible due to correlation between the study and control, usually demographic, variables).

There are limitations in the existing methods of weight adjustment for extreme value, nonresponse, and poststratification. It would be advantageous to adjust for bias introduced in the extreme value adjustment step (such as when extreme weights are treated via winsorization) so that the sample distribution for various demographic characteristics is preserved. 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 one 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 values.

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 extreme value, nonresponse, and poststratification, and it has the valuable features mentioned above. 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 values, during both poststratification and nonresponse adjustments. 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 values is low after the final poststratification, a separate extreme value 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 value

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.

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 proportion of extreme values. 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 values. The proportion of "outwinsors" (a term coined to signify the extent of residual weights after extreme value adjustment via winsorization) is probably a more realistic benchmark in determining the robustness of estimates in the presence of extreme value weights. Chapter 4 provides details about GEM steps 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 unequal weighting effect, indicating a possible loss in precision. A more precise measure of loss (or gain) in precision could be obtained by looking at the Taylor-linearized variance, computed via the sandwich formula (which accounts for the variability in the GEM parameter estimates) for variance of selected study variables. This was implemented by Vaish, Gordek, and Singh (2000), and results are presented in Chapter 6.

3. Predictor Variables in GEM for the 2002 NSDUH

For the 2002 National Survey on Drug Use and Health (NSDUH), the initial set of predictor variables was identical to the one used for the 1999-2001 National Household Surveys on Drug Abuse (NHSDAs) except that Race has now 5 levels instead of 4, due to the addition of the level "two or more races". Exhibit 3.1 shows the definitions and levels of these predictor variables. Typical predictors used for the screener-DU nonresponse adjustment were State, Quarter, Group Quarters Indicator, Population Density, Percentage Hispanic in Segment, Percentage Black in Segment, Percentage Owner-Occupied DUs in Segment, and Segment-Combined Median Rent and Housing Value which is also called 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 above, Age, Gender, Race, Hispanicity, and relation to Head of 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 value adjustment with GEM after poststratification, the predictors were the same as those used in the poststratification 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 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 the one used for the NSDUH, there is no such problem 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 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 can also 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.

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 2002 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 were typically 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 above 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 large States were not combined with other, smaller States, to the extent possible, in order to get direct State-level estimates without relying on the SAE technique.

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 UWE was checked.

For the 2002 NSDUH data, as for 2000 and 2001 NHSDA 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 2002, as in 2000 and 2001, nine model groups corresponding to the nine Census divisions were used.

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 Quarter Indicator
1: College Dorm, 2: Other Group Quarter, 3: Non-Group Quarter[1]
Hispanicity
1: Hispanic, 2: Non-Hispanic[1]
Percent of Owner-Occupied Dwelling Units in Segment (% Owner)
1: 50% - 100%,[1] 2: 10% - 50%, 3: <10%
Percent of Segments That Are Black (% Black)
1: 50% - 100%, 2: 10% - 50%, 3: <10%[1]
Percent of Segments That Are Hispanic (% Hispanic)
1: 50% - 100%, 2: 10% - 50%, 3: <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 level)
1: White,[1] 2: Black, 3: Other
Race (5 level)
1: White,[1] 2: Black, 3: American Indian/Alaska Native, 4: Asian, 5: Two or More Races
Relation to Householder
1: Householder or Spouse,[1] 2: Child, 3: Other Relative, 4: Non-Relative
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 is a composite measure based on rent, housing value, and percent owner occupied.
[3]The States assigned to a particular model are based on Census divisions.
[4]50+ was further broken down into 50-64 and 65+ for Person-Level Poststratification Adjustment and Person-Level Extreme Value Adjustment. For these steps, 65+ was used as the reference level.

Source: SAMHSA, Office of Applied Studies, National Survey of Drug Use and Health, 2002

4. Practical Aspects of Implementing GEM for the NSDUH

As explained in Chapter 2, the generalized exponential model (GEM) can be used for extreme value adjustment, nonresponse adjustment, and poststratification (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).

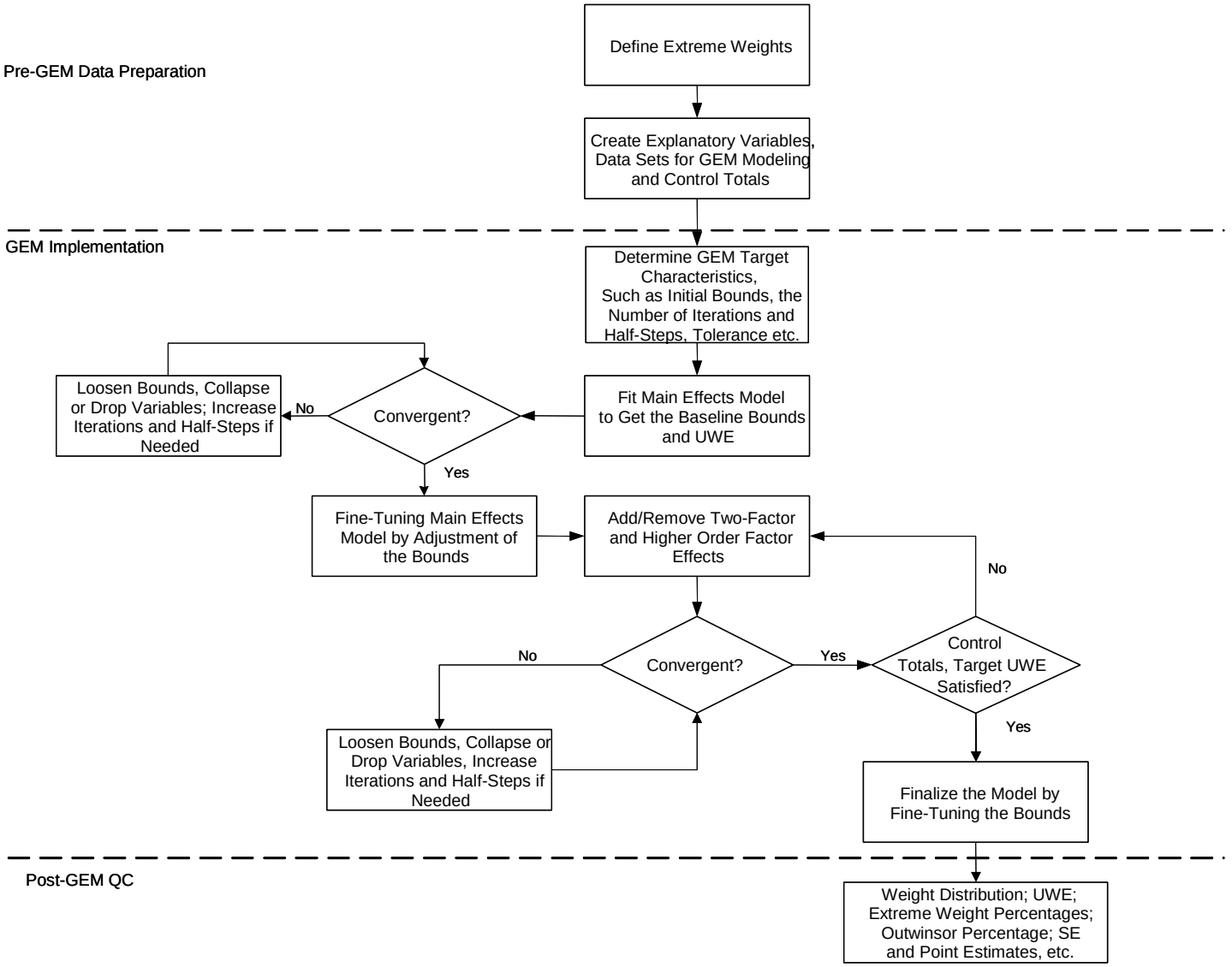
4.1 Definition of Extreme Values of Sampling Weights

An important aspect of GEM is the built-in provision of extreme value adjustment. Sampling weights for the survey were generally 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 2001 National Household Survey on Drug Abuse (NHSDA) used the field interviewer (FI) region as the domain. The person-level weight adjustments used a hierarchy of four domains: (1) FI region × Age group, (2) State × Age group, (3) FI 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 FI region × Age group domain corresponded to a deep stratum, it could be unsuitable for defining extreme values because of insufficient sample sizes. So, collapsing FI regions within a State gave rise to such domains as State × Age group. Even at this level, sample sizes could be insufficient, so FI regions and, later, States themselves could be used as domains to define extreme values. The critical values for low and high extreme values 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, in order to better prevent the adjusted weights from crossing the standard boundary, in addition to 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 as well.

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 the minimum of $(b_{k(u)}/w_k)$ and one for high extreme weights, and the maximum of $(b_{k(l)}/w_k)$ and one 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, 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.) Nonextreme weights had a value of one for m_k. 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 of GEM.

Exhibit 4.1 Generalized Exponential Model Steps



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

GEM allows inputs of three different upper and lower 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 one 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, Cs were set to one so the adjusted weights would not be too far away from the original design weights. Here, Ls were chosen to be less than one and Us greater than one, because the control totals could be larger or smaller than the estimated totals based on the design weights. The extreme value adjustment is analogous to the poststratification adjustment (see Appendix A) in that it is a repeated poststratification with tighter bounds for extreme values identified after the poststratification step. Section 4.7 gives guidelines for the choice of L, C, and U parameters.

4.3 Definition of Control Totals

GEM modeling for extreme value adjustment, nonresponse adjustment, and poststratification 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 2002 National Survey on Drug Use and Health (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 value 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 persons) 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. Additionally, 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 U and L bounds, the number of the Newton-Raphson iterations and half-steps, and the type of weight adjustment (nonresponse adjustment, poststratification, or extreme value 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 U and L 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 value proportions. Convergence problems were addressed by loosening Ls and Us, 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 2002 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 Us and Ls could optimize the model by reducing UWE and the extreme weight proportions.

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 proportions of extreme values were checked after each adjustment to see how effective the modeling was in controlling extreme values. Coverage bias analysis based on the slippage rates was also conducted to check the impact of poststratification on various noncontrolled domains (i.e., those factors that were dropped or collapsed in the model). To check for overfitting after the final weight adjustment, point estimates for the main drug use variables and standard errors (SEs) were computed using a sandwich variance formula (see Section 6.5) and were compared with estimates and SEs for the baseline (or main effects) 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 zero and the control total corresponding to this domain was also zero, the factor was generally dropped. This automatically collapsed the factor level with the reference level; however, if the control total was not zero, the factor could not be dropped, because collapsing the domains together for the sample would also 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 zero 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 2002 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., checks for linear dependence of columns of realized values of the predictors) were performed for the baseline model; additionally, 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. In order 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, since 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 was then found, and the model was optimized using criteria described in Guideline 4 above. 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 value 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 previous NHSDAs, for the 2002 NSDUH, we used an adaptive approach to choose the bounds. Starting with loose bounds of (0.1, 10), we performed GEM iteratively 4 times, each with the realized bounds from the previous iteration. The final bounds for nonextreme weights were desired to be around (0.3, 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 as close to 1 as possible to better control high and low extreme values, while maintaining $L_3 \geq L_2$ and $U_1 \leq U_2$

- In the case of nonresponse, the center Cs 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 C as possible, while maintaining $L_3 \geq L_2$ and $U_1 \leq U_2$.

- Targets for the maximum acceptable percentages of extreme values and outwinsors within GEM for nonresponse and poststratification were as follows: 3 percent for the unweighted extreme values, 15 percent for weighted extreme values, 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 calibrations, a separate GEM for adjustment of extreme values 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 values 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 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 due to 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. Below 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 in the sense of the order. For example, the combined rental/house quintile had five levels (i.e., 1^{st}, 2^{nd}, 3^{rd}, 4^{th}, and 5^{th} quintile) with the 5^{th} quintile set for the reference. If the 4^{th} quintile needed to be collapsed, it would be collapsed with either the 3^{rd} or 5^{th} 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 Value Adjustment in order 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 State separately in the model was not a problem. For the State-specific interactions, collapsing was done within State first, collapsing with other adjacent States only if needed. For the eight States with large sample sizes (CA, FL, IL, MI, NY, OH, PA, TX), 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, American Indian/Alaska Native, Asian, and two or more races) while in non-State-specific two- and three-factor effects, Race had three levels (white, black, and other). If maintaining all five levels was difficult in the main effects or State × Race interactions, the following guidelines were followed: collapse American Indian/Alaska Native and Asian if either of them caused a convergence problem; collapse black with two or more races if black caused a convergence problem; collapse two or more races with American Indian/Alaska Native or Asian, whichever had a smaller sample size, if two or more races caused a convergence problem; collapse American Indian/Alaska Native, Asian, and two or more races, or collapse all non-white Race groups if necessary. In the State × Race interactions, collapsing Race should be done within State. If the three-level Race could not be maintained, the levels were collapsed to white and non-white.

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

The 2002 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 three 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 three stages of selection were as follows: within Phase I, (1) the selection of subareas or segments within State field interviewer (FI) regions (these subareas are comprised of U.S. Census blocks); (2) the selection of DUs within these subareas; and within Phase II, (3) 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 2002 NSDUH Sample Design Report (Bowman et al., 2004).

As part of the post-survey data-processing activities, analysis weights were calculated for the 2002 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 (drug questionnaire sample) to account for bias due to extreme values, nonresponse, and undercoverage (via poststratification for the last).

The final Phase I DU-level and Phase II person-level sample weights for the 2002 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 value, nonresponse, or poststratification adjustment. In the following sections, these components are described in greater detail. In summary, the first nine 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 value, nonresponse, and poststratification error. Note that the unconditional, final person-level weights for the 2002 NSDUH sample are the product of all 14 weight components, as illustrated in Exhibit 5.1.

In 2002, as in 2000 and 2001, the order of the extreme value 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 value 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 NHSDAs after 1999, we first allowed the generalized exponential model (GEM) to control the extreme weights during nonresponse and poststratification steps, and then performed a separate extreme value adjustment step after poststratification, if necessary. This step would be like a repeated poststratification,

Exhibit 5.1 Summary of 2002 NSDUH Sample Weight Components

Phase I Dwelling Unit Level

Design Weight Components
#1 Inverse Probability of Selecting Segment
#2 Quarter Segment Weight Adjustment
#3 Subsegmentation Inflation Adjustment
#4 Inverse Probability of Selecting Dwelling Unit
#5 Subsampling of Added Dwelling Unit Adjustment
#6 Dwelling Unit Percent Release Adjustment
#7 Dwelling Unit Nonresponse Adjustment ***(res.sdu.nr)****
#8 Dwelling Unit Poststratification Adjustment ***(res.sdu.ps)****
#9 Dwelling Unit Extreme Value Adjustment ***(res.sdu.ev)****

Phase II Person Level

Design Weight Components
#10 Inverse Probability of Selecting a Person Within a Dwelling Unit
#11 Selected Person-Level Poststratification Adjustment to Screener Data Controls ***(sel.per.ps)****
#12 Person-Level Nonresponse Adjustment ***(res.per.nr)****
#13 Person-Level Poststratification Adjustment ***(res.per.ps)****
#14 Person-Level Extreme Value Adjustment ***(res.per.ev)****

* These adjustments use the generalized exponential model (GEM), which also involves pre- and post-processing 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 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 DU	Completed DU	Eligible Persons	Selected Persons	Completed Persons
1	13,131	11,891	6,559	6,559	5,530
2	19,804	17,268	9,931	9,931	8,176
3	27,894	25,319	15,418	15,418	12,907
4	13,089	12,331	7,170	7,170	6,273
5	25,702	23,072	12,848	12,848	10,894
6	8,408	7,727	4,246	4,246	3,628
7	12,258	11,457	7,436	7,436	6,378
8	14,275	13,107	8,282	8,282	7,083
9	15,601	14,177	8,691	8,691	7,257
Total	150,162	136,349	80,581	80,581	68,126

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). It so happened that the extreme value adjustment step was not needed at the DU level, but was implemented at the person level.

5.1 Phase I Household-Level Weight Components

5.1.1 Weight Components #1 to #6: Selection of a Dwelling Unit

The first six 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 geographic segment within each State FI region, (2) a quarter segment weight adjustment, (3) a subsegmentation inflation factor, (4) the probability of selecting a DU from within each counted and listed sampled segment, (5) the probability of inclusion of added DUs, and (6) DU percent release adjustment.

Segments were selected with probabilities representing a full year's sample; therefore, Weight Component #2 was set to one in the 12-month analysis, and to two for 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 1990 U.S. Census data adjusted for 1995 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. Weight Component #3 (i.e., subsegmentation inflation factor) is an adjustment that accounts for this selection process.

As noted in the 2002 and earlier sample design reports, a lengthy process of determining the optimal DU sample was used during the design of the survey. Weight Component #4 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.

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 2001. Because the listing was done a short time before the 2002 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. The current procedure requires FIs to look both on the property of selected DUs and between that DU and the next listed DU (half-open interval rule). In 2000, the rule was modified such that the half-open interval would be closed on each map page. Therefore, if the selected DU was the last on a page, the "next listed DU" would be the first one listed on the same page. If the number of added DUs linked to any particular DU did not exceed 6, 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 #5 accounts for any subsampling that occurred due to added DUs.

To account for corrections and/or modifications that occurred during the process of design optimization, an additional sample was included throughout all four quarters. Weight Component #6 is the adjustment for the percentage of the DU sample released to FIs in these quarters.

For more detailed information on Weight Components #1 and #3 through #6, refer to the 2002 NSDUH Sample Design Report (Bowman et al., 2004).

5.1.2 Weight Component #7: 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 NHSDAs, the (unconditional) sample weights up to this point (equal to the product of Weight Components #1 through #6) were adjusted using a multiplicative adjustment factor derived from modeling response propensity via GEM.

5.1.3 Weight Component #8: 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 were first adjusted for poststratification and nonresponse. 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 persons, no controls were available for person-pairs. Note that for SDU poststratification, Census controls could still be used because each SDU's contribution was computed as the number of persons 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 could still 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 persons in this age category within a DU, and so on. The intercept was the total number of persons 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 by gender) were used instead.

Additionally, 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 origin, gender, and two or more races) were missing. Missing data for race and Hispanic origin were imputed using the newly developed predictive mean neighborhood (PMN) methodology (see Appendix C). The probability of observing race (white, black, American Indian/Alaska Native, Asian) was modeled using PROC MULTILOG in SUDAAN, and the probability of observing Hispanic

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, Hispanic), percent of segments that are black, percent of segment that are Hispanic, percent of owner-occupied DUs in segment, segment-combined median rent and housing value, age group
Hispanic Origin	Univariate predictive mean neighborhood (UPMN)	Census region, imputed race, household type (white, black, Hispanic), percent of segments that are black, percent of segment that are Hispanic, percent of owner-occupied DUs in segment, segment-combined median rent and housing value, age group
Gender	Hot deck	Census division, imputation-revised Hispanic origin, imputation-revised race and a random sort number

5.1.4 Weight Component #9: Dwelling Unit–Level Extreme Value Adjustment

The product of Weight Components #1 through #8 was checked to see if the extreme value adjustment step was needed. Using the FI region as the domain for the extreme weight definition, weights were defined as extreme if they were outside the range defined by the median $\pm 3 \times$ IQR. Since the unweighted, weighted, and winsorized extreme value proportions were not high, the extreme value adjustment was not necessary (see results in Appendix F). Therefore, Weight Component #9 was set to one 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 #9 described above. 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 nine weight components became the first nine components of the final interview respondent sample weight. The remaining five weight components discussed in the next section account for the person probability of selection for those persons for which a NHSDA interview was sought; they also account for person-level nonresponse, extreme values, and coverage errors resulting from the last stages of the sample design.

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

5.2 Phase II Person-Level Weight Components

5.2.1 Weight Component #10: Selection of a Person within a Dwelling Unit

The rate at which persons were selected within each DU depended on the age group, and was determined during the design of the 2002 study; this was also done for the probabilities of selecting DUs (i.e., Weight Component #4). Note that, similar to the 1999, 2000, and 2001 NHSDAs, all possible pairs of eligible rostered persons were given some nonzero probability of selection in order to facilitate unbiased variance estimation. With the use of the Apple Newton handheld computer used by field interviewers, 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 persons from the DU. (Three ghost units were defined for each DU to allow for the selection of no persons and to avoid division by zero in the Brewer's algorithm.) In short, if the sum of selection probabilities for all eligible DU members was greater than two, then probabilities were ratio-adjusted to sum to two; sums less than two were unadjusted. These adjusted rates were then retained as the final selection probabilities. Weight Component #10 represents the inverse of this probability of selection.

5.2.2 Weight Component #11: Selected Person-Level Poststratification Adjustment

The selected person-level postratification 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 1999, 2000, and 2001 NHSDAs, the combined step was divided into two separate steps; the first step was poststratification of the selected persons (i.e., respondents and nonrespondents) to estimated control totals from the screener person data; the second step was respondent person-level nonresponse adjustment (see Component #12) 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 primarily viewed 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 demographics of members of the selected DUs. See Appendix D for details on the final models.

5.2.3 Weight Component #12: 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 drug questionnaire 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 source of the data, 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 persons were not required, and imputation procedures were needed to replace missing data for race/ethnicity and gender. For race/ethnicity, imputations were created using predictive mean neighborhood methodology, and for gender, imputations were created using hot-deck methodology. It should be noted that answers from the questionnaire respondents could potentially cause discrepancies between screener values of demographics and their final imputed-revised values. Details on the final models used for person nonresponse adjustment for each model group can be found in Appendix D.

5.2.4 Weight Component #13: 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 2002 based on the 2000 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 our GEM in order to (1) control the resulting unequal weighting effect 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 #14: Respondent Person-Level Extreme Value Adjustment

The weights for the product of Weight Components #1 through #13 were checked to see if the extreme value adjustment step was needed, with extreme weights defined as described in Section 4.1. For the 2002 NSDUH, we used an adaptive approach to choose the bounds for GEM (see Section 4.7, Guideline #7) and found that unweighted, weighted, and winsorized extreme value proportions were not quite below its desired levels. So, we decided to use the extreme value adjustment at this stage. (See results in Appendix G.) This step preserved the same covariates used in the previous person-level poststratification adjustment step.

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, and I. Greater details can be found in the Supplement to the Appendices.

6.1 Response Rates

Table E 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 2002 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, at the national level, indicates an overall eligibility rate of 84.73 percent as compared to 84.60 percent for 2001. This similarity in overall rates held in nearly all States, with a few notable exceptions: the eligibility rate dropped from 84.78 to 76.73 percent for Wisconsin and increased from 72.75 to 79.74 percent for Vermont. The screening rate at the national level was also similar for the 2 years (90.72 percent for 2002 vs. 91.86 percent for 2001) except: the screening rate dropped from 97.07 to 77.38 percent in New Mexico and from 95.62 to 86.58 in Mississippi due to fraudulent field interviewers. The national interview response rate was 78.51 percent, an increase of 5.22 percent compared with 73.89 percent for 2001. The increase held in nearly all states, with the two biggest increases in Wisconsin (from 71.18 percent for 2001 to 82.78 percent for 2002) and Colorado (from 70.55 percent for 2001 to 81.91 percent for 2002); while only two states, Nevada and Virginia, showed slight decreases in interview response rates (0.03 percent and 0.01 percent). 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	Minimum	Median	Maximum
DU Level			
Eligibility Rate	76.73% (Wisconsin)	84.06% (District of Columbia)	90.87% (Maryland)
Screener Response Rate	77.38% (New Mexico)	92.64% (Oklahoma)	95.28% (Arkansas)
Person Level			
Interview Response Rate	71.25% (Massachusetts)	80.45% (Arizona)	88.09% (Vermont)

6.2 Proportion of Extreme Value and Outwinsor Weights

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 values among the weights. As explained in Section 4.1, the percentages of extreme values for the input weight were calculated for some domains of interest prior to adjustment. These values were then compared with the resulting percentages of extreme values using the product of weight components that included the new adjustment.

Table F in Appendix F and Tables G.1 and G.2 in Appendix G present percentages of extreme values 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 values 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 value 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 2002 NSDUH sample, domains for extreme value definitions were defined as follows for various weight adjustments via the generalized exponential model (GEM) (see Section 4.1):

- DU nonresponse: by field interviewer (FI) region;
- DU poststratification: by FI region;
- selected person-level poststratification: by FI region and age, State and age, FI region, State;
- person-level nonresponse: by FI region and age, State and age, FI region, State; and
- person-level poststratification: by FI region and age, State and age, FI region, State.

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 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.21 for Maine, which indicates a sample size of 13 for Hispanics; an Initial Total, also known as the design-based weight, of 3,996; a Census Total of 7,785; and an initial slippage rate of -48.68%. The ratio of the Census Total to the Initial Total gives the value of the weight adjustment, 1.95. Similar to this example, but in the opposite direction, is Table H.47 for Vermont. The Race domain for "black" contains a sample size of 6 and an initial slippage rate of 121.28%. The Initial Total of 5,959 and the Census Total of 2,693 indicates an adjustment of 0.45 would be required.

6.4 Weight Adjustment Summary Statistics

Tables I.1 to I.52 in Supplement 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. 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 UWE prior to poststratification based on the questionnaire data (e.g., see Table I.1, under the heading "After res.per.nr") would only be slightly different from what would be obtained after the nonresponse adjustment (e.g., see Table I.1, 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 model, a sensitivity analysis was conducted for the poststratification step, where a simple baseline model was fitted with the same bounds and maximum number of iterations as that 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.

To account properly for the additional variability due to GEM parameter estimation, the “standard” SE (a ratio-adjusted estimator denoted by SE1) computed under SUDAAN needed modifications. A sandwich formula for the Taylor linearization (see Vaish, et al., 2000) was used to find a modified SE (denoted by SE2). These SEs 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 to17, 18 to 25, 26 to 34, and 35 or older), for the eight States with large sample sizes.

As shown in Tables 6.2 to 6.7, the point estimates for the two models (baseline and final) are generally similar to each other; this is also true for the SEs (both SE1 and SE2). Therefore, there is no evidence of instability in estimates obtained by fitting a large number of parameters in GEM. Note that if SE2 were substantially smaller than SE1, it would indicate that the poststratification resulted in both variance reduction (due to correlation between study and predictor variables) and bias reduction (due to meeting control totals corresponding to a number of factor effects).

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Table 6.2 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Lifetime Licit Drug Estimates, Cigarettes and Alcohol: 2002 NSDUH

Variables		U.S.		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Lifetime											
Total	Point Estimates	69.13	69.13	62.56	62.49	68.34	68.49	69.40	69.44	73.20	73.19
	SE1	0.35	0.36	1.46	1.48	1.32	1.32	1.23	1.29	1.18	1.18
	SE2	0.33	0.32	1.37	1.32	1.32	1.32	1.23	1.19	1.16	1.07
12-17	Point Estimates	33.26	33.29	24.90	24.95	35.26	35.30	33.62	33.53	33.41	33.52
	SE1	0.43	0.44	1.40	1.39	1.86	1.86	1.60	1.59	1.38	1.40
	SE2	0.43	0.42	1.39	1.37	1.84	1.81	1.60	1.44	1.40	1.48
18-25	Point Estimates	71.12	71.23	62.99	63.06	68.41	68.51	71.76	71.90	72.20	72.27
	SE1	0.44	0.44	1.45	1.45	1.77	1.79	1.42	1.41	1.65	1.66
	SE2	0.43	0.41	1.45	1.45	1.78	1.36	1.42	1.40	1.65	1.58
26-34	Point Estimates	73.06	72.98	68.11	68.16	74.84	74.89	74.16	74.28	77.93	78.07
	SE1	0.72	0.74	2.13	2.13	2.71	2.72	2.54	2.53	2.42	2.43
	SE2	0.71	0.70	2.12	2.22	2.66	2.60	2.44	2.10	2.42	2.23
35+	Point Estimates	73.91	73.89	68.02	67.83	71.83	72.05	73.94	73.90	79.23	79.19
	SE1	0.52	0.52	2.44	2.47	1.84	1.82	1.70	1.79	1.51	1.52
	SE2	0.49	0.46	2.30	2.18	1.84	1.86	1.72	1.72	1.50	1.42
Alcohol Lifetime											
Total	Point Estimates	83.11	83.12	80.93	80.94	85.16	85.24	82.91	82.87	84.44	84.44
	SE1	0.28	0.28	1.26	1.28	0.75	0.76	1.14	1.17	1.00	1.00
	SE2	0.25	0.24	1.10	1.03	0.75	0.77	1.09	0.99	0.99	0.93
12-17	Point Estimates	43.40	43.41	38.84	38.93	47.79	47.73	44.06	43.99	43.66	43.74
	SE1	0.42	0.43	1.58	1.58	1.89	1.88	1.48	1.48	1.44	1.45
	SE2	0.42	0.42	1.54	1.52	1.90	1.81	1.48	1.45	1.44	1.47
18-25	Point Estimates	86.58	86.67	81.95	82.01	86.56	86.63	86.88	87.00	89.48	89.54
	SE1	0.33	0.33	1.24	1.24	1.09	1.09	1.16	1.15	1.28	1.27
	SE2	0.33	0.32	1.27	1.25	1.11	1.10	1.16	1.12	1.28	1.24
26-34	Point Estimates	90.22	90.22	88.45	88.46	92.76	92.79	87.57	87.66	94.14	94.19
	SE1	0.55	0.56	2.52	2.52	1.56	1.56	2.48	2.48	1.14	1.14
	SE2	0.54	0.51	2.48	2.46	1.57	1.52	2.44	2.37	1.15	1.03
35+	Point Estimates	87.45	87.44	86.53	86.48	88.83	88.97	87.66	87.49	88.21	88.22
	SE1	0.40	0.40	1.96	2.00	0.91	0.92	1.59	1.68	1.25	1.24
	SE2	0.38	0.34	1.82	1.63	0.95	1.04	1.54	1.32	1.25	1.28

(continued)

Table 6.2 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Lifetime Licit Drug Estimates, Cigarettes and Alcohol: 2002 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Lifetime									
Total	Point Estimates	68.31	68.19	74.49	74.45	71.15	71.03	65.69	65.75
	SE1	1.54	1.56	1.21	1.20	1.23	1.24	1.18	1.17
	SE2	1.42	1.34	1.20	1.11	1.22	1.16	1.11	1.06
12-17	Point Estimates	30.96	30.92	34.99	35.02	36.33	36.23	29.36	29.28
	SE1	1.49	1.49	1.24	1.26	1.64	1.67	1.61	1.59
	SE2	1.48	1.47	1.25	1.30	1.64	1.65	1.60	1.55
18-25	Point Estimates	70.38	70.60	76.58	76.53	74.52	74.44	69.50	69.61
	SE1	1.53	1.56	1.39	1.39	1.79	1.79	1.24	1.23
	SE2	1.51	1.58	1.40	1.39	1.79	1.80	1.24	1.21
26-34	Point Estimates	68.43	68.13	78.45	78.17	73.96	74.03	71.90	71.97
	SE1	3.11	3.23	2.88	2.94	2.67	2.67	2.56	2.57
	SE2	3.09	3.12	2.88	2.79	2.66	2.65	2.57	2.60
35+	Point Estimates	73.82	73.62	79.88	79.87	75.22	75.14	70.32	70.40
	SE1	2.10	2.13	1.67	1.66	1.69	1.71	1.95	1.94
	SE2	1.95	1.76	1.66	1.54	1.69	1.64	1.84	1.68
Alcohol Lifetime									
Total	Point Estimates	83.27	83.34	85.67	85.69	84.40	84.33	80.08	80.11
	SE1	1.17	1.19	0.89	0.89	1.07	1.07	1.01	1.01
	SE2	1.09	1.04	0.88	0.79	1.06	0.92	0.92	0.79
12-17	Point Estimates	43.70	43.65	45.05	45.16	46.30	46.24	42.51	42.42
	SE1	1.51	1.52	1.41	1.41	1.57	1.57	1.66	1.67
	SE2	1.49	1.54	1.41	1.41	1.57	1.50	1.67	1.63
18-25	Point Estimates	88.61	88.63	90.63	90.68	89.78	89.69	84.60	84.66
	SE1	1.35	1.34	0.94	0.93	1.37	1.36	0.94	0.93
	SE2	1.34	1.28	0.94	0.93	1.37	1.34	0.94	0.92
26-34	Point Estimates	87.18	86.86	93.85	93.68	90.28	90.35	87.50	87.52
	SE1	2.23	2.38	1.32	1.37	2.48	2.43	1.73	1.75
	SE2	2.17	2.16	1.32	1.25	2.48	2.22	1.73	1.52
35+	Point Estimates	87.54	87.67	89.71	89.72	87.95	87.96	84.44	84.49
	SE1	1.54	1.55	1.32	1.33	1.35	1.37	1.65	1.65
	SE2	1.48	1.41	1.31	1.20	1.33	1.21	1.52	1.27

Table 6.3 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Lifetime Illicit Drug Estimates, Marijuana and Cocaine: 2002 NSDUH

Variables		U.S.		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Lifetime											
Total	Point Estimates	40.36	40.38	42.39	42.37	39.10	39.24	40.19	40.20	45.63	45.75
	SE1	0.39	0.39	1.51	1.53	1.29	1.31	1.18	1.21	1.35	1.34
	SE2	0.32	0.30	1.27	1.16	1.23	1.03	1.18	1.18	1.31	1.06
12-17	Point Estimates	20.59	20.62	18.33	18.40	24.66	24.73	20.19	20.13	22.05	22.23
	SE1	0.35	0.35	0.97	0.97	1.45	1.45	1.32	1.32	1.23	1.24
	SE2	0.34	0.34	0.98	0.94	1.45	1.39	1.31	1.26	1.23	1.36
18-25	Point Estimates	53.61	53.76	50.65	50.72	52.78	53.05	55.70	55.87	58.05	58.17
	SE1	0.50	0.50	1.58	1.59	1.65	1.65	1.74	1.75	1.82	1.83
	SE2	0.49	0.48	1.57	1.58	1.70	1.58	1.75	1.69	1.81	1.73
26-34	Point Estimates	52.12	52.16	53.27	53.36	55.15	55.32	49.48	49.66	55.19	55.37
	SE1	0.78	0.79	2.85	2.85	3.53	3.51	2.60	2.59	2.50	2.52
	SE2	0.77	0.76	2.79	2.68	3.49	3.43	2.58	2.46	2.49	2.42
35+	Point Estimates	38.04	38.02	41.85	41.76	35.66	35.85	37.78	37.79	44.90	45.01
	SE1	0.57	0.57	2.23	2.25	1.89	1.91	1.61	1.67	2.04	2.03
	SE2	0.46	0.43	1.95	1.64	1.76	1.37	1.60	1.62	2.00	1.65
Cocaine Lifetime											
Total	Point Estimates	14.42	14.42	19.06	19.06	15.44	15.49	12.56	12.72	13.38	13.41
	SE1	0.25	0.25	1.00	1.00	0.84	0.85	0.90	0.98	0.87	0.87
	SE2	0.22	0.22	0.94	0.85	0.81	0.71	0.87	0.80	0.86	0.83
12-17	Point Estimates	2.70	2.71	2.53	2.54	3.26	3.25	2.24	2.21	3.13	3.17
	SE1	0.14	0.14	0.46	0.46	0.85	0.85	0.57	0.56	0.61	0.62
	SE2	0.14	0.14	0.45	0.45	0.86	0.86	0.57	0.56	0.61	0.61
18-25	Point Estimates	15.40	15.43	17.59	17.68	15.34	15.40	14.05	14.12	14.65	14.69
	SE1	0.36	0.36	1.61	1.61	1.38	1.41	0.97	0.97	1.29	1.29
	SE2	0.35	0.34	1.58	1.56	1.37	1.27	0.97	0.91	1.28	1.12
26-34	Point Estimates	17.63	17.60	20.79	20.82	20.74	20.82	16.57	16.54	10.84	10.85
	SE1	0.62	0.62	2.62	2.62	2.17	2.18	2.12	2.12	1.88	1.89
	SE2	0.61	0.60	2.59	2.57	2.16	2.31	2.12	2.07	1.88	1.88
35+	Point Estimates	15.44	15.44	22.06	22.01	16.15	16.22	12.99	13.25	15.47	15.53
	SE1	0.37	0.37	1.50	1.50	1.24	1.25	1.35	1.49	1.29	1.28
	SE2	0.32	0.31	1.36	1.21	1.16	0.95	1.29	1.19	1.27	1.19

(continued)

Table 6.3 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Lifetime Illicit Drug Estimates, Marijuana and Cocaine: 2002 NSDUH (continued)

		New York		Ohio		Pennsylvania		Texas	
Variables		**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**	**Baseline**	**Final**
Marijuana Lifetime									
Total	Point Estimates	41.67	41.47	41.21	41.29	38.06	37.87	34.99	35.02
	SE1	1.23	1.22	1.36	1.37	1.51	1.51	1.54	1.53
	SE2	1.29	1.22	1.34	1.15	1.49	1.19	1.31	1.22
12-17	Point Estimates	21.17	21.17	19.83	19.84	19.86	19.80	17.68	17.60
	SE1	1.43	1.43	1.30	1.31	1.40	1.41	1.30	1.29
	SE2	1.41	1.38	1.30	1.32	1.41	1.44	1.32	1.28
18-25	Point Estimates	55.56	55.80	57.52	57.48	54.21	54.16	46.63	46.83
	SE1	1.71	1.71	1.73	1.73	1.87	1.90	1.75	1.72
	SE2	1.70	1.85	1.73	1.76	1.88	1.89	1.61	1.63
26-34	Point Estimates	51.32	50.84	56.04	55.85	49.13	49.51	43.62	43.73
	SE1	3.13	3.21	3.16	3.23	3.66	3.72	2.67	2.67
	SE2	3.09	3.14	3.14	3.01	3.66	3.72	2.68	2.51
35+	Point Estimates	39.71	39.45	38.14	38.27	35.54	35.22	33.14	33.12
	SE1	1.65	1.65	1.82	1.83	1.82	1.81	2.37	2.37
	SE2	1.72	1.71	1.80	1.57	1.78	1.34	2.04	1.86
Cocaine Lifetime									
Total	Point Estimates	14.32	14.18	12.74	12.75	11.62	11.49	12.92	12.91
	SE1	0.82	0.80	0.89	0.88	0.93	0.93	0.78	0.78
	SE2	0.79	0.72	0.89	0.87	0.92	0.82	0.73	0.70
12-17	Point Estimates	1.65	1.65	2.35	2.36	1.15	1.15	3.93	3.90
	SE1	0.36	0.37	0.48	0.48	0.36	0.36	0.55	0.55
	SE2	0.36	0.36	0.48	0.48	0.36	0.36	0.57	0.53
18-25	Point Estimates	13.20	13.23	15.36	15.26	12.96	12.80	16.50	16.43
	SE1	1.30	1.29	1.04	1.04	1.30	1.31	1.20	1.20
	SE2	1.32	1.25	1.06	1.10	1.31	1.30	1.17	1.12
26-34	Point Estimates	15.64	15.34	14.37	14.54	15.35	15.51	19.58	19.63
	SE1	2.24	2.21	1.98	2.02	2.10	2.16	2.34	2.35
	SE2	2.25	2.20	1.98	1.99	2.10	2.17	2.31	2.32
35+	Point Estimates	16.26	16.07	13.58	13.59	12.20	12.02	11.96	11.95
	SE1	1.25	1.21	1.19	1.18	1.28	1.27	1.18	1.18
	SE2	1.20	1.09	1.18	1.13	1.25	1.08	1.13	1.10

Table 6.4 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Year Licit Drug Estimates, Cigarettes and Alcohol: 2002 NSDUH

Variables		U.S.		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Past Year											
Total	Point Estimates	30.29	30.33	24.24	24.19	28.54	28.54	31.55	31.79	32.68	32.69
	SE1	0.35	0.35	1.13	1.13	1.43	1.44	1.38	1.47	1.37	1.37
	SE2	0.33	0.32	1.07	1.02	1.42	1.33	1.35	1.30	1.36	1.28
12-17	Point Estimates	20.30	20.35	12.98	13.02	21.42	21.42	21.09	21.09	20.32	20.45
	SE1	0.35	0.35	0.93	0.93	1.41	1.41	1.50	1.50	1.09	1.10
	SE2	0.34	0.34	0.93	0.90	1.42	1.40	1.50	1.48	1.10	1.11
18-25	Point Estimates	48.92	49.04	38.61	38.73	44.98	45.06	51.96	52.07	50.12	50.17
	SE1	0.48	0.49	1.79	1.80	2.12	2.15	1.54	1.55	2.04	2.05
	SE2	0.47	0.43	1.76	1.66	2.13	1.78	1.55	1.49	2.03	1.88
26-34	Point Estimates	38.22	38.19	35.18	35.15	42.61	42.63	37.93	37.94	43.10	43.07
	SE1	0.79	0.80	2.68	2.69	2.83	2.82	2.72	2.72	2.91	2.91
	SE2	0.77	0.75	2.57	2.46	2.83	2.95	2.68	2.68	2.88	2.89
35+	Point Estimates	26.06	26.10	19.80	19.69	23.98	24.01	27.12	27.59	28.73	28.73
	SE1	0.50	0.50	1.69	1.70	1.74	1.76	1.91	2.06	1.77	1.76
	SE2	0.48	0.45	1.61	1.52	1.75	1.71	1.88	1.84	1.77	1.72
Alcohol Past Year											
Total	Point Estimates	66.09	66.12	66.11	66.01	65.98	66.05	64.99	64.80	68.54	68.59
	SE1	0.39	0.40	1.69	1.71	1.34	1.36	1.24	1.26	1.26	1.25
	SE2	0.36	0.33	1.54	1.45	1.34	1.32	1.24	1.19	1.26	1.21
12-17	Point Estimates	34.58	34.60	29.49	29.59	38.55	38.48	36.41	36.35	36.13	36.27
	SE1	0.41	0.42	1.46	1.46	1.52	1.52	1.41	1.40	1.51	1.52
	SE2	0.40	0.39	1.41	1.33	1.53	1.42	1.39	1.42	1.52	1.56
18-25	Point Estimates	77.73	77.85	71.94	72.04	76.82	76.92	80.24	80.39	83.03	83.10
	SE1	0.40	0.40	1.32	1.33	1.46	1.46	1.25	1.24	1.66	1.66
	SE2	0.40	0.38	1.34	1.28	1.49	1.38	1.24	1.21	1.65	1.59
26-34	Point Estimates	77.85	77.90	76.83	76.88	77.65	77.67	76.26	76.30	84.37	84.49
	SE1	0.74	0.75	2.92	2.92	2.39	2.39	3.29	3.29	1.87	1.85
	SE2	0.72	0.69	2.84	2.78	2.37	2.41	3.23	3.03	1.86	1.74
35+	Point Estimates	66.13	66.13	68.60	68.36	65.80	65.94	63.63	63.33	67.46	67.48
	SE1	0.57	0.57	2.55	2.60	1.88	1.90	1.73	1.74	1.79	1.78
	SE2	0.53	0.49	2.41	2.22	1.89	1.88	1.73	1.63	1.79	1.77

(continued)

Table 6.4 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Year Licit Drug Estimates, Cigarettes and Alcohol: 2002 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Past Year									
Total	Point Estimates	30.84	30.82	35.46	35.45	31.88	31.81	29.13	29.15
	SE1	1.39	1.38	1.14	1.16	1.16	1.16	1.18	1.18
	SE2	1.36	1.27	1.16	1.13	1.18	1.21	1.07	1.02
12-17	Point Estimates	20.45	20.51	21.43	21.43	23.19	23.23	17.44	17.39
	SE1	1.34	1.35	1.16	1.17	1.39	1.40	1.10	1.10
	SE2	1.31	1.33	1.16	1.17	1.38	1.37	1.10	1.10
18-25	Point Estimates	49.37	49.62	56.26	56.16	54.43	54.36	46.44	46.45
	SE1	1.72	1.74	1.31	1.30	1.81	1.82	1.24	1.26
	SE2	1.73	1.69	1.32	1.32	1.81	1.78	1.23	1.23
26-34	Point Estimates	38.94	38.68	48.48	48.46	39.05	39.02	34.54	34.58
	SE1	2.68	2.77	2.93	3.00	3.27	3.26	2.83	2.85
	SE2	2.67	2.81	2.92	2.97	3.27	3.14	2.79	2.96
35+	Point Estimates	26.70	26.67	30.60	30.58	27.51	27.39	25.65	25.67
	SE1	1.91	1.89	1.66	1.69	1.56	1.56	1.88	1.89
	SE2	1.88	1.78	1.68	1.64	1.58	1.70	1.73	1.65
Alcohol Past Year									
Total	Point Estimates	71.27	71.41	66.61	66.67	66.97	66.90	63.22	63.26
	SE1	1.34	1.35	1.34	1.34	1.35	1.35	1.22	1.21
	SE2	1.30	1.18	1.32	1.19	1.33	1.08	1.10	1.05
12-17	Point Estimates	37.11	37.13	35.80	35.90	36.70	36.66	33.45	33.41
	SE1	1.62	1.63	1.32	1.33	1.68	1.69	1.63	1.63
	SE2	1.58	1.62	1.31	1.33	1.67	1.58	1.62	1.56
18-25	Point Estimates	81.28	81.42	82.37	82.37	82.63	82.54	75.75	75.85
	SE1	1.55	1.55	1.41	1.41	1.30	1.30	1.28	1.25
	SE2	1.55	1.42	1.41	1.39	1.30	1.29	1.30	1.27
26-34	Point Estimates	78.25	77.91	81.93	81.96	80.90	80.95	71.39	71.45
	SE1	2.73	2.83	2.14	2.12	2.98	2.96	2.71	2.72
	SE2	2.68	2.67	2.13	2.11	3.00	2.94	2.64	2.44
35+	Point Estimates	72.95	73.19	65.13	65.17	65.79	65.77	63.79	63.83
	SE1	1.80	1.81	1.91	1.91	1.82	1.84	2.08	2.08
	SE2	1.81	1.74	1.89	1.76	1.79	1.42	1.89	1.67

Table 6.5 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Year Illicit Drug Estimates, Marijuana and Cocaine: 2002 NSDUH

Variables		U.S.		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Past Year											
Total	Point Estimates	10.93	10.95	12.58	12.58	11.11	11.13	9.28	9.22	12.27	12.30
	SE1	0.20	0.20	0.86	0.86	0.89	0.89	0.63	0.63	0.83	0.83
	SE2	0.18	0.18	0.81	0.74	0.88	0.85	0.60	0.53	0.83	0.74
12-17	Point Estimates	15.75	15.78	13.84	13.92	18.87	18.91	15.28	15.27	17.20	17.38
	SE1	0.31	0.32	0.92	0.93	1.41	1.41	1.39	1.38	1.21	1.23
	SE2	0.31	0.31	0.95	0.91	1.41	1.37	1.38	1.36	1.22	1.34
18-25	Point Estimates	29.69	29.78	27.31	27.37	29.48	29.62	30.69	30.79	32.38	32.48
	SE1	0.42	0.43	1.40	1.41	1.40	1.40	1.42	1.44	2.32	2.34
	SE2	0.42	0.41	1.40	1.33	1.43	1.26	1.43	1.45	2.32	2.17
26-34	Point Estimates	14.25	14.21	15.97	15.98	16.48	16.53	9.00	9.04	13.40	13.31
	SE1	0.60	0.61	2.44	2.44	3.05	3.05	1.83	1.84	1.77	1.76
	SE2	0.60	0.57	2.38	2.16	3.06	3.12	1.81	1.78	1.78	1.60
35+	Point Estimates	5.26	5.28	7.85	7.84	5.82	5.83	3.49	3.45	6.89	6.91
	SE1	0.23	0.24	1.18	1.18	1.00	1.00	0.60	0.59	0.95	0.94
	SE2	0.22	0.22	1.15	1.10	0.97	0.91	0.59	0.57	0.93	0.84
Cocaine Past Year											
Total	Point Estimates	2.52	2.51	2.58	2.57	2.64	2.63	2.61	2.59	2.62	2.62
	SE1	0.09	0.09	0.37	0.37	0.41	0.41	0.36	0.36	0.35	0.35
	SE2	0.09	0.09	0.39	0.39	0.41	0.38	0.36	0.33	0.35	0.33
12-17	Point Estimates	2.04	2.05	1.89	1.91	2.83	2.82	1.53	1.53	2.69	2.72
	SE1	0.13	0.13	0.39	0.39	0.80	0.79	0.51	0.51	0.55	0.56
	SE2	0.13	0.12	0.39	0.39	0.80	0.81	0.51	0.48	0.56	0.55
18-25	Point Estimates	6.73	6.73	5.80	5.82	6.90	6.93	6.74	6.80	6.81	6.80
	SE1	0.24	0.24	0.92	0.92	0.85	0.85	0.82	0.82	0.96	0.97
	SE2	0.24	0.23	0.92	0.91	0.84	0.77	0.82	0.82	0.96	0.86
26-34	Point Estimates	3.65	3.64	4.20	4.19	3.40	3.42	5.53	5.53	1.68	1.67
	SE1	0.31	0.31	1.37	1.37	1.11	1.11	1.71	1.71	0.85	0.85
	SE2	0.31	0.30	1.34	1.22	1.11	1.13	1.71	1.63	0.85	0.83
35+	Point Estimates	1.42	1.41	1.47	1.46	1.74	1.73	1.09	1.08	1.93	1.94
	SE1	0.12	0.11	0.43	0.43	0.51	0.51	0.33	0.33	0.48	0.48
	SE2	0.11	0.11	0.45	0.46	0.50	0.46	0.33	0.31	0.48	0.47

(continued)

Table 6.5 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Year Illicit Drug Estimates, Marijuana and Cocaine: 2002 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Past Year									
Total	Point Estimates	12.76	12.67	12.03	12.06	9.29	9.33	8.46	8.49
	SE1	0.75	0.75	0.60	0.61	0.76	0.76	0.70	0.70
	SE2	0.72	0.59	0.60	0.56	0.76	0.71	0.65	0.62
12-17	Point Estimates	17.05	17.09	15.54	15.53	16.54	16.49	12.27	12.22
	SE1	1.17	1.18	1.10	1.10	1.37	1.38	1.13	1.13
	SE2	1.16	1.15	1.10	1.10	1.37	1.40	1.13	1.11
18-25	Point Estimates	34.48	34.64	33.27	33.27	30.15	30.15	22.60	22.71
	SE1	1.56	1.57	1.57	1.57	1.59	1.60	1.25	1.26
	SE2	1.55	1.67	1.58	1.69	1.59	1.60	1.15	1.18
26-34	Point Estimates	22.68	22.45	16.75	16.95	11.17	11.31	10.55	10.58
	SE1	2.73	2.78	2.27	2.40	2.38	2.43	1.97	1.98
	SE2	2.73	2.70	2.27	2.25	2.37	2.23	1.99	2.03
35+	Point Estimates	5.17	5.05	5.93	5.95	3.90	3.87	3.58	3.58
	SE1	0.82	0.80	0.64	0.64	0.80	0.80	0.70	0.70
	SE2	0.81	0.73	0.64	0.60	0.80	0.78	0.67	0.66
Cocaine Past Year									
Total	Point Estimates	2.77	2.72	2.74	2.79	1.86	1.85	2.20	2.20
	SE1	0.37	0.36	0.31	0.32	0.33	0.33	0.20	0.21
	SE2	0.37	0.36	0.31	0.30	0.33	0.31	0.20	0.20
12-17	Point Estimates	1.17	1.16	1.56	1.57	0.61	0.61	2.83	2.81
	SE1	0.29	0.30	0.42	0.42	0.24	0.24	0.51	0.51
	SE2	0.29	0.29	0.42	0.42	0.24	0.24	0.51	0.49
18-25	Point Estimates	5.82	5.83	7.59	7.57	6.62	6.52	7.06	7.05
	SE1	0.68	0.68	0.94	0.94	0.93	0.93	0.86	0.86
	SE2	0.69	0.65	0.95	0.95	0.92	0.91	0.84	0.85
26-34	Point Estimates	4.13	4.05	4.78	5.12	2.71	2.79	3.31	3.31
	SE1	0.98	1.01	1.38	1.55	1.02	1.04	0.98	0.98
	SE2	0.98	1.00	1.38	1.42	1.02	1.01	0.97	0.98
35+	Point Estimates	2.07	2.00	1.47	1.47	0.98	0.96	0.55	0.55
	SE1	0.51	0.49	0.38	0.38	0.35	0.34	0.19	0.19
	SE2	0.50	0.46	0.38	0.36	0.35	0.33	0.19	0.18

Table 6.6 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Month Licit Drug Estimates, Cigarettes and Alcohol: 2002 NSDUH

Variables		U.S.		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Past Month											
Total	Point Estimates	25.96	26.00	20.04	20.00	24.52	24.56	26.90	26.98	28.59	28.58
	SE1	0.34	0.34	1.10	1.11	1.28	1.29	1.31	1.35	1.23	1.22
	SE2	0.32	0.30	1.01	0.98	1.28	1.22	1.29	1.30	1.22	1.15
12-17	Point Estimates	12.92	12.96	6.88	6.92	13.87	13.89	14.03	14.06	13.10	13.24
	SE1	0.29	0.30	0.79	0.80	1.40	1.40	1.19	1.19	0.97	0.97
	SE2	0.29	0.28	0.80	0.78	1.40	1.39	1.19	1.20	0.97	1.02
18-25	Point Estimates	40.66	40.77	29.96	30.10	38.38	38.45	44.52	44.61	41.72	41.72
	SE1	0.47	0.48	1.67	1.68	2.05	2.08	1.60	1.62	2.02	2.03
	SE2	0.46	0.44	1.59	1.48	2.07	1.76	1.61	1.59	2.01	1.94
26-34	Point Estimates	32.69	32.69	29.17	29.13	38.25	38.29	33.29	33.33	36.26	36.14
	SE1	0.79	0.80	2.93	2.94	2.87	2.87	2.72	2.73	2.82	2.83
	SE2	0.77	0.75	2.81	2.70	2.85	2.96	2.67	2.61	2.80	2.81
35+	Point Estimates	23.39	23.43	17.53	17.45	20.98	21.05	23.53	23.70	26.74	26.73
	SE1	0.48	0.48	1.58	1.60	1.53	1.55	1.86	1.92	1.63	1.63
	SE2	0.46	0.43	1.52	1.48	1.54	1.51	1.84	1.88	1.63	1.58
Alcohol Past Month											
Total	Point Estimates	50.94	50.96	50.62	50.58	51.19	51.27	50.67	50.62	54.05	54.06
	SE1	0.42	0.42	1.61	1.62	1.71	1.72	1.31	1.35	1.36	1.35
	SE2	0.39	0.37	1.49	1.46	1.69	1.61	1.29	1.25	1.36	1.32
12-17	Point Estimates	17.66	17.63	15.08	15.15	18.01	17.98	19.69	19.71	19.66	19.76
	SE1	0.32	0.32	1.05	1.06	1.57	1.55	1.14	1.14	0.99	1.00
	SE2	0.32	0.31	1.03	1.02	1.56	1.45	1.15	1.17	1.00	1.03
18-25	Point Estimates	60.37	60.47	53.50	53.63	60.11	60.20	61.52	61.66	65.38	65.45
	SE1	0.51	0.52	1.98	1.99	1.88	1.90	1.86	1.87	2.54	2.54
	SE2	0.51	0.49	1.94	1.94	1.88	1.60	1.85	1.87	2.53	2.40
26-34	Point Estimates	61.40	61.41	58.83	58.94	62.79	62.75	58.83	58.89	65.47	65.44
	SE1	0.82	0.83	3.24	3.25	2.82	2.83	3.36	3.36	3.03	3.05
	SE2	0.80	0.77	3.17	3.11	2.82	2.91	3.33	3.23	3.03	2.93
35+	Point Estimates	52.07	52.08	54.33	54.16	52.18	52.34	51.55	51.43	54.99	55.02
	SE1	0.61	0.62	2.59	2.61	2.28	2.30	1.83	1.87	1.78	1.77
	SE2	0.58	0.55	2.52	2.47	2.26	2.17	1.80	1.74	1.78	1.73

(continued)

Table 6.6 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Month Licit Drug Estimates, Cigarettes and Alcohol: 2002 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Cigarettes Past Month									
Total	Point Estimates	26.00	26.04	31.34	31.34	28.08	28.00	24.29	24.31
	SE1	1.31	1.32	1.07	1.08	1.08	1.08	1.17	1.17
	SE2	1.28	1.22	1.09	1.07	1.10	1.13	1.07	1.02
12-17	Point Estimates	12.19	12.28	14.59	14.61	15.27	15.30	10.22	10.17
	SE1	1.04	1.05	1.11	1.12	1.21	1.21	0.81	0.81
	SE2	1.01	1.02	1.11	1.09	1.20	1.21	0.81	0.81
18-25	Point Estimates	40.21	40.44	47.67	47.55	45.25	45.12	38.19	38.24
	SE1	1.78	1.80	1.40	1.39	1.99	1.99	1.34	1.34
	SE2	1.76	1.80	1.41	1.43	1.98	1.94	1.32	1.34
26-34	Point Estimates	34.12	34.05	43.97	43.76	34.72	34.70	28.04	28.06
	SE1	2.57	2.67	3.38	3.46	2.79	2.79	2.72	2.72
	SE2	2.56	2.64	3.36	3.26	2.79	2.75	2.66	2.74
35+	Point Estimates	23.28	23.30	27.96	27.99	25.45	25.35	22.61	22.63
	SE1	1.69	1.68	1.47	1.48	1.49	1.49	1.78	1.78
	SE2	1.66	1.58	1.49	1.48	1.50	1.59	1.64	1.58
Alcohol Past Month									
Total	Point Estimates	56.59	56.82	51.57	51.58	51.64	51.58	48.29	48.32
	SE1	1.63	1.64	1.65	1.66	1.63	1.63	1.38	1.38
	SE2	1.51	1.34	1.63	1.54	1.61	1.43	1.24	1.16
12-17	Point Estimates	19.59	19.74	17.21	17.21	17.83	17.86	17.44	17.40
	SE1	1.45	1.45	1.15	1.16	1.23	1.25	1.10	1.09
	SE2	1.38	1.35	1.15	1.15	1.23	1.23	1.11	1.10
18-25	Point Estimates	63.96	64.10	66.78	66.77	66.28	66.21	59.68	59.66
	SE1	1.64	1.64	1.73	1.73	1.79	1.79	1.47	1.46
	SE2	1.66	1.63	1.74	1.74	1.79	1.80	1.43	1.31
26-34	Point Estimates	63.34	63.12	66.71	66.32	63.50	63.64	56.69	56.73
	SE1	3.27	3.37	2.75	2.84	3.17	3.13	2.48	2.49
	SE2	3.23	3.17	2.75	2.69	3.21	3.09	2.43	2.38
35+	Point Estimates	59.33	59.66	50.85	50.92	51.60	51.57	49.31	49.35
	SE1	2.20	2.21	2.27	2.28	2.23	2.26	2.26	2.26
	SE2	2.09	1.92	2.24	2.17	2.20	1.90	2.08	1.88

Table 6.7 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Month Illicit Drug Estimates, Marijuana and Cocaine: 2002 NSDUH

Variables		U.S.		California		Florida		Illinois		Michigan	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Past Month											
Total	Point Estimates	6.19	6.20	7.14	7.15	7.18	7.21	5.26	5.22	7.33	7.36
	SE1	0.14	0.14	0.50	0.50	0.73	0.73	0.46	0.45	0.57	0.58
	SE2	0.13	0.12	0.49	0.46	0.71	0.68	0.44	0.40	0.58	0.56
12-17	Point Estimates	8.14	8.17	7.22	7.26	9.96	9.99	8.19	8.19	9.24	9.38
	SE1	0.23	0.23	0.71	0.72	1.00	1.01	1.04	1.03	0.89	0.92
	SE2	0.22	0.22	0.72	0.70	1.00	1.01	1.03	1.03	0.89	0.94
18-25	Point Estimates	17.27	17.33	14.65	14.70	20.17	20.28	18.12	18.19	19.48	19.54
	SE1	0.35	0.35	1.18	1.19	1.31	1.33	1.42	1.43	1.81	1.82
	SE2	0.35	0.33	1.19	1.11	1.31	1.14	1.43	1.42	1.81	1.74
26-34	Point Estimates	7.76	7.74	9.40	9.41	8.97	9.02	4.68	4.70	8.11	8.05
	SE1	0.45	0.45	1.83	1.83	2.20	2.21	1.41	1.42	1.44	1.43
	SE2	0.44	0.41	1.74	1.39	2.20	2.27	1.41	1.42	1.44	1.37
35+	Point Estimates	3.09	3.10	4.68	4.68	4.24	4.26	2.00	1.98	4.24	4.27
	SE1	0.16	0.16	0.72	0.72	0.88	0.88	0.46	0.46	0.66	0.67
	SE2	0.16	0.16	0.73	0.73	0.85	0.79	0.46	0.44	0.67	0.66
Cocaine Past Month											
Total	Point Estimates	0.86	0.86	0.76	0.75	0.92	0.92	1.11	1.10	1.06	1.06
	SE1	0.05	0.05	0.23	0.22	0.22	0.22	0.22	0.22	0.22	0.22
	SE2	0.05	0.05	0.22	0.21	0.22	0.21	0.22	0.22	0.22	0.22
12-17	Point Estimates	0.58	0.59	0.27	0.28	0.33	0.33	0.82	0.82	0.87	0.88
	SE1	0.07	0.07	0.15	0.15	0.17	0.17	0.39	0.39	0.23	0.23
	SE2	0.07	0.07	0.15	0.16	0.17	0.17	0.39	0.37	0.23	0.23
18-25	Point Estimates	2.03	2.03	1.04	1.04	2.95	2.96	2.17	2.20	1.46	1.45
	SE1	0.12	0.12	0.28	0.27	0.56	0.57	0.50	0.51	0.35	0.35
	SE2	0.12	0.12	0.27	0.28	0.56	0.55	0.50	0.51	0.35	0.35
26-34	Point Estimates	1.23	1.22	1.39	1.39	1.58	1.57	1.99	1.99	0.28	0.28
	SE1	0.19	0.19	0.79	0.79	0.91	0.90	1.04	1.03	0.21	0.20
	SE2	0.19	0.19	0.79	0.78	0.90	0.90	1.03	1.05	0.21	0.20
35+	Point Estimates	0.57	0.56	0.60	0.59	0.53	0.53	0.69	0.68	1.19	1.20
	SE1	0.07	0.07	0.25	0.25	0.25	0.25	0.19	0.19	0.34	0.34
	SE2	0.07	0.06	0.25	0.23	0.25	0.24	0.19	0.18	0.34	0.34

(continued)

Table 6.7 Point Estimates, Ratio-Adjusted Standard Errors (SE1), and Sandwich Standard Errors (SE2) for Baseline and Final Models—Drug Estimates (U.S. and Eight Large States): Past Month Illicit Drug Estimates, Marijuana and Cocaine: 2002 NSDUH (continued)

Variables		New York		Ohio		Pennsylvania		Texas	
		Baseline	Final	Baseline	Final	Baseline	Final	Baseline	Final
Marijuana Past Month									
Total	Point Estimates	7.45	7.38	6.81	6.80	5.35	5.37	4.66	4.69
	SE1	0.55	0.55	0.46	0.46	0.51	0.51	0.51	0.52
	SE2	0.54	0.49	0.46	0.44	0.51	0.48	0.48	0.45
12-17	Point Estimates	9.57	9.65	8.74	8.72	8.62	8.61	5.48	5.44
	SE1	0.97	0.98	0.84	0.84	0.93	0.93	0.73	0.73
	SE2	0.95	0.92	0.84	0.84	0.94	0.91	0.73	0.73
18-25	Point Estimates	21.04	21.06	19.24	19.24	18.36	18.35	12.91	13.06
	SE1	1.11	1.11	1.26	1.27	1.30	1.32	1.07	1.13
	SE2	1.12	1.16	1.26	1.33	1.31	1.32	1.03	1.09
26-34	Point Estimates	10.76	10.52	10.03	9.92	6.28	6.35	7.50	7.51
	SE1	1.87	1.88	1.84	1.84	1.49	1.51	1.56	1.56
	SE2	1.87	1.97	1.84	1.76	1.49	1.42	1.57	1.55
35+	Point Estimates	3.50	3.44	3.17	3.18	2.23	2.20	1.64	1.64
	SE1	0.66	0.65	0.54	0.54	0.65	0.65	0.45	0.45
	SE2	0.66	0.63	0.54	0.54	0.65	0.63	0.44	0.44
Cocaine Past Month									
Total	Point Estimates	1.18	1.16	0.92	0.93	0.62	0.62	0.49	0.49
	SE1	0.31	0.30	0.18	0.18	0.17	0.17	0.12	0.12
	SE2	0.31	0.30	0.18	0.17	0.17	0.16	0.11	0.11
12-17	Point Estimates	0.24	0.24	0.58	0.58	0.14	0.14	0.49	0.49
	SE1	0.15	0.15	0.24	0.24	0.11	0.11	0.20	0.20
	SE2	0.15	0.15	0.24	0.24	0.10	0.10	0.20	0.19
18-25	Point Estimates	2.28	2.29	1.60	1.59	2.40	2.33	1.81	1.80
	SE1	0.51	0.51	0.40	0.39	0.52	0.51	0.39	0.39
	SE2	0.51	0.49	0.40	0.41	0.52	0.51	0.38	0.38
26-34	Point Estimates	1.85	1.82	2.28	2.28	1.01	1.06	0.69	0.69
	SE1	0.87	0.86	1.01	1.02	0.72	0.74	0.48	0.48
	SE2	0.87	0.86	1.00	0.94	0.72	0.73	0.48	0.49
35+	Point Estimates	0.94	0.91	0.54	0.55	0.29	0.28	0.11	0.11
	SE1	0.43	0.41	0.23	0.23	0.16	0.16	0.11	0.11
	SE2	0.42	0.39	0.23	0.24	0.16	0.16	0.10	0.10

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Appendix A

Technical Details About the Generalized Exponential Model

Appendix A
Technical Details about the Generalized Exponential Model (GEM)

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

$$\Delta(w,d) = \sum_{k\in s} \frac{d_k}{A_k} \left\{ (a_k - \ell_k) \log \frac{a_k - \ell_k}{c_k - \ell_k} + (u_k - a_k) \log \frac{u_k - a_k}{u_k - c_k} \right\}, \tag{A1.1}$$

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

$$\sum_{k\in s} x_k d_k a_k = T_x \ . \tag{A1.2}$$

The solution of the above minimization problem, if it exists, is given by a GEM with model parameters λ, i.e.,

$$a_k(\lambda) = \frac{\ell_k (u_k - c_k) + u_k (c_k - \ell_k) \exp\{A_k x_k' \lambda\}}{(u_k - c_k) + (c_k - \ell_k) \exp\{A_k x_k' \lambda\}}. \tag{A1.3}$$

Note that the number of parameters in 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 A1.3 that

$$\ell_k < a_k < u_k \ , k = 1, \ldots, n \ . \tag{A1.4}$$

The usual raking-ratio method (see, e.g., Singh & Mohl, 1996) of weight adjustment is a special case of GEM, such that for $\ell_k = 0$, $u_k = \infty$, $c_k = 1$, $k = 1, \ldots, n$, we have

$$\Delta(w,d) = \sum_{k\in s} d_k a_k \log a_k - \sum_{k\in s} d_k (a_k - 1), \tag{A1.5}$$

and

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

The logit method of Deville and Särndal (1992) is also a special case of GEM, setting $\ell_k = \ell, u_k = u,$ and $c_k = 1$ for all *k*.

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 (A1.3) can be justified for all three types of adjustment. Denote the winsorized weights by $\{b_k\}$ where $b_k = d_k$ if d_k is not an extreme weight, and $d_k = med\{d_k\} \pm 3*$ IQR, if d_k is an extreme weight (where IQR is the interquartile range, and the 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: s^*, the non-extreme weight subsample; and s^{**}, the extreme weight subsample. For non-extreme weights, the following are set: $\ell_2 = 1, c_2 = \rho^{-1}, u_2 = u > \rho^{-1}$, where ρ is the overall response propensity; and for extreme weights with high weights, they are $\ell_k = \ell m_k, c_k = \rho^{-1} m_k, u_k = u_1 m_k$, 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, for non-extreme weights, $\ell_k = \ell_2$, $c_k = c_2 = 1, u_k = u_2$, and for high extreme weights, $\ell_2 = \ell_1 m_k, c_k = m_k, u_k = u_1 m_k$, and similarly for low extreme weights, $l_k = \ell_3 m_k, c_k = m_k, u_k = u_3 m_k$. The extreme-value adjustment is identical to poststratifcation, except for tighter bounds on extreme weights resulting from the final poststratification.

Notice that 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 x p* matrix of predictor values, and for the v[th] iteration

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

where

$$\phi_k^{(v)} = \left[\left(u_k - a_k^{(v)}\right)\left(a_k^{(v)} - l_k\right)\right] / \left[\left(u_k - c_k\right)\left(c_k - l_k\right)\right];$$

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

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

where $\lambda^{(0)} = 1$.

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

A.4 Scaled Constrained Exponential Model

In previous National Household Surveys on Drug Abuse (NHSDAs), constrained exponential models were used for poststratification and scaled constrained exponential models were used for nonresponse adjustments. The term "constrained exponential model" refers to the logit model of Deville and Särndal (1992), in which lower and upper bounds do not vary with *k* (i.e., $\ell_k = \ell$, $u_k = u$, and $c_k = c = 1$ such that $\ell < 1 < u$. Thus, it is a special case of GEM. For the nonresponse adjustment, Folsom and Witt (1994) modified the constrained exponential models' 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 constrained exponential models as ρ ensures that the scaled adjustment factor for nonresponse is at least one.

Appendix B

Poststratification Control Totals

Appendix B
Poststratification Control Totals

For poststratification, quarterly State-specific totals for the target population (civilian, noninstitutionalized, aged 12 or older) are required for 100 demographic domains defined by Age, Race, Gender, and Hispanicity ($5 \times 5 \times 2 \times 2$). The Population Estimates Branch of the U.S. Bureau of the Census produced, in response to a special request, the necessary population estimates based on monthly State-level estimates of the target population, based on the unadjusted 2000 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 2002, 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).

Appendix C

Imputation Methodology

Appendix C
Imputation Methodology

C.1 Unweighted Hot Deck

The adjustments of (1) dwelling unit (DU) poststratification, (2) poststratification of the selected sample to all eligible rostered persons, and (3) person-level nonresponse required the use of demographic information obtained from the 2002 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, and, thus, some demographic information (i.e., gender, Hispanic origin, and race) was missing. Therefore, some form of imputation was required for cases with missing data.[1] 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 2002 NSDUH, two types of sorting procedures were used to sort the files prior to imputation:

   (1) 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]Because the imputation of these demographic variables was not required for the main NSDUH analysis, it is documented here in the weighting report.

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

(2) 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 the 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)

As in 2001, the predictive mean neighborhood (PMN) methodology was used the 2002 NSDUH weighting process to impute "race" and "Hispanic origin" for the screener demographic information, as well as the questionnaire data (Singh, Grau, & Folsom, 2002). Due to the lack of a good set of predictors for predictive mean neighborhood modeling, the unweighted sequential hot-deck method was used to impute gender. 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, and

- 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 predictive mean neighborhood methodology was developed for the NSDUH. It is a combination of two commonly used imputation methods: a non-model-based hot deck and the model-based predictive mean matching method of Rubin. 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, while 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 predictive mean neighborhood 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 the 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 predictive mean neighborhood, see Grau et al. (2003).

Appendix D

GEM Modeling Summary

Appendix D
GEM Modeling 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 2002 National Survey on Drug Use and Health (NSDUH) involved taking nine model groups through six adjustment steps: (1) dwelling unit–level nonresponse adjustment; (2) dwelling unit–level poststratification; (3) selected person-level poststratification; (4) person-level nonresponse adjustment; (5) respondent person-level poststratification; and (6) respondent person-level extreme value adjustment. The sampling weights after dwelling unit–level poststratification for this year were reasonably distributed and did not require the additional treatment of the extreme value adjustment step at the dwelling-unit level. Since the adaptive fitting strategy for choosing bounds introduced this year does not require the bounds to be as tight as possible (see Section 4.5), an extreme value adjustment step was performed after respondent person-level poststratification to further control the extreme values. 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 the generalized exponential model (GEM); weighted, unweighted, and winsorized weight proportions; the unequal weighting effect (UWE); and weight distributions. The unequal weighting effect 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 utilized 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 with regard to final covariates included in each model. For a list of the proposed initial covariates considered at each stage of modeling, see Exhibits D.1, and for the list of realized final model covariates, see Exhibits D1.1 through D9.6. The following sections establish a series of guidelines to assist in their interpretation.

D.1 Final Model Explanatory Variables

For brevity, numeric abbreviations for variable levels are established in Exhibit 3.1 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

Table D Distribution of Weight Adjustment Factors and Weight Products (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]		*res.per.ev* [1]	
	1-6[2]	**7**[3]	**1-7**[3]	**8**[4]	**1-8**[4]	**10**[5]	**1-10**[5]	**11**[5]	**1-11**[5]	**12**[6]	**1-12**[6]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	13	0.24	39	0.09	14	1.01	16	0.06	6	0.24	6	0.03	1	0.12	1
1%	69	0.98	85	0.45	86	1.01	110	0.36	87	0.97	94	0.10	58	0.80	53
5%	109	1.02	119	0.80	133	1.01	199	0.67	186	1.00	198	0.54	166	0.97	165
10%	160	1.03	173	0.91	178	1.01	333	0.77	314	1.01	334	0.90	279	0.99	281
25%	418	1.05	451	1.01	471	1.08	680	0.89	670	1.06	730	0.97	699	1.00	699
Median	566	1.08	626	1.10	691	1.30	1,246	1.00	1,244	1.12	1,360	1.01	1,349	1.00	1,351
75%	913	1.13	988	1.21	1,094	5.50	3,364	1.11	3,333	1.23	3,587	1.06	3,563	1.00	3,561
90%	1,248	1.19	1,361	1.38	1,515	8.41	7,756	1.26	7,887	1.41	9,165	1.16	9,137	1.01	9,159
95%	1,357	1.25	1,501	1.55	1,761	12.50	11,171	1.41	11,303	1.59	13,939	1.36	14,165	1.03	14,194
99%	1,839	1.53	1,986	2.17	2,379	14.97	19,141	1.99	20,396	2.32	27,426	2.00	27,702	1.19	27,702
Maximum	6,749	25.90	7,005	7.66	10,757	35.17	83,104	11.80	63,242	10.99	88,527	8.22	102,854	9.97	81,198
n	150,162	136,349	136,349	136,340	136,340	80,581	80,581	80,581	80,581	68,126	68,126	68,126	68,126	68,126	68,126
Max/Mean	10.34	-	9.75	-	13.39	-	28.78	-	21.67	-	25.65	-	29.80	-	23.52

Note 1: Weight component 9 and weight products 1-9 are excluded because weight 9 = 1 for all selected dwelling units.
Note 2: Under GEM, nonresponse adjustment factors (weight components #7 and #12) 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 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 persons.
[6] Based on questionnaire-complete persons.

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 D9.6 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 followed is: 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 Definitions 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 Quarter Indicator
1: College Dorm, 2: Other Group Quarter, 3: Non-Group Quarter[1]
Hispanicity
1: Hispanic, 2: Non-Hispanic[1]
Percentage of Owner-Occupied Dwelling Units in Segment (% Owner)
1: 50% - 100%,[1] 2: 10% - > 50%, 3: 0 - >10%
Percentage of Segments That Are Black (% Black)
1: 50% - 100%, 2: 10% - >50%, 3: 0 - >10%[1]
Percentage of Segments That Are Hispanic (% Hispanic)
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, 3: Other
Race (5 levels)
1: White,[1] 2: Black, 3: American Indian/Alaska Native, 4: Asian, 5: Two or More Races
Relation to Householder
1: Householder or Spouse,[1] 2: Child, 3: Other Relative, 4: Non-Relative
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 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]50+ was further broken down into 50-64 and 65+ for Person-Level Poststratification Adjustment and Person-Level Extreme Value Adjustment.

Source: SAMHSA, Office of Applied Studies, National Survey of Drug Use and Health, 2002

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

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

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.

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.

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

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 due to either singularities or sample sizes of zero.

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.

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

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

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.

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

Note: The above are given as a list of general terms. Certain other specific terms are sometimes used within a particular section.

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 1999 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)	Drop (3,4,2); sing. Coll. (1,4,2) & (1,4,3). Drop (3,*,*). Coll. (4,1,2) & (4,1,3). Do the same for each level of age in that State.

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, 3: Other

Note that the superscript number indicates the reference level of the variable for a particular stage of modeling. For the example case, the model stage is "Person Nonresponse Adjustment."

3. Construct the cross-classification table.

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

Race (5 Level)	White	Black	Asian	American Indian/Alaska Native	Two or More Races

Indicates the reference-level set.

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

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

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	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+			
CA * 12-17			
18-25			
26-34			
35-49			
50+			
WA * 12-17			
18-25			
26-34			
35-49			
50+			

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 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).

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

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

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 levels of age in State (2); hier. Drop (3,4,2); sing. Coll. (1,4,2) & (1,4,3). Drop (3,*,*). Coll. (4,1,2) & (4,1,3). Do the same for each level of age in that State.

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	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+			
CA * 12-17			
18-25			
26-34			
35-49			
50+			
WA * 12-17			
18-25			
26-34			
35-49			
50+			

Indicates the reference-level set.

The unshaded cells represent the factors directly controlled for by the model (i.e., those factors which 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 2002 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	3	2
%Hispanic	3	2
%Owner-Occupied	3	2
Rent/housing value	5	4
Two-Factor Effects		
%Owner-Occupied × %Black	3 × 3	4
%Owner-Occupied × %Hispanic	3 × 3	4
%Owner-Occupied × Rent/housing	3 × 5	8
Rent/housing × %Black	3 × 5	8
Rent/housing × %Hispanic	3 × 5	8
State × Quarter	Model Specific	
State × Population density	Model Specific	
State × Group quarter	Model Specific	
State × %Black	Model Specific	
State × %Hispanic	Model Specific	
State × %Owner-Occupied	Model Specific	
State × Rent/housing	Model Specific	
Three-Factor Effects		
State × %Owner-Occupied × %Black	Model Specific	
State × %Owner-Occupied × %Hispanic	Model Specific	
State × %Owner-Occupied × Rent/housing	Model Specific	
State × Rent/house × %Black	Model Specific	
State × Rent/house × %Hispanic	Model Specific	

Exhibit D.3 Covariates for 2002 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
Hisp × 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 2002 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	3	2
%Hispanic	3	2
%Owner-Occupied	3	2
Rent/house value	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	3 × 3	4
%Owner-Occupied × %Hispanicity	3 × 3	4
%Owner-Occupied × Rent/housing	3 × 5	8
Rent/housing × %Black	3 × 5	8
Rent/housing × %Hispanic	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	Model Specific	
State × %Hispanic	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 2002 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
Hisp × 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 level) × 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	

Appendix D1

Model Group 1: New England

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

Table D.1a 2002 NSDUH Person Weight GEM Modeling Summary (Model Group 1: New England)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	2.19%	2.17%	0.31%	1.65760	306	(1.09, 1.16)	(1.10,1.16)
	1.04%	0.69%	0.14%	1.70402	108	(1.00, 2.64)	(1.00,2.61)
						(1.04, 1.14)	(1.04,1.14)
res.sdu.ps	1.04%	0.69%	0.14%	1.70399	232	(0.17, 1.03)	(0.17,1.03)
	3.41%	6.42%	1.58%	1.85977	219	(0.10, 7.77)	(0.10,7.66)
						(0.97, 2.55)	(0.97,2.55)
sel.per.ps	4.51%	9.29%	2.23%	4.00639	332	(0.16, 3.00)	(0.16,3.00)
	1.71%	6.21%	1.47%	4.15509	241	(0.15, 4.70)	(0.15,4.70)
						(0.41, 4.54)	(0.41,4.54)
res.per.nr	1.74%	5.90%	1.46%	4.10233	332	(1.00, 3.00)	(1.00,3.00)
	1.46%	5.30%	1.78%	5.46271	168	(1.00, 4.70)	(1.00,4.70)
						(1.07, 1.34)	(1.07,1.07)
res.per.ps	1.48%	5.32%	1.79%	5.46271	267	(0.10, 2.80)	(0.10,2.77)
	1.45%	5.79%	1.70%	5.59342	164	(0.10, 4.50)	(0.10,4.50)
res.per.ev	1.45%	5.79%	1.70%	5.59342	267	(0.30, 1.80)	(0.55,1.80)
	1.23%	5.19%	1.29%	5.50467	164	(0.30, 1.80)	(0.30,1.80)
						(0.66, 1.34)	(0.66,1.34)

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

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

[3] Number of proposed covariates above, and number finalized after modeling below.

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

Table D.1b Distribution of Weight Adjustment Factors and Weight Products (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]		*res.per.ev* [1]	
	1-6[2]	**7**[3]	**1-7**[3]	**8**[4]	**1-8**[4]	**10**[5]	**1-10**[5]	**11**[5]	**1-11**[5]	**12**[6]	**1-12**[6]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	26	0.24	104	0.09	14	1.01	21	0.12	6	0.30	6	0.05	2	0.27	1
1%	102	1.00	106	0.26	67	1.01	70	0.20	41	0.93	43	0.10	13	0.37	9
5%	105	1.03	110	0.72	125	1.01	138	0.53	128	1.00	138	0.35	96	0.86	90
10%	119	1.04	124	0.90	142	1.01	173	0.67	164	1.00	176	0.87	164	0.97	164
25%	187	1.08	205	1.02	206	1.06	280	0.83	267	1.04	287	0.97	280	0.99	280
Median	223	1.10	248	1.09	269	1.30	683	0.99	670	1.09	716	1.03	680	1.00	685
75%	522	1.13	553	1.19	572	6.13	1,710	1.15	1,726	1.21	1,834	1.09	1,882	1.01	1,885
90%	973	1.16	1,103	1.37	1,194	8.48	4,611	1.36	4,821	1.43	5,335	1.20	5,258	1.06	5,224
95%	1,010	1.19	1,179	1.54	1,307	14.19	9,073	1.56	7,929	1.71	9,181	1.39	9,552	1.20	9,464
99%	1,055	1.36	1,292	2.56	1,585	18.04	15,689	2.49	16,828	3.11	23,608	2.35	21,968	1.79	22,188
Maximum	2,074	6.11	2,626	7.66	7,462	35.17	54,524	6.08	45,506	4.70	62,412	4.50	68,919	4.98	57,486
n	13,131	11,891	11,891	11,890	11,890	6,559	6,559	6,559	6,559	5,530	5,530	5,530	5,530	5,530	5,530
Max/Mean	5.52	-	6.33	-	16.17	-	29.84	-	25.28	-	29.23	-	32.28	-	26.93

Note 1: Weight component 9 and weight products 1-9 are excluded because weight 9 = 1 for all selected dwelling units.
Note 2: Under GEM, nonresponse adjustment factors (weight components #7 and #12) 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 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 persons.
[6] Based on questionnaire-complete persons.

Model Group 1 Overview

Dwelling Unit Nonresponse

All 24 proposed one-factor effects were included in the model.

All the two-factor effects had some degree of variable collapsing or dropping except State × Quarter interaction. Out of 122 proposed variables, 74 were included.

Variable collapsing or dropping was present in all three-factor effects. Out of 160 proposed variables, only 10 were included.

In the final model, a total of 219 variables were included; see Exhibit D1.1.

Dwelling Unit Poststratification

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

All two-factor effects were kept in the model except Race × Hispanicity, where Black and Other had to be collapsed due to convergence problems. Out of 86 proposed variables, 85 were included.

For three factor effects, variable collapsing was present in Age × Race × Hispanicity, Race × Hispanicity × Gender, and State × Race× Hispanicity due to collapsing among two-factor effects of Race × Hispanicity. Black and Other were collapsed for all levels of the State × Age × Race interaction due to convergence problems. All other interactions were kept in the model with the proposed levels. Out of 127 proposed variables, 115 were included.

In the final model, a total of 108 variables were included; see Exhibit D1.2.

Selected Person-Level Poststratification

All 37 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was present in the percent Owner-Occupied × percent Black, percent Owner-Occupied × percent Hispanicity, percent Owner-Occupied × Rent/housing, Rent/housing × percent Black, Rent/housing × percent Hispanic, State × percent Black, State × Hispanicity, State × percent Owner-Occupied, and State × Rent/housing interactions. Out of 168 proposed variables, 132 were included.

For three-factor effects, variable collapsing was present in all interactions except the Age × Hispanicity × Gender and State × Age ×Gender interactions. Out of 127 proposed variables, 72 were included.

In the final model, a total of 241 variables were included; see Exhibit D1.3.

Respondent Person-Level Nonresponse

All 37 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing was present in the State × Race interaction, Dropping was present in the State × Hispanicity, percent Owner-Occupied × percent Black, percent Owner-Occupied × percent Hispanicity, percent Owner-Occupied × Rent/housing, Rent/housing × percent Black and Rent/housing × Hispanicity interactions. Out of 168 proposed variables, 101 were included.

For three-factor effects, all interactions were affected by variable collapsing or dropping. Out of 127 proposed variables, 30 were included.

In the final model, a total of 168 variables were included; see Exhibit D1.4.

Respondent Person-Level Poststratification

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

For two-factor effects, variable collapsing or dropping was present in the State × Race, State × percent Owner-Occupied and State × Race interactions. Out of 95 proposed variables, 86 were included.

For three-factor effects, variable collapsing or dropping was present in all interactions. Out of 129 proposed variables, 58 were included

In the final model, a total of 164 variables were included; see Exhibit D1.5.

Respondent Person-Level Extreme Value

This step used the same variables as the **Respondent Person-Level Poststratification** step.

Exhibit D1.1 Covariates for 2002 NSDUH Person Weights (res.sdu.nr), Model Group 1: New England

Variables	Level	Proposed	Final	Comments
One-Factor Effects		**24**	**24**	
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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**122**	**74**	
%Owner-Occupied × %Black	3*3	4	3	Drop (2,1); sing.
%Owner-Occupied × %Hispanic	3*3	4	3	Drop (2,1); sing.
%Owner-Occupied × Rent/housing	3*5	8	7	Drop (3,2); zero cnts.
Rent/housing × %Black	3*5	8	4	Drop (1,2); conv. Drop (1,1), (2,1), (4,1); zero cnts.
Rent/housing × %Hispanic	3*5	8	5	Drop (1,1), (1,2), (4,1); zero cnts.
State × Quarter	6*4	15	15	All levels present.
State × Population Density	6*4	15	9	Drop (2,1), (3,1), (4,1), (5,1); zero cnts. Drop (4,3), (5,3); sing.
State × Group Quarter	6*3	10	4	Drop (1,2); zero cnts. Drop (1,1); conv. Coll.(2,1), (2,2), (3,1), (3,2), (4,1), (4,2),(5,1), (5,2)
State × %Black	6*3	10	5	Drop (2,1), (3,1); zero cnts. Drop (5,1), (5,2); sing. Drop (2,2); conv.
State × %Hispanic	6*3	10	2	Drop (2,1), (2,2), (3,1), (3,2), (5,1),(5,2); zero cnts. Drop (1,1), (4,1); sing.
State × %Owner-Occupied	6*3	10	9	All levels present.
State × Rent/housing	6*5	20	8	Drop (1,1), (1,2), (1,3), (2,3), (2,4), (3,1), (4,1), (5,4); zero cnts. Drop (2,2), (3,4), (5,1), (5,3); sing.
Three-Factor Effects		**160**	**10**	
State × %Owner-Occupied × %Black	6*3*3	20	3	Drop (2,2,1), (2,2,2), (2,3,1), (2,3,2), (3,2,1), (3,2,2), (3,3,1), (4,3,1), (5,2,1), (5,2,2), (5,3,1), (5,3,2); zero cnts. Drop (1,3,1), (1,3,2), (1,2,1), (3,3,2), (4,2,1); sing.
State × %Owner-Occupied × %Hispanic	6*3*3	20	1	Drop (5,3,1), (5,3,2), (5,2,1), (5,2,2), (4,3,1), (3,3,1), (3,3,2),(3,2,1), (3,2,2) (2,2,1),(2,2,2), (2,3,1), (2,3,2); zero cnts. Drop (1,3,1), (1,3,2), (1,2,1), (4,3,2), (4,2,1), (4,2,2); sing.
State × %Owner-Occupied × Rent/housing	6*3*5	40	4	Drop (1,2,1), (1,2,2), (1,2,3), (1,3,1), (1,2,3),(1,3,3), (1,3,4), (2,2,3), (2,2,4), (2,3,2), (2,3,3), (2,3,4), (3,2,1), (3,3,1), (3,3,2), (4,2,1), (4,3,1), (4,3,2), (5,2,4), (5,3,2), (5,3,3), (5,3,4); zero cnts. Drop (2,3,1), (2,2,2), (3,3,4), (3,2,3), (3,2,4), (4,3,3), (4,3,4), (4,2,2), (4,2,4), (3,2,2), (5,3,1), (5,2,1), (5,2,2), (5,2,3); sing.
State × Rent/housing × %Black	6*3*5	40	1	Drop (1,1,1), (1,1,2), (1,2,1), (1,2,2), (1,3,1), (1,3,2), (1,4,1), (2,1,1), (2,1,2), (2,2,1), (2,2,2), (2,3,1), (2,3,2), (2,4,1), (2,4,2), (3,1,1), (3,1,2), (3,2,1), (3,2,2), (3,4,1), (3,4,2), (4,1,1), (4,1,2), (4,2,1), (4,4,1), (5,1,1), (5,1,2), (5,2,1), (5,2,2), (5,3,1), (5,3,2), (5,4,1), (5,4,2), (3,3,2); zero cnts. Drop (3,3,2), (4,2,2), (4,3,1), (4,3,2), (4,4,2); sing
State × Rent/housing × %Hispanic	6*3*5	40	1	Drop (1,1,1), (1,1,2), (1,2,1), (1,2,2), (1,3,1), (1,3,2), (1,4,1), (2,1,1), (2,1,2), (2,2,1), (2,2,2), (2,3,1), (2,3,2), ((2,4,1), (2,4,2), (3,1,1), (3,1,2), (3,2,1), (3,2,2), (3,3,1), (3,3,2), (3,4,1), (3,4,2), (4,1,1), (4,1,2), (4,2,1), (4,4,1), (5,1,1), (5,1,2), (5,2,1), (5,2,2), (5,3,1), (5,3,2), (5,4,1), (5,4,2); zero cnts. Drop (1,4,2), (4,2,2), (4,3,1), (5,4,2); sing.
Total		**306**	**108**	

Exhibit D1.2 Covariates for 2002 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**	**85**	
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	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**	**115**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	3	Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1), (3,2,1) & (3,3,1), (4,2,1) & (4,3,1); hier. Drop (4,3/2,1); 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); hier.
State × Age × Race (3 levels)	6*5*3	40	39	Coll. (5,4,2) & (5,4,3); conv.
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	5	Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1), (3,2,1) & (3,3,1), (4,2,1) & (4,3,1), (5,2,1) & (5,3,1); hier.
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**	**219**	

Exhibit D1.3 Covariates for 2002 NSDUH Person Weights (sel.per.ps), Model Group 1: New England

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**37**	**37**	
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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**168**	**132**	
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	3*3	4	3	Drop (2,1); sing.
%Owner-Occupied × %Hispanic	3*3	4	3	Drop (2,1); sing.
%Owner-Occupied × Rent/housing	3*5	8	7	Drop (3.2); zero cnts.
Rent/housing × %Black	3*5	8	4	Drop (1,1), (1,2), (2,1), (4,1); zero cnts.
Rent/housing × %Hispanic	3*5	8	5	Drop (1,1), (1,2), (4,1); zero cnts.
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	6*3	10	5	Drop (5,2), (5,1), (3,1), (2,1), (2,2); zero cnts.
State × %Hispanic	6*3	10	2	Drop(1,1), (4,1); sing. Drop (5,1), (5,2), (3,1), (3,2), (2,1), (2,2); zero cnts.
State × %Owner-Occupied	6*3	10	9	Drop (5,3); sing.
State × Rent/housing	6*5	20	9	Drop (2,2), (3,4), (5,1), (5,3); sing. Drop (5,4), (3,1), (4,1), (2,4), (2,3), (1,2), (1,1), (1,3); zero.
Three-Factor Effects		**127**	**72**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	2	Drop (4,2,1), (4,3,1); sing. Coll. (1,2,1) & (1,3,1), (3,2,1) & (3,3,1), (2,2,1) & (2,3,1); conv. Drop (3,2,1), (3,3,1); conv.
Age × Race (3 levels) × Gender	5*3*2	8	4	Coll. (*,2,1) & (*,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 all.
State × Age × Race (3 levels)	6*5*3	40	16	Drop (2,3,2), (4,4,3), (5,2,2), (5,4,2); sing. Coll. (2,4,2) & (2,4,3), (2,1,2) & (2,1,3), (2,1,2) & (2,1,3), (3,3,2) & (3,3,3), (3,2,2) & (3,2,3), (3,4,2) & (3,4,3), (4,3,2) & (4,3,3), (5,3,2) & (5,3,3), (5,4,2) & (5,4,3), (1,*,2) & (1,*,3), (5,1,2) & (5,1,3); conv. Drop (1,4,2/3), (5,2,3), (4,4,2), (2,3,3), (5,3,2/3); conv.
State × Age × Hispanicity	6*5*2	20	16	Drop (3,4,1), (5,3,1), (5,4,1)sing. Drop (5,1,1); conv.
State × Age × Gender	6*5*2	20	20	All levels present.
State × Race (3 levels) × Hispanicity	6*3*2	10	0	Drop all.
State × Race (3 levels) × Gender	6*3*2	10	6	Coll. (2,2,1) & (2,3,1), (4,2,1) & (4,3,1), (3,2,1) & (3,3,1), (5,2,1) & (5,3,1); conv.
State × Hispanicity × Gender	6*2*2	5	4(58)	Drop (5,1,1); conv.
Total		**332**	**241**	

Exhibit D1.4 Covariates for 2002 NSDUH Person Weights (res.per.nr), Model Group 1: New England

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**37**	**37**	
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 Housholder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**168**	**101**	
Age × Race (3 levels)	5*3	8	7	Coll. (4,2) & (4,3); conv.
Age × Hispanicity	5*2	4	3	Drop (4,1); conv.
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	3*3	4	3	Drop (2,1); sing.
%Owner-Occupied × %Hispanic	3*3	4	3	Drop (2,1); sing.
%Owner-Occupied × Rent/housing	3*5	8	7	Drop (2,1); zero cnts.
Rent/housing × %Black	3*5	8	4	Drop (1,1), (1,2), (2,1), (4,1); zero cnts.
Rent/housing × %Hispanic	3*5	8	5	Drop (1,1), (1,2), (4,1); zero cnts.
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	4	Coll. (5,2) & (5,5), (5,3) & (5,4), (*,2) & (*,3) & (*,4) & (*,5); conv. Drop (2,2/3/4/5), (4,2/3/4/5); conv.
State × Hispanicity	6*2	5	1	Keep (1,1); conv.
State × Gender	6*2	5	5	All levels present.
State × %Black	6*3	10	1	Coll. (1,1) & (1,2); conv. Drop all the others.
State × %Hispanic	6*3	10	1	Coll. (1,1) & (1,2); conv. Drop all the others.
State × %Owner-Occupied	6*3	10	6	Drop (5,3); sing. Coll. (4,1) & (4,3), (1,2) & (1,3), (3,2) & (3,3); conv.
State × Rent/housing	6*5	20	7	Drop(2,2), (3,4), (5,1), (5,3); sing. Drop (1,4); conv. Drop (1,1), (1,2), (1,3), (2,3), (2,4), (3,1), (4,1), (5,4); zero cnts.
Three-Factor-Effects		**127**	**30**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	0	Drop all.
Age × Race (3 levels) × Gender	5*3*2	8	2	All levels present.
Age × Hispanicity × Gender	5*2*2	4	0	Drop all.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all.
State × Age × Race (3 levels)	6*5*3	40	4	Keep (3,1,2/3), (3,2,2/3), (5.1.2/3), (5.2.2/3).
State × Age × Hispanicity	6*5*2	20	4	Keep (1,*,1).
State × Age × Gender	5*5*2	20	19	Drop (1,4,1); conv.
State × Race (3 levels) × Hispanicity	5*3*2	10	0	Drop all.
State × Race (3 levels) × Gender	5*3*2	10	0	Drop all.
State × Hispanicity × Gender	5*2*2	5	1	Keep (1,1,1).
Total		**332**	**168**	

Exhibit D1.5 Covariates for 2002 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**	**86**	
Age × Race (3 levels)	6*3	10	8	Drop (5,2), (5,3); conv.
Age × Hispanicity	6*2	5	4	Drop (5,1); conv.
Age × Gender	6*2	5	4	Drop (5,1); conv
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. (1,4) & (1,5), (2,4) & (2,5), (4,4) & (4,5), (5,3) & (5,4) & (5,5); conv.
State × Hispanicity	6*2	5	5	All levels present.
State × Gender	6*2	5	5	All levels present.
Three-Factor Effects		**129**	**58**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	2	Keep (1,2/3,1) & (2,2/3,1).
Age × Race (3 levels) × Gender	6*3*2	10	3	Drop (4,2/3,1) & (5,2/3/1); conv.
Age × Hispanicity × Gender	6*2*2	5	4	Drop (5,1,1); conv.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2/3,1,1); hier.
State × Age × Race (3 levels)	6*5*3	50	7	Coll. (*,*,2) & (*,*,3); conv. Drop (4,2/3,*), (*,4,2/3), (*,5,2/3), (3,*,*), (2,3,2/3), (3,2,2/3), (3,3,2/3), (5,2,2/3), (5,3,2/3); conv.
State × Age × Hispanicity	6*6*2	25	14	Drop (*,5,1), (2,3/4/5,1), (3,4,1), (4,4,1), (5,3/4,1); conv. Drop (3,4,1); zero cnts. Drop (5,4,1); conv.
State × Age × Gender	6*6*2	25	20	All levels present.
State × Race (3 levels) × Hispanicity	6*3*2	10	0	Drop all.
State × Race (3 levels) × Gender	6*3*2	10	4	Coll. (*,2/3,1) except state=1; conv. Drop (2,2/3,1), (5,2/3,1); conv.
State × Hispanicity × Gender	6*2*2	5	3	Drop (2,1,1), (5,1,1); conv.
Total		**244**	**164**	

Exhibit D1.6 Covariates for 2002 NSDUH Person Weights (res.per.ev), Model Group 1: New England

The same covariates were kept as in the res.per.ps model.

Appendix D2

Model Group 2: Middle Atlantic

(New Jersey, New York, Pennsylvania)

Table D.2a 2002 NSDUH Person Weight GEM Modeling Summary (Model Group 2: Middle Atlantic)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	9.10%	8.46%	0.31%	1.12918	153	(1.01, 1.17)	(1.01,1.17)
	2.38%	2.49%	0.21%	1.13604	80	(1.00, 2.59)	(1.00,2.59)
						(1.03, 8.50)	(1.03,8.50)
res.sdu.ps	2.38%	2.49%	0.21%	1.13604	127	(0.65, 1.31)	(0.66,1.29)
	1.42%	2.90%	0.58%	1.18060	126	(0.33, 6.12)	(0.34,6.05)
						(0.44, 5.04)	(0.44,4.96)
sel.per.ps	3.69%	6.60%	1.67%	2.61305	197	(0.50, 2.10)	(0.52,2.10)
	1.31%	3.16%	0.53%	2.71034	183	(0.51, 3.15)	(0.53,3.14)
						(0.99, 2.09)	(0.99,2.09)
res.per.nr	1.52%	3.42%	0.55%	2.79483	197	(1.01, 2.30)	(1.01,2.30)
	1.60%	5.33%	1.12%	3.31319	185	(1.00, 4.00)	(1.00,4.00)
						(1.32, 1.34)	(1.32,1.32)
res.per.ps	1.71%	5.89%	1.49%	3.31319	147	(0.10, 1.71)	(0.10,1.65)
	1.57%	5.45%	1.14%	3.46486	129	(0.10, 3.98)	(0.10,3.70)
						(0.99, 1.95)	(1.95,1.95)
res.per.ev	1.57%	5.45%	1.14%	3.46486	147	(0.95, 1.20)	(0.95,1.20)
	1.30%	4.35%	0.47%	3.42135	129	(0.30, 5.00)	(0.33,2.40)
						(0.30, 1.05)	(0.30,1.05)

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

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

[3] Number of proposed covariates above, and number finalized after modeling below.

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

Table D.2b Distribution of Weight Adjustment Factors and Weight Products (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]		*res.per.ev* [1]	
	1-6[2]	**7**[3]	**1-7**[3]	**8**[4]	**1-8**[4]	**10**[5]	**1-10**[5]	**11**[5]	**1-11**[5]	**12**[6]	**1-12**[6]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	98	0.70	364	0.17	183	1.01	281	0.20	230	0.57	251	0.05	36	0.33	14
1%	421	0.95	458	0.74	482	1.01	494	0.59	445	1.00	460	0.11	98	0.52	81
5%	426	1.02	508	0.93	528	1.01	592	0.78	577	1.02	618	0.41	509	0.81	486
10%	451	1.04	524	0.97	558	1.01	651	0.83	641	1.04	699	0.84	657	0.95	644
25%	514	1.07	559	1.04	628	1.08	794	0.93	809	1.08	887	0.97	872	0.99	863
Median	587	1.10	657	1.12	769	1.18	1,225	1.01	1,274	1.15	1,407	1.01	1,424	1.00	1,417
75%	652	1.19	805	1.23	1,008	5.49	4,352	1.11	4,296	1.27	4,748	1.08	4,650	1.01	4,682
90%	802	1.33	1,144	1.50	1,400	8.13	8,945	1.23	9,367	1.45	11,047	1.19	11,009	1.04	11,113
95%	1,270	1.49	1,430	1.75	1,624	13.41	11,794	1.37	12,433	1.62	16,528	1.55	16,400	1.11	16,665
99%	1,406	1.68	1,564	2.54	2,053	15.03	18,846	1.72	20,784	2.15	30,185	2.26	30,846	1.47	32,112
Maximum	3,057	14.90	3,599	6.05	8,520	24.92	83,104	3.14	52,713	4.00	79,597	3.70	73,840	7.46	65,348
n	19,804	17,268	17,268	17,267	17,267	9,931	9,931	9,931	9,931	8,176	8,176	8,176	8,176	8,176	8,176
Max/Mean	4.72	-	4.84	-	9.69	-	25.70	-	15.74	-	19.57	-	18.15	-	16.07

Note 1: Weight component 9 and weight products 1-9 are excluded because weight 9 = 1 for all selected dwelling units.
Note 2: Under GEM, nonresponse adjustment factors (weight components #7 and #12) 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 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 persons.
[6] Based on questionnaire-complete persons.

Model Group 2 Overview

Dwelling Unit Nonresponse

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

For two-factor effects, variable collapsing or dropping was present in Rent/housing × percent Hispanic, State × Population Density, State × Group Quarter, State × percent Hispanic, and State × Rent/housing interactions. Out of 68 proposed variables, 54 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 64 proposed variables, only 5 were included in the model.

In the final model, a total of 80 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 three-factor effects were kept in the model except State × Race × Hispanicity, where Black and Other had to be collapsed for Pennsylvania due to convergence problems. Out of 64 proposed variables, 63 were included in the model.

In the final model, a total of 126 variables were included; see Exhibit D2.2.

Selected Person-Level Poststratification

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

For two-factor effects, variable collapsing or dropping was present in the percent Owner-occupied × percent Hispanic, Rent/housing × percent Hispanic, State × Race, State × Hispanicity, and State × Rent/housing interactions. Out of 99 proposed variables, 88 were included in the model.

For three-factor effects, variable dropping was present in the interactions of State × Age × Hispanicity and State × Race × Hispanicity. Out of 64 proposed variables, 61 were included in the model.

In the final model, a total of 183 variables were included; see Exhibit D2.3.

Respondent Person-Level Nonresponse

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

For two-factor effects, variable dropping was present in the Rent/housing × percent Hispanic, State × Hispanicity, and State × Rent/housing interactions. Out of 99 proposed variables, 90 were included in the model.

For three-factor effects, variable collapsing was present in the Age × Race × Hispanicity and State × Race × Hispanicity interactions. Out of 64 proposed variables, 61 were included in the model.

In the final model, a total of 185 variables were included; see Exhibit D2.4.

Respondent Person-Level Poststratification

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

For two-factor effects, variable dropping was present in the Age × Race, Age × Hispanicity, Age × Gender, and State × Race interactions. Out of 53 proposed variables, 49 were included in the model.

All three-factor effects were kept in the model except State × Age × Race, where Ages 50-64 and 65+ had to be collapsed for all states and race levels due to convergence problems. Out of 64 proposed variables, 63 were included in the model.

In the final model, a total of 129 variables were included; see Exhibit D2.5.

Respondent Person-Level Extreme Value

This step used the same variables as the **Respondent Person-Level Poststratification** step.

Exhibit D2.1 Covariates for 2002 NSDUH Person Weights (res.sdu.nr), Model Group 2: Middle Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**21**	**21**	
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	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**68**	**54**	
%Owner-Occupied × %Black	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	6	Drop (1,1); zero cnts. Coll. (2,1) & (2,2); conv.
State × Quarter	3*4	6	6	All levels present.
State × Population Density	3*4	6	4	Drop (3,3); ref zero. Drop (2,2); sing.
State × Group Quarter	3*3	4	3	Drop (3,2); ref zero.
State × %Black	3*3	4	4	All levels present.
State × %Hispanic	3*3	4	1	Drop (3,1); sing. Drop (3,2); conv. Coll. (2,1) & (2,2); conv.
State × %Owner-Occupied	3*3	4	4	All levels present.
State × Rent/housing	3*5	8	2	Drop (2,1), (3,4)l zero cnts. Drop (3,1), (3,2), (3,3); ref zero. Drop (2,3); sing.
Three-Factor Effects		**64**	**5**	
State × %Owner-Occupied × %Black	3*3*3	8	4	Drop (3,3,2), (2,3,2); ref zero. Drop (3,3,1); zero cnts. Drop (2,3,1); sing.
State × %Owner-Occupied × %Hispanic	3*3*3	8	1	Drop (3,2,1), (3,3,1), (3,3,2); zero cnts. Drop (3,2,2); ref zero. Coll. (2,2,1), (2,2,2); conv. Drop (2,3,1), (2,3,2); sing.
State × %Owner-Occupied × Rent/housing	3*3*5	16	0	Drop all.
State × Rent/housing × %Black	3*3*5	16	0	Drop all.
State × Rent/housing × %Hispanic	3*3*5	16	0	Drop all.
Total		**153**	**80**	

Exhibit D2.2 Covariates for 2002 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**	**63**	
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	3	Coll. (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		**127**	**126**	

Exhibit D2.3 Covariates for 2002 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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**99**	**88**	
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	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	3	Coll. (2,1) & (2,2); conv.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	7	Drop (1,1); zero cnts.
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	7	Coll. (3,3) & (3,4); conv.
State × Hispanicity	3*2	2	2	All levels present.
State × Gender	3*2	2	2	All levels present.
State × %Black	3*3	4	4	All levels present.
State × %Hispanic	3*3	4	2	Drop (3,2); sing. Drop (3,1); conv.;
State × %Owner-Occupied	3*3	4	4	All levels present.
State × Rent/housing	3*5	8	2	Drop (3,1), (3,3), (2,2), (2,3); sing. Drop (3,4), (2,1); zero cnts.
Three-Factor Effects		**64**	**61**	
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	7	Drop (3,4,1); conv.
State × Age × Gender	3*5*2	8	8	All levels present.
State × Race (3 levels) × Hispanicity	3*3*2	4	2	Drop (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**	**183**	

Exhibit D2.4 Covariates for 2002 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 Housholder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**99**	**90**	
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	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	7	Drop (1,1); zero cnts.
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	3*3	4	4	All levels present.
State × %Hispanic	3*3	4	2	Drop (3,1), (3,2); sing.
State × %Owner-Occupied	3*3	4	4	All levels present.
State × Rent/housing	3*5	8	2	Drop (2,2), (2,3), (3,3), (3,1); sing. Drop (2,1), (3,4); zero cnts.
Three-Factor Effects		**64**	**61**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	7	Coll. (3,2,1) & (3,3,1) 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	2	Coll. (*,2,1) & (*,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**	**185**	

Exhibit D2.5 Covariates for 2002 NSDUH 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**	**49**	
Age × Race (3 levels)	6*3	10	9	Drop (5,*); conv.
Age × Hispanicity	6*2	5	4	Drop (5,1); conv.
Age × Gender	6*2	5	4	Drop (5,1); conv.
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	7	Coll. (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		**64**	**63**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	8	All levels present.
Age × Race (3 levels) × Gender	6*3*2	10	8	All levels present.
Age × Hispanicity × Gender	6*2*2	5	4	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	15	Drop (*,5,*).
State × Age × Hispanicity	3*6*2	10	8	All levels present.
State × Age × Gender	3*6*2	10	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		**134**	**129**	

Exhibit D2.6 Covariates for 2002 NSDUH Weights (res.per.ev), Model Group 2: Middle Atlantic

The same covariates were kept as in the res.per.ps model.

Appendix D3

Model Group 3: East North Central

(Illinois, Indiana, Michigan, Wisconsin, Ohio)

Table D.3a 2002 NSDUH Person Weight GEM Modeling Summary (Model Group 3: East North Central)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	5.41%	6.29%	0.72%	1.15883	255	(1.00, 2.40)	(1.00,2.39)
	3.14%	3.89%	0.38%	1.14722	150	(1.00, 1.90)	(1.00,1.88)
						(1.05, 3.00)	(1.00,2.99)
res.sdu.ps	3.14%	3.89%	0.38%	1.14709	197	(0.47, 2.19)	(0.48,2.15)
	1.77%	2.61%	0.42%	1.19642	195	(0.10, 4.87)	(0.10,4.74)
						(0.85, 2.85)	(0.86,2.85)
sel.per.ps	4.40%	6.98%	1.39%	2.53796	287	(0.30, 2.00)	(0.30,2.00)
	1.38%	2.46%	0.34%	2.56057	257	(0.30, 3.30)	(0.30,3.30)
						(0.30, 4.24)	(0.35,4.22)
res.per.nr	1.50%	2.65%	0.35%	2.59114	287	(1.00, 2.80)	(1.00,2.80)
	1.49%	4.04%	0.71%	2.98287	214	(1.00, 3.30)	(1.00,3.30)
						(1.00, 3.30)	(1.00,2.61)
res.per.ps	1.55%	4.20%	0.80%	2.98287	227	(0.10, 3.15)	(0.10,3.11)
	1.14%	2.59%	0.50%	3.00015	183	(0.10, 5.00)	(0.10,4.92)
						(0.30, 1.66)	(0.30,1.62)
res.per.ev	1.14%	2.59%	0.50%	3.00015	227	(0.56, 2.00)	(0.56,2.00)
	0.61%	1.72%	0.34%	2.98614	183	(0.56, 2.00)	(0.56,1.92)
						(0.85, 1.18)	(0.85,1.18)

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

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

[3] Number of proposed covariates above, and number finalized after modeling below.

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

Table D.3b Distribution of Weight Adjustment Factors and Weight Products (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]		*res.per.ev* [1]	
	1-6[2]	**7**[3]	**1-7**[3]	**8**[4]	**1-8**[4]	**10**[5]	**1-10**[5]	**11**[5]	**1-11**[5]	**12**[6]	**1-12**[6]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	19	0.77	219	0.10	59	1.01	65	0.14	42	0.57	42	0.06	9	0.51	5
1%	403	0.98	425	0.58	325	1.01	361	0.53	278	1.00	286	0.10	96	0.68	78
5%	412	1.02	440	0.87	457	1.01	505	0.74	478	1.00	521	0.81	494	0.98	489
10%	418	1.04	450	0.98	478	1.01	553	0.82	539	1.03	595	0.95	583	0.99	583
25%	452	1.06	482	1.03	518	1.06	649	0.92	659	1.09	732	0.98	732	1.00	733
Median	494	1.08	551	1.08	604	1.16	936	1.01	970	1.15	1,083	1.01	1,098	1.00	1,100
75%	545	1.12	619	1.18	713	5.16	3,331	1.11	3,315	1.24	3,793	1.02	3,748	1.00	3,740
90%	931	1.19	995	1.29	1,132	7.36	6,538	1.22	6,446	1.39	7,774	1.11	7,823	1.01	7,848
95%	1,127	1.27	1,184	1.42	1,326	12.71	7,862	1.32	8,457	1.52	10,786	1.28	10,787	1.04	10,811
99%	1,353	1.56	1,477	1.80	1,848	14.65	15,012	1.63	14,744	1.96	18,762	1.66	18,626	1.19	18,648
Maximum	2,493	25.90	2,316	4.74	5,130	29.94	42,569	11.80	38,070	4.27	68,126	6.59	55,799	8.28	54,530
n	27,894	25,319	25,319	25,314	25,314	15,418	15,418	15,418	15,418	12,907	12,907	12,907	12,907	12,907	12,907
Max/Mean	4.41	-	3.72	-	7.41	-	17.85	-	15.69	-	23.50	-	19.25	-	18.81

Note 1: Weight component 9 and weight products 1-9 are excluded because weight 9 = 1 for all selected dwelling units.
Note 2: Under GEM, nonresponse adjustment factors (weight components #7 and #12) 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 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 persons.
[6] Based on questionnaire-complete persons.

Model Group 3 Overview

Dwelling Unit Nonresponse

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

For two-factor effects, variable collapsing or dropping was present in Rent/housing × percent Hispanic, State × Group Quarter, State × percent Hispanic, and State × Rent/housing interactions. Out of 104 proposed variables, 93 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 150 variables were included; see Exhibit D3.1.

Dwelling Unit Poststratification

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

All two-factor effects were kept in the model except State × Race, where American Indian/Alaska Native and Asian had to be collapsed due to convergence problems. Out of 73 proposed variables, 72 were included in the model.

For three factor effects, variable collapsing was present in Age × Race × Hispanicity interaction. Out of 106 proposed variables, 105 were included in the model.

In the final model, a total of 195 variables were included; see Exhibit D3.2.

Selected Person-Level Poststratification

For one-factor effects, American Indian/Alaska Native and Asian had to be collapsed due to convergence problems caused by small sample size. Out of 36 proposed variables, 35 were included in the model.

For two-factor effects, variable dropping was present in the Rent/housing × percent Hispanic, State × Hispanicity and State × Rent/housing interactions. American Indian/Alaska Native and Asian had to be collapsed for all states due to the collapsing among one-factor effects. Out of 145 proposed variables, 131 were included in the model.

For three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, State × Race × Hispanicity, and State × Race × Gender interactions. Out of 128 proposed variables, 12 were included in the model.

In the final model, a total of 257 variables were included; see Exhibit D3.3.

Respondent Person-Level Nonresponse

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

For two-factor effects, variable collapsing or dropping was present in the Rent/housing × percent Hispanic, State × Race, State × percent Hispanic, State × percent Owner-Occupied, and State × Rent/housing interactions. Out of 145 proposed variables, 125 were included in the model.

For three-factor effects, all levels are present for the Age × Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 84 proposed variables, 53 were included in the model.

In the final model, a total of 214 variables were included; see Exhibit D3.4.

Respondent Person-Level Poststratification

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

For two-factor effects, American Indian/Alaska Native and Asian had to be collapsed for Ohio due to convergence problems. Out of 81 proposed variables, 80 were included in the model.

For three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, State × Race × Hispanicity, and State × Race × Gender interactions. Out of 106 proposed variables, 84 were included in the model.

In the final model, a total of 183 variables were included; see Exhibit D3.5.

Respondent Person-Level Extreme Value

This step used the same variables as the **Respondent Person-Level Poststratification** step.

Exhibit D3.1 Covariates for 2002 NSDUH Person Weights (res.sdu.nr), Model Group 3: East North Central)

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**23**	**23**	
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	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**104**	**93**	
%Owner-Occupied × %Black	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	7	Coll. (2,1) & (2,2); zero cnts.
State × Quarter	5*4	12	12	All levels present.
State × Population Density	5*4	12	12	All levels present.
State × Group Quarter	5*3	8	7	Coll. (3,1) & (3,2); conv.
State × %Black	5*3	8	8	All levels present.
State × %Hispanic	5*3	8	4	Coll. (*,1) & (*,2); zero cnts.
State × %Owner-Occupied	5*3	8	8	All levels present.
State × Rent/housing	5*5	16	11	Drop (1,4); sing. Drop (*, 4), (4,3); ref zero.
Three-Factor Effects		**128**	**34**	
State × %Owner-Occupied × %Black	5*3*3	16	8	Drop (4,*,*); ref zero. Drop (3,2,1); sing. Drop (3,3,*); conv. Coll. (1,3,1) & (1,3,2); conv.
State × %Owner-Occupied × %Hispanic	5*3*3	16		Drop (4,*,*); ref zero. Coll. (*,*,1) & (*,*,2); heir. Drop (3,3,*), (5,3,*); zero cnts. Drop (1,3,*); sing.
State × %Owner-Occupied × Rent/housing	5*3*5	32		Drop (4,*,*) refzero. Drop (*,*,4) heir. Coll.(1,2,*) & (1,3,*), (3,2,*) & (3,3,*). Drop (5,3,*); zero cnts. Drop (1, 2/3,3) (3,2/3,3); sing.
State × Rent/housing × %Black	5*3*5	32		Drop (4,*,*); ref zero. Drop (*,4,*); heir. Coll. (1,*,1) & (1,*,2); zero cnts. Coll. (3,2,1) & (3,2,2). Drop (1,3,*) (3,3,*); sing.
State × Rent/housing × %Hispanic	5*3*5	32		Drop (4,*,*); ref zero. Coll. (*,*,1) & (*,*,2); heir. Drop (*,4,*); heir. Coll.(1,1/2,1) & (1,1/2,2) zero cnts. Drop (3,2,*), (3,3,*), (1,3,*); sing.
Total		**255**	**150**	

Exhibit D3.2 Covariates for 2002 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**	**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	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	15	Coll. (4,3) & (4,4); conv.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
Three-Factor Effects		**106**	**105**	
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	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	7	Coll. (3,2,1) & (3,3,1); zero cnts.
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**	**195**	

Exhibit D3.3 Covariates for 2002 NSDUH Person Weights (sel.per.ps), Model Group 3: East North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**36**	**35**	
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	3	Coll. (3) & (4); conv.
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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**145**	**131**	
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	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	7	Drop (2,1); zero cnts.
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	12	Coll. (*,3) & (*,4); hier.
State × Hispanicity	5*2	4	0	Drop all.
State × Gender	5*2	4	4	All levels present.
State × %Black	5*3	8	8	All levels present.
State × %Hispanic	5*3	8	8	All levels present.
State × %Owner-Occupied	5*3	8	8	All levels present.
State × Rent/housing	5*5	16	11	Drop (*,4); zero cnts. Drop (4,3); sing.
Three-Factor Effects		**128**	**12**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	4	Drop (3,*,*), (4,*,*); zero cnts.
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	28	Coll. (*,4,2) & (*,4,3); zero cnts, 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	2	Drop (4,*,*), (5,*,*); conv. Coll. (1/3,2,1) & (1/3,3,1); conv.
State × Race (3 levels) × Gender	5*3*2	8	7	Coll. (4,3,1) & (4,2,1); conv.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**287**	**257**	

Exhibit D3.4 Covariates for 2002 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 Housholder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**145**	**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.
%Owner-Occupied × %Black	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	7	Drop (2,1); zero cnts.
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	7	Coll. (*,3) & (*4) & (*,5); conv. Drop (4,3/4/5); conv.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
State × %Black	5*3	8	8	All levels present.
State × %Hispanic	5*3	8	4	Drop (*,1); zero cnts, sing.
State × %Owner-Occupied	5*3	8	7	Coll. (4,2) & (4,3); conv.
State × Rent/housing	5*5	16	11	Drop (*,4), (4,3); ref zero.
Three-Factor Effects		**84**	**53**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	0	Drop all; conv.
Age × Race (3 levels) × Gender	5*3*2	8	4	Coll. (*,2,1) & (*,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. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	5*5*3	32	12	Coll. (*,*,2) & (*,*,3); Coll. (*,3,2/3) & (*,4,2/3); conv.
State × Age × Hispanicity	5*5*2	16	7	Drop (*,3,1) (*,4,1); conv. Coll. (5,1,1) & (5,2,1); conv.
State × Age × Gender	5*5*2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	1	Coll. (1,2,1) & (1,3,1); zero cnts. Drop all others; conv.
State × Race (3 levels) × Gender	5*3*2	8	4	Coll. (*,2,1) & (*,3,1); conv.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**287**	**214**	

Exhibit D3.5 Covariates for 2002 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. (4,3) & (4,4); conv.
State × Hispanicity	5*2	4	4	All levels present.
State × Gender	5*2	4	4	All levels present.
Three-Factor Effects		**127**	**84**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	2	Coll. (1/2,2,1) & (1/2,3,1); conv. Drop all the others.
Age × Race (3 levels) × Gender	6*3*2	10	8	All levels present.
Age × Hispanicity × Gender	6*2*2	5	4	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	26	Drop (4,4,*); sing. Coll. (1/3/4/5,2,2) & (1/3/4/5,2,3); conv.
State × Age × Hispanicity	5*6*2	20	16	All levels present.
State × Age × Gender	5*6*2	20	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	2	Coll. (*,2,1) & (*,3,1); conv. Drop (4/5,2,1), (4/5,3,1); conv.
State × Race (3 levels) × Gender	5*3*2	8	4	Coll. (*,2,1) & (*,3,1); conv.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**227**	**183**	

Exhibit D3.6 Covariates for 2002 NSDUH Person Weights (res.per.ev), Model Group 3: East North Central

The same covariates were kept as in the res.per.ps model.

Appendix D4

Model Group 4: West North Central

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

Table D.4a 2002 NSDUH Person Weight GEM Modeling Summary (Model Group 4: West North Central)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	3.42%	3.15%	0.36%	1.36461	357	(1.00, 1.30)	(1.02,1.27)
	2.17%	1.92%	0.01%	1.34980	144	(1.00, 1.40)	(1.00,1.05)
						(1.05, 1.10)	(1.05,1.10)
res.sdu.ps	2.17%	1.92%	0.01%	1.34980	267	(0.60, 1.01)	(0.60,1.01)
	1.15%	2.00%	0.34%	1.43288	255	(0.10, 3.79)	(0.10,3.71)
						(0.99, 1.87)	(0.99,1.87)
sel.per.ps	3.15%	5.33%	0.76%	3.14828	377	(0.20, 3.00)	(0.20,3.00)
	2.18%	3.69%	1.04%	3.35414	306	(0.20, 5.00)	(0.20,5.00)
						(0.50, 5.00)	(0.50,5.00)
res.per.nr	2.20%	3.53%	1.00%	3.45881	377	(1.00, 3.00)	(1.00,3.00)
	1.66%	3.00%	0.75%	3.66863	239	(1.00, 5.00)	(1.00,4.98)
						(1.00, 4.33)	(1.00,4.23)
res.per.ps	1.75%	3.22%	0.77%	3.66863	307	(0.10, 3.00)	(0.10,2.66)
	1.37%	2.78%	0.76%	3.75090	219	(0.10, 5.00)	(0.10,4.00)
						(0.79, 5.00)	(0.83,4.06)
res.per.ev	1.37%	2.78%	0.76%	3.75090	307	(0.70, 2.65)	(0.99,2.62)
	1.08%	2.51%	0.60%	3.74132	219	(0.70, 2.65)	(0.71,1.73)
						(0.95, 1.05)	(0.95,1.05)

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

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

[3] Number of proposed covariates above, and number finalized after modeling below.

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

Table D.4b Distribution of Weight Adjustment Factors and Weight Products (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]		***res.per.ev*** [1]	
	1-6[2]	**7**[3]	**1-7**[3]	**8**[4]	**1-8**[4]	**10**[5]	**1-10**[5]	**11**[5]	**1-11**[5]	**12**[6]	**1-12**[6]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	39	0.36	39	0.10	15	1.01	16	0.08	11	0.28	11	0.05	5	0.61	4
1%	105	1.00	111	0.49	109	1.01	116	0.21	84	0.89	87	0.16	61	0.80	59
5%	109	1.02	114	0.76	130	1.01	157	0.56	142	1.00	148	0.76	139	0.97	140
10%	117	1.03	124	0.83	143	1.01	207	0.72	190	1.01	196	0.88	190	0.99	190
25%	208	1.04	217	0.96	221	1.10	455	0.87	418	1.03	435	0.96	435	1.00	435
Median	520	1.06	552	1.08	581	1.43	1,025	0.99	1,034	1.09	1,110	1.01	1,088	1.00	1,094
75%	852	1.08	905	1.22	994	5.59	2,116	1.12	2,196	1.19	2,458	1.05	2,425	1.00	2,404
90%	970	1.11	1,068	1.36	1,218	7.53	6,272	1.29	6,395	1.33	7,194	1.13	7,226	1.01	7,261
95%	1,037	1.13	1,113	1.51	1,326	12.00	8,498	1.47	9,090	1.47	10,901	1.24	11,020	1.02	11,055
99%	1,072	1.19	1,171	2.07	1,639	14.67	16,946	2.67	17,355	2.37	21,195	2.12	21,298	1.18	21,250
Maximum	3,928	1.37	1,400	3.71	3,302	17.69	28,204	7.16	33,078	6.30	47,607	4.43	44,856	16.18	44,254
n	13,089	12,331	12,331	12,331	12,331	7,170	7,170	7,170	7,170	6,273	6,273	6,273	6,273	6,273	6,273
Max/Mean	7.19	-	2.41	-	5.16	-	12.85	-	14.81	-	18.65	-	17.57	-	17.34

Note 1: Weight component 9 and weight products 1-9 are excluded because weight 9 = 1 for all selected dwelling units.
Note 2: Under GEM, nonresponse adjustment factors (weight components #7 and #12) 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 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 persons.
[6] Based on questionnaire-complete persons

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 percent Owner-Occupied × percent Black, percent Owner-Occupied × Rent/housing, State × Quarter, and State × percent Owner-Occupied. Out of 140 proposed variables, 105 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 192 proposed variables, 14 were included in the model.

In the final model, a total of 144 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 three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, State × Age × Race, State × Race × Hispanicity, and State × Race × Gender interactions. Out of 148 proposed variables, 136 were included in the model.

In the final model, a total of 255 variables were included; see Exhibit D4.2.

Selected Person-Level Poststratification

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

For two-factor effects, variable dropping was present in the percent Owner-Occupied × percent Hispanic, Rent/housing × percent Black, Rent/housing × percent Hispanic, State × percent Black, State × percent Hispanic, and State × Rent/housing interactions. Out of 191 proposed variables, 165 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Age × Race × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. Out of 148 proposed variables, 103 were included in the model.

In the final model, a total of 306 variables were included; see Exhibit D4.3.

Respondent Person-Level Nonresponse

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

For two-factor effects, variable collapsing or dropping was present in the Age × Hispanicity, percent Owner-Occupied × percent Hispanic, percent Owner-Occupied × Rent/housing, Rent/housing × percent Black, Rent/housing × percent Hispanic, State × Race, State × percent Black, State × percent Hispanic, and State × Rent/housing interactions. Out of 191 proposed variables, 148 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the State × Age × Gender interaction. Out of 148 proposed variables, 53 were included in the model.

In the final model, a total of 239 variables were included; see Exhibit D4.4.

Respondent Person-Level Poststratification

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

For two-factor effects, variable collapsing or dropping was present in the Age × Hispanicity and State × Race interactions. Out of 109 proposed variables, 106 were included in the model.

For three-factor effects, all levels are present for the Age × Race × Gender, Race × Hispanicity × Gender, and State × Age × Gender. All the others were affected by variable collapsing or dropping. Out of 177 proposed variables, 92 were included in the model.

In the final model, a total of 219 variables were included; see Exhibit D4.5.

Respondent Person-Level Extreme Value

This step used the same variables as the **Respondent Person-Level Poststratification** step.

Exhibit D4.1 Covariates for 2002 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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**140**	**105**	
%Owner-Occupied × %Black	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	2	Drop (3,1); zero cnts. Coll.. (2,1) & (2,1); ref zero.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	7	Drop (1,1); zero.
Rent/housing × %Hispanic	3*5	8	4	Drop (1,1), (3,1) zero. Coll. (4,1) & (4,2); ref zero. Drop (2,1); sing.
State × Quarter	7*4	18	18	All levels present.
State × Population Density	7*4	18	14	Drop (1,1), (5,1), (6,1), (7,1); zero cnts.
State × Group Quarter	7*3	12	10	Coll. (6,1) & (6,2); ref zero. Drop (2,2); zero cnts.
State × %Black	7*3	12	10	Drop (6,1), (7,1); zero cnts.
State × %Hispanic	7*3	12	3	Coll. (5,1) & (5,2); ref zero. Drop (1/3/6/7,1), (6/7,2); zero cnts. Drop (1,2), (3,2); conv.
State × %Owner-Occupied	7*3	12	12	All levels present.
State × Rent/housing	7*5	24	13	Drop (5,4), (1,3/4), (6,3/4); ref zero. Drop (3,*); zero cnts.
Three-Factor Effects		**192**	**14**	
State × %Owner-Occupied × %Black	7*3*3	24	2	Coll. (2,2,1) & (2,2,2); sing. Coll. (3,2,1) & (3,2,2); zero cnts. Drop others; zero/ref zero/sing/conv.
State × %Owner-Occupied × %Hispanic	7*3*3	24	1	Keep (2,2/3,1/2). Drop others; zero/sing/conv.
State × %Owner-Occupied × Rent/housing	7*3*5	48	7	Coll. (2,2,3) & (2,3,3), do same for (2,*,4), (7,*,1), (7,*,2), (7,*,3), (6,*,2); zero cnts. Coll. (1,3,1) & (1,3,2); zero cnts. Drop others; zero/ref zero/sing/conv.
State × Rent/housing × %Black	7*3*5	48	4	Coll. (2,3,1) & (2,3,2), do same for (2,4,*), (5,3,*); zero cnts. Keep (5,1/2,1/2). Drop others; zero/ref zero/sing/conv.
State × Rent/housing × %Hispanic	7*3*5	48	0	Drop all.
Total		**357**	**144**	

Exhibit D4.2 Covariates for 2002 NSDUH Person Weights (res.sdu.ps), Model Group 4: West North Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**20**	**20**	
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**	**136**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	7	Coll. (3,2,1)*(3,3,1); 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	45	Coll. (7,2/3/4,2) & (7,2/3/4,3).
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	6	Coll. (*,2,1) & (*,3,1); conv.
State × Race (3 levels) × Gender	7*3*2	12	10	Drop (6,2,1), (7,2,1); sing.
State × Hispanicity × Gender	7*2*2	6	6	All levels present.
Total		**267**	**255**	

Exhibit D4.3 Covariates for 2002 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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**191**	**165**	
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	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	2	Drop (2,1), (3,1); zero/sing.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	7	Drop (1,1); zero.
Rent/housing × %Hispanic	3*5	8	4	Drop (*,1); 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	24	All levels present.
State × Hispanicity	7*2	6	6	All levels present.
State × Gender	7*2	6	6	All levels present.
State × %Black	7*3	12	10	Drop (6,1), (7,1); zero/sing.
State × %Hispanic	7*3	12	4	Drop (1,1), (2,1), (3,1), (5,1), (6,1), (6,2), (7,1), (7,2); zero/sing.
State × %Owner-Occupied	7*3	12	12	All levels present.
State × Rent/housing	7*5	24	15	Drop (1,3), (1,4), (3,*), (5,4), (6,3), (6,4).
Three-Factor Effects		**148**	**103**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	5	Drop (4,*,*); ref zero. Coll. (3,2,1) & (3,3,1); zero cnts.
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. (3,1,1) & (2,1,1); conv.
State × Age × Race (3 levels)	7*5*3	48	32	Coll. (1,3,3) & (1,3,2), do same for (6,4), (7,3), (7,4); zero. Drop (6,3,2), (7,2,2); sing. Do same for rest of (1,*) (*,3) (*,4); conv.
State × Age × Hispanicity	7*5*2	24	14	Drop (1,4,1); ref zero. Drop (3,4), (6,3), (6,4); zero cnts. Drop (2,3), (2,4), (6,1), (6,2), (7,3), (7,4); conv.
State × Age × Gender	7*5*2	24	24	All levels present.
State × Race (3 levels) × Hispanicity	7*3*2	12	1	Drop (2/6/7,*,*). Coll. (1,2,1) & (1,3,1); zero cnts. Drop (3,*,*) (5,*,*); conv.
State × Race (3 levels) × Gender	7*3*2	12	9	Drop (7,2,1); sing. Coll. (1/6,2,1) & (1/6,3,1); conv.
State × Hispanicity × Gender	7*2*2	6	6	All levels present.
Total		**377**	**306**	

Exhibit D4.4 Covariates for 2002 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 Housholder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**191**	**148**	
Age × Race (3 levels)	5*3	8	8	All levels present.
Age × Hispanicity	5*2	4	3	Drop (4,1); conv.
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	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	2	Coll. (*,2) & (*,3); zero cnts.
%Owner-Occupied × Rent/housing	3*5	8	7	Drop (3,4) conv.
Rent/housing × %Black	3*5	8	7	Drop (1,1); zero cnts.
Rent/housing × %Hispanic	3*5	8	4	Coll. (*2,) & (*,3); zero cnts
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	12	Coll. (*,3) & (*,4) & (*,5); conv.
State × Hispanicity	7*2	6	6	All levels present.
State × Gender	7*2	6	6	All levels present.
State × %Black	7*3	12	8	Drop (6,1), (7,1); zero cnts. Coll. (1/5,1) & (1/5,2); conv.
State × %Hispanic	7*3	12	3	Drop (*1) except (2), (1,2) (6,2) (7,2); zero/ref zero. Coll.(2,1) & (2,2); conv.
State × %Owner-Occupied	7*3	12	12	All levels present.
State × Rent/housing	7*5	24	15	Drop (1,3), (1,4), (3,*), (5,4), (6,3), (6,4); zero/ref zero.
Three-Factor Effects		**148**	**53**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	2	Drop (3/4,*,*) zero sing Coll.(*,2,*) w/ (*,3,*) conv.
Age × Race (3 levels) × Gender	5*3*2	8	6	Drop (4,*,*) conv
Age × Hispanicity × Gender	5*2*2	4	2	Drop (3/4,*,*)
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll.(3,1,1) w/ (2,1,1)
State × Age × Race (3 levels)	7*5*3	48	8	Coll. (1,*,*) w/ (3,*,*) Coll. (1/3,*,2) w/ (1/3,*,3) Do same for (6) w/ (7) Drop rest conv.
State × Age × Hispanicity	7*5*2	24	2	Coll. (1,1,1) w/ (3,1,1) Do same for (6) w/ (7) Drop rest. Conv.
State × Age × Gender	7*5*2	24	24	All levels present.
State × Race (3 levels) × Hispanicity	7*3*2	12	1	Coll. (5,2,*) w/ (5,3,*). Drop rest conv.
State × Race (3 levels) × Gender	7*3*2	12	4	Coll. (*,2,*) w/ (*,3,*). Drop (6) (7) conv
State × Hispanicity × Gender	7*2*2	6	3	Coll. (1,*,*) w/ (3,*,*) Drop (2) (5) rest conv.
Total		**377**	**239**	

Exhibit D4.5 Covariates for 2002 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**	**106**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	3	Drop (4,1), (5,1); conv.
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	23	Coll. (5,4) & (5,5); conv
State × Hispanicity	7*2	6	6	All levels present.
State × Gender	7*2	6	6	All levels present.
Three-Factor Effects		**177**	**92**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	6	Drop (4,*,1).
Age × Race (3 levels) × Gender	6*3*2	10	8	All levels present.
Age × Hispanicity × Gender	6*2*2	5	3	Drop (4,1,1); conv.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	7*6*3	60	22	Keep (4,1/2/3/4,2/3), (5,1,2/3), coll. (2,1/2/3/4,2) & (2,1/2/3/4,3), (3,1/2/3/4,2) & (3,1/2/3/4,3), (7,1/2/3/4,2) & (7,1/2/3/4,3), drop all rest; conv.
State × Age × Hispanicity	7*6*2	30	10	Drop (*,4,1); heir. Drop (2/5/6/7,3,1). Coll. (6/7, 1,1) (6/7,2,1).
State × Age × Gender	7*6*2	30	24	All levels present.
State × Race (3 levels) × Hispanicity	7*3*2	12	4	Drop (2,2,1); sing. Drop (5,*1), coll. (6/7,2,1) & (6/7,3,1), coll. (1,2/3,1) & (3,2/3). conv.
State × Race (3 levels) × Gender	7*3*2	12	9	Coll. (5/6/7,3,1) & (5/6/7,2,1); conv.
State × Hispanicity × Gender	7*2*2	6	4	Drop (5,1,1). Coll. (6,1,1) & (7, 1,1); conv.
Total		**307**	**219**	

Exhibit 4.6 Covariates for 2002 NSDUH Person Weights (res.per.ev), Model Group 4: West North Central

The same covariates were kept as in the res.per.ps model.

Appendix D5

Model Group 5: South Atlantic

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

Table D.5a 2002 NSDUH Person Weight GEM Modeling Summary (Model Group 5: South Atlantic)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	4.14%	6.76%	1.15%	1.39906	459	(1.00, 1.60)	(1.00,1.60)
	2.60%	3.69%	0.34%	1.39859	225	(1.00, 2.78)	(1.00,2.76)
						(1.00, 2.78)	(1.00,1.37)
res.sdu.ps	2.60%	3.69%	0.34%	1.39860	337	(0.32, 3.29)	(0.32,3.12)
	1.14%	1.61%	0.27%	1.48689	336	(0.15, 6.87)	(0.15,6.87)
						(0.65, 1.37)	(0.66,1.33)
sel.per.ps	2.36%	4.39%	0.83%	2.96588	467	(0.32, 3.00)	(0.32,2.99)
	1.44%	2.40%	0.51%	3.07100	406	(0.11, 4.50)	(0.11,4.50)
						(0.12, 5.00)	(0.12,4.93)
res.per.nr	1.48%	2.48%	0.53%	3.12928	467	(1.00, 3.00)	(1.00,3.00)
	1.10%	3.53%	0.91%	3.69387	311	(1.00, 5.00)	(1.00,5.00)
						(1.00, 5.00)	(1.00,4.77)
res.per.ps	1.18%	3.83%	1.01%	3.69387	387	(0.10, 3.00)	(0.10,2.96)
	1.03%	2.38%	0.69%	3.82334	295	(0.10, 5.00)	(0.10,4.95)
						(0.80, 1.05)	(0.80,1.03)
res.per.ev	1.03%	2.38%	0.69%	3.82334	387	(0.50, 3.80)	(0.94,2.74)
	0.51%	1.60%	0.46%	3.79453	295	(0.50, 3.80)	(0.55,2.30)
						(0.80, 1.50)	(0.80,1.28)

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

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

[3] Number of proposed covariates above, and number finalized after modeling below.

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

Table D.5b Distribution of Weight Adjustment Factors and Weight Products (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]		*res.per.ev* [1]	
	1-6[2]	**7**[3]	**1-7**[3]	**8**[4]	**1-8**[4]	**10**[5]	**1-10**[5]	**11**[5]	**1-11**[5]	**12**[6]	**1-12**[6]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	36	0.60	61	0.15	20	1.01	24	0.11	11	0.33	11	0.04	3	0.44	3
1%	64	0.95	73	0.49	70	1.01	79	0.43	70	0.95	74	0.12	59	0.79	54
5%	69	1.01	85	0.77	92	1.01	161	0.68	152	1.00	159	0.67	134	0.94	133
10%	103	1.03	118	0.88	118	1.01	295	0.76	276	1.01	311	0.87	254	0.98	255
25%	281	1.06	299	0.99	337	1.09	781	0.87	750	1.04	824	0.96	819	0.99	819
Median	699	1.10	771	1.10	856	1.30	1,369	0.98	1,336	1.12	1,457	1.01	1,474	1.00	1,474
75%	1,130	1.16	1,217	1.23	1,276	6.19	4,312	1.10	4,089	1.24	4,089	1.07	4,014	1.01	4,028
90%	1,364	1.22	1,525	1.36	1,767	9.84	10,156	1.27	9,521	1.43	11,107	1.17	11,163	1.02	11,206
95%	1,428	1.25	1,620	1.48	2,032	12.20	12,840	1.42	12,690	1.62	15,829	1.24	15,559	1.03	15,702
99%	1,846	1.40	1,956	1.88	2,587	16.17	22,907	1.96	24,023	2.45	34,140	1.90	33,436	1.14	33,419
Maximum	2,273	9.89	2,839	6.87	10,757	21.15	52,005	5.61	54,694	10.99	72,245	4.95	93,311	8.00	82,599
n	25,702	23,072	23,072	23,071	23,071	12,848	12,848	12,848	12,848	10,894	10,894	10,894	10,894	10,894	10,894
Max/Mean	3.14	-	3.52	-	11.90	-	15.18	-	16.06	-	17.99	-	23.23	-	20.56

Note 1: Weight component 9 and weight products 1-9 are excluded because weight 9 = 1 for all selected dwelling units.
Note 2: Under GEM, nonresponse adjustment factors (weight components #7 and #12) 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 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 persons.
[6] Based on questionnaire-complete persons.

Model Group 5 Overview

Dwelling Unit Nonresponse

All 27 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the Rent/housing × percent Hispanic, State × Population Density, State × Group Quarter, State × percent Hispanic, and State × Rent/housing interactions. Out of 176 proposed variables, 138 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 256 proposed variables, 60 were included in the model.

In the final model, a total of 255 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 three-factor effects are present except the State × Race × Hispanicity interaction. Out of 190 proposed variables, 189 were included in the model.

In the final model, a total of 336 variables were included; see Exhibit D5.2.

Selected Person-Level Poststratification

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

For two-factor effects, variable dropping was present in the Rent/housing × percent Hispanic, State × percent Hispanic, and State × Rent/housing interactions. Out of 237 proposed variables, 210 were included in the model.

For three-factor effects, variable collapsing or dropping was present in the State × Age × Race, State × Age × Hispanicity, and State × Race × Hispanicity. Out of 190 proposed variables, 156 were included in the model.

In the final model, a total of 406 variables were included; see Exhibit D5.3.

Respondent Person-Level Nonresponse

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

For two-factor effects, variable collapsing or dropping was present in the Rent/housing × percent Hispanic, State × Race, State × Hispanicity, State × percent Hispanic, and State × Rent/housing interactions. Out of 237 proposed variables, 202 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the State × Age × Gender interaction. Out of 190 proposed variables, 69 were included in the model.

In the final model, a total of 311 variables were included; see Exhibit D5.4.

Respondent Person-Level Poststratification

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

All two-factor effects are present except the State × Age interaction. Out of 137 proposed variables, 136 were included in the model.

For three-factor effects, all levels are present for the Race × Hispanicity × Gender, State × Race × Gender, and State × Hispanicity × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 227 proposed variables, 136 were included in the model.

In the final model, a total of 295 variables were included; see Exhibit D5.5.

Respondent Person-Level Extreme Value

This step used the same variables as the **Respondent Person-Level Poststratification** step.

Exhibit D5.1 Covariates for 2002 NSDUH Person Weights (res.sdu.nr), Model Group 5: South Atlantic

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**27**	**27**	
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	2	All levels present.
%Black	3	2	1	All levels present.
%Hispanic	3	2	1	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**176**	**138**	
%Owner-Occupied × %Black	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	6	Drop (1,1) & (3,1); zero cnts.
State × Quarter	9*4	24	24	All levels present.
State × Population Density	9*4	24	19	Drop (1,1), (2,2), (2,3), (8,1); zero cnts. Drop (2,1); sing.
State × Group Quarter	9*3	16	11	Coll. (2,1) & (2,2); conv. Repeat for States (6), (7). Drop (8,*); sing.
State × %Black	9*3	16	16	All levels present.
State × %Hispanic	9*3	16	7	Coll. (5,2) & (6,2); conv. Drop (1,1), (2,1); sing. Drop (4,1), (5,1), (6,1), (7,1) , (8,*); zero cnts.
State × %Owner-Occupied	9*3	16	16	All levels present.
State × Rent/housing	9*5	32	15	Drop (1,1), (2,1), (2,2), (2,3), (4,2), (5,3), (5,4), (6,3), (6,4), (8,3), (8,4); zero cnts. Drop (5,2), (6,2), (7,3), (7,4), (8,2), (9,4); sing.
Three-Factor Effects		**256**	**60**	
State × %Owner-Occupied × %Black	9*3*3	32	26	Coll. (5,3,1) & (6,3,1); conv. Drop (8,2,1); zero cnts. Drop (4,3,2), (5,3,2), (7,3,1), (8,3,2); sing.
State × %Owner-Occupied × %Hispanic	9*3*3	32	10	Coll. (7,2,2) & (7,3,2); conv. Drop (1,2,1), (4,*,1), (5,*,1), (6,*,1), (7,*,1), (8,*,*); zero cnts. Drop (1,3,1), (2,*,1), (5,3,2), (9,2,1); sing. Drop (5,2,2), (6,*,2); conv.
State × %Owner-Occupied × Rent/housing	9*3*5	64	9	Drop (1,*,1), (1,*,2), (1,3,3), (2,*,1), (2,*,2), (2,*,3), (4,*,1), (4,*,2), (4,*,3), (5,3,2), (5,*,3), (5,*,4), (6,*,3), (6,*,4), (7,*,1), (7,*,2), (7,3,3), (8,*,2), (8,*,3), (8,*,4), (9,2,1); zero cnts. Drop (1,*,4), (2,2,4), (4,3,4), (5,1,3), (5,2,2), (6,*,2), (7,3,4), (7,*,4), (8,*,1), & (9,3,3), (9,*,4); sing. Drop (6,3,1); conv.
State × Rent/housing × %Black	9*3*5	64	12	Coll. (4,3,2) & (4,4,2). Drop (1,1,*), (1,2,1), (1,3,1), (2,1,*), (2,2,*), (2,3,*), (2,4,2), (4,1,*), (4,2,*), (4,3,1), (4,4,1), (5,3,*), (5,4,*), (6,3,*), (6,4,*), (7,1,1), (7,2,*), (8,2,*), (8,3,*), (8,4,*) & (9,1,1); zero cnts. Drop (1,2,2), (1,4,1), (5,2,*), (6,2,*), (7,1,2), (7,3,*), (7,4,*), (8,1,*), (9,1,2) & (9,4,*); sing.
State × Rent/housing × %Hispanic	9*3*5	64	3	Drop (1,1,*), (1,2,*), (1,3,*), (1,4,2), (2,*,*), (4,*,*), (5,1,1), (5,2,1), (5,3,*), (5,4,*), (6,1,1), (6,2,1), (6,3,*), (6,4,*), (7,1,*), (7,2,*), (7,3,1), (7,4,1), (8,*,*), (9,1,1) & (9,3,1); zero cnts. Drop (1,4,1), (5,1,2), (6,1,2), (6,2,2), (7,3,2), (7,4,2), (9,1,2), (9,2,1), (9,4,*); sing.
Total		**459**	**225**	

Exhibit D5.2 Covariates for 2002 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**	**189**	
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	15	Drop (8,2,1); zero cnts.
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**	**336**	

Exhibit D5.3 Covariates for 2002 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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**237**	**210**	
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	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	6	Drop (1,1) & (3,1); zero cnts.
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	9*3	16	16	All levels present.
State × %Hispanic	9*3	16	8	Drop (1,1), (2,1), (4,1), (5,1), (6,1), (7,1), (8,*); zero cnts.
State × %Owner-Occupied	9*3	16	16	All levels present.
State × Rent/housing	9*5	32	15	Drop (1,1), (1,2), (1,3), (2,1), (4,2), (5,3), (5,4), (6,3), (6,4), (8,3), (8,4); zero cnts. Drop (5,2), (6,2), (7,3), (7,4), (8,2), (9,1); sing.
Three-Factor Effects		**190**	**156**	
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	52	Coll. (6,1,2) & (6,1,3). Repeat for each level of Age within that State. Do same for States (7)& (8).
State × Age × Hispanicity	9*5*2	32	20	Drop (6,4,1); sing. Drop (1,4,1), (2,4,1), (4,4,1), (5,4,1), (6,3,1), (7,4,1), (8,*,*), (9,4,1); conv.
State × Age × Gender	9*5*2	32	32	All levels present.
State × Race (3 levels) × Hispanicity	9*3*2	16	6	Coll. (1/2/4/5/7/9,2,1) & (1/2/4/5/7/9,3,1); conv. Drop (8,2,1); zero cnts. Drop (8,3,1); sing. Drop (6,*,*); 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**	**406**	

Exhibit D5.4 Covariates for 2001 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 Housholder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**237**	**202**	
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	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	6	Coll. (1,1) & (2,1), (3,1) & (4,1); zero cnts.
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	25	Coll. (1,3) & (1,5); conv. Do same for all States except 8.
State × Hispanicity	9*2	8	7	Coll. (7,1) & (8,1); conv.
State × Gender	9*2	8	8	All levels present.
State × %Black	9*3	16	16	All levels present.
State × %Hispanic	9*3	16	8	Drop (4,1); zero cnts. Drop (1,1), (2,1), (5,1), (6,1), (7,1), (8,*); sing.
State × %Owner-Occupied	9*3	16	16	All levels present.
State × Rent/housing	9*5	32	15	Drop (1,1), (1,2), (1,3), (2,1), (4,2), (5,3), (5,4), (6,3), (6,4), (8,3), (8,4); zero cnts. Drop (5,2), (6,2), (7,3), (7,4), (8,2), (9,4); sing.
Three-Factor-Effects		**190**	**69**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	0	Drop all; conv.
Age × Race (3 levels) × Gender	5*3*2	8	4	Coll. (*,2,1) & (*,3,1); conv
Age × Hispanicity × Gender	5*2*2	4	3	Drop (4,1,1); conv.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	0	Drop all; conv.
State × Age × Race (3 levels)	9*5*3	64	17	Coll. (1,1/2/3,2) & (1,1/2/3,3). Do same for States 2, 6 & 9. Coll. (2,1,2) & (2,1,3), (2,2,*) & (2,3,*); conv. Coll. (5,1/2/3,2), (7,1/2/3,2) & (8,1/2/3,2). Drop (7,4,3); sing. Drop (*,4,*); conv.
State × Age × Hispanicity	9*5*2	32	0	Drop (6,4,1), (8,4,1); sing. Drop rest; conv.
State × Age × Gender	9*5*2	32	32	All levels present.
State × Race (3 levels) × Hispanicity	9*3*2	16	0	Drop all; zero cnts/sing/conv.
State × Race (3 levels) × Gender	9*3*2	16	8	Coll. (*,2,1) & (*,3,1); conv.
State × Hispanicity × Gender	9*2*2	8	5	Coll. (1,1,1) & (2,1,1) & (4,1,1); conv. Coll. (7,1,1) & (8,1,1); conv.
Total		**467**	**311**	

Exhibit D5.5 Covariates for 2002 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**	**136**	
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	9*4	24	24	All levels present.
State × Age	9*6	40	39	Drop (4,5); conv.
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		**227**	**136**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	8	Drop (5,*,1).
Age × Race (3 levels) × Gender	6*3*2	10	8	Drop (5,*,1).
Age × Hispanicity × Gender	6*2*2	5	4	Drop (5,1,1).
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	9*6*3	80	28	Keep (1,1/2/3/4,2), do same for States 2, 3, 5, 6, 7, 8. Drop rest; conv.
State × Age × Hispanicity	9*6*2	40	20	Drop (6,4,1), (7,4,1), (8,4,1); sing. Drop (8,3,1); zero cnts. Drop (1,4,1), (2,3,1), (2,4,1), (4,4,1), (5,4,1), (6,3,1), (8,2,1); conv.
State × Age × Gender	9*6*2	40	32	Drop (*,5,1); conv.
State × Race (3 levels) × Hispanicity	9*3*2	16	10	Coll. (4,2,1) & (4,3,1); conv. Coll. (5,*,1) & (6,*,1); conv./zero cnts. Coll.(7,3,1) & (8,3,1); conv. Drop (8,2,1); zero cnts.
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**	**295**	

Exhibit 5.6 Covariates for 2002 NSDUH Person Weights (res.per.ev), Model Group 5: South Atlantic

The same covariates were kept as in the res.per.ps model.

Appendix D6

Model Group 6: East South Central

(Alabama, Kentucky, Mississippi, Tennessee)

Table D.6a 2002 NSDUH Person Weight GEM Modeling Summary (Model Group 6: East South Central)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	1.38%	0.63%	0.04%	1.84376	204	(1.00, 1.10)	(1.10,1.10)
	0.75%	0.45%	0.02%	1.83425	88	(1.00, 1.39)	(1.00,1.39)
						(1.00, 1.39)	(1.02,1.39)
res.sdu.ps	0.75%	0.45%	0.02%	1.83425	162	(0.76, 1.10)	(0.76,1.10)
	2.26%	4.56%	0.94%	1.21723	156	(0.10, 6.34)	(0.10,6.28)
						(0.99, 2.42)	(1.20,2.42)
sel.per.ps	3.27%	7.54%	2.32%	2.46439	242	(0.10, 1.89)	(0.10,1.89)
	1.91%	4.56%	1.05%	2.52040	168	(0.10, 10.00)	(0.10,10.0)
						(0.10, 4.91)	(0.10,4.70)
res.per.nr	2.87%	8.32%	1.81%	2.60107	242	(1.00, 2.90)	(1.00,2.85)
	3.09%	9.22%	1.82%	2.71050	149	(1.00, 5.00)	(1.00,5.00)
						(1.00, 1.70)	(1.00,1.70)
res.per.ps	3.17%	8.97%	1.73%	2.71050	187	(0.10, 3.00)	(0.10,3.00)
	1.52%	3.99%	1.04%	2.71541	124	(0.10, 5.00)	(0.10,4.98)
						(0.90, 2.00)	(0.90,2.00)
res.per.ev	1.52%	3.99%	1.04%	2.71541	187	(0.80, 2.90)	(0.96,2.90)
	1.13%	3.41%	0.68%	2.69455	124	(0.70, 2.90)	(0.70,2.20)
						(0.90, 1.50)	(0.90,1.34)

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

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

[3] Number of proposed covariates above, and number finalized after modeling below.

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

Table D.6b Distribution of Weight Adjustment Factors and Weight Products (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]		*res.per.ev* [1]	
	1-6[2]	**7**[3]	**1-7**[3]	**8**[4]	**1-8**[4]	**10**[5]	**1-10**[5]	**11**[5]	**1-11**[5]	**12**[6]	**1-12**[6]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	204	0.93	342	0.10	70	1.01	71	0.06	8	0.24	9	0.06	3	0.58	2
1%	339	1.00	385	0.22	227	1.01	336	0.10	138	0.91	172	0.29	152	0.74	160
5%	354	1.01	506	0.48	472	1.01	551	0.60	467	1.01	507	0.79	492	0.97	503
10%	506	1.02	571	0.73	565	1.01	682	0.71	625	1.01	701	0.88	677	0.98	684
25%	603	1.04	643	0.96	699	1.04	932	0.86	894	1.04	983	0.95	990	0.99	998
Median	725	1.07	768	1.07	832	1.40	1,421	0.99	1,428	1.12	1,602	1.01	1,588	1.00	1,601
75%	862	1.11	924	1.19	996	5.29	4,576	1.15	4,439	1.25	5,136	1.07	5,101	1.01	5,069
90%	1,048	1.17	1,139	1.46	1,236	7.56	8,144	1.34	8,268	1.44	9,785	1.11	9,923	1.03	9,916
95%	1,069	1.26	1,169	1.67	1,485	12.93	11,382	1.53	12,545	1.69	15,720	1.16	15,455	1.04	15,819
99%	5,636	1.38	6,557	2.52	2,588	15.25	15,269	2.31	19,620	2.97	23,470	2.21	24,285	1.19	23,766
Maximum	6,749	1.75	7,005	6.00	8,325	17.19	57,237	10.00	32,369	10.65	44,155	8.35	43,899	2.20	38,873
n	8,408	7,727	7,727	7,727	7,727	4,246	4,246	4,246	4,246	3,628	3,628	3,628	3,628	3,628	3,628
Max/Mean	8.02	-	7.65	-	9.30	-	17.63	-	9.71	-	11.32	-	11.25	-	9.96

Note 1: Weight component 9 and weight products 1-9 are excluded because weight 9 = 1 for all selected dwelling units.
Note 2: Under GEM, nonresponse adjustment factors (weight components #7 and #12) 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 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 persons.
[6] Based on questionnaire-complete persons.

Model Group 6 Overview

Dwelling Unit Nonresponse

For one-factor effects, the level of 50-100% of Segments that are Hispanic was dropped due to the zero sample size. Out of 22 proposed one-factor effects, 21 were included in the model.

Variable collapsing or dropping was present in all two-factor effects except the Rent/housing × percent Black, State × Quarter, and State × percent Black interactions. Out of 86 proposed variables, 55 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 96 proposed variables, 12 were included in the model.

In the final model, a total of 88 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 three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity and State × Race × Hispanicity interactions. Out of 85 proposed variables, 79 were included in the model.

In the final model, a total of 156 variables were included; see Exhibit D6.2.

Selected Person-Level Poststratification

For one-factor effects, College Dorm had to be collapsed with Other Group Quarter due to convergence problems and the level of 50-100% of Segments that are Hispanic was dropped due to the zero sample size. Out of 35 proposed one-factor effects, 33 were included in the model.

For two-factor effects, variable collapsing or dropping was present in the Age × Hispanicity, Race × Hispanicity, percent Owner-Occupied × percent Black, percent Owner-Occupied × percent Hispanic, percent Owner-Occupied × Rent/housing, Rent/housing × percent Hispanic, State × Race, State × percent Hispanic, State × percent Owner-Occupied, and State × Rent/housing interactions. Out of 122 proposed variables, 90 were included in the model.

For three-factor effects, all levels are present for the Age × Race × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 85 proposed variables, 45 were included in the model.

In the final model, a total of 168 variables were included; see Exhibit D6.3.

Respondent Person-Level Nonresponse

For one-factor effects, American Indian/Alaska Native, Asian and Two or More Races had be collapsed due to convergence problems and the level of 50-100% of Segments that are Hispanic was dropped due to the zero sample size. Out of 35 proposed one-factor effects, 32 were included in the model.

For two-factor effects, variable collapsing or dropping was present in the Age × Race, Age × Hispanicity, Race × Hispanicity, percent Owner-Occupied × percent Black, percent Owner-Occupied × percent Hispanic, percent Owner-Occupied × Rent/housing, Rent/housing × percent Hispanic, State × Race, State × percent Hispanic, State × percent Owner-Occupied, and State × Rent/housing interactions. Out of 122 proposed variables, 88 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the State × Age × Gender interaction. Out of 85 proposed variables, 29 were included in the model.

In the final model, a total of 149 variables were included; see Exhibit D6.4.

Respondent Person-Level Poststratification

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

For two-factor effects, variable collapsing or dropping was present in the Age × Hispanicity and State × Race interactions. Out of 67 proposed variables, 62 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the State × Age × Gender interaction. Out of 102 proposed variables, 44 were included in the model.

In the final model, a total of 124 variables were included; see Exhibit D6.5.

Respondent Person-Level Extreme Value

This step used the same variables as the **Respondent Person-Level Poststratification** step.

Exhibit D6.1 Covariates for 2002 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	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	1	Drop (1); zero cnts.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**86**	**55**	
%Owner-Occupied × %Black	3*3	4	3	Drop (3,2); sing.
%Owner-Occupied × %Hispanic	3*3	4	0	Drop (2,*), (3,1); zero cnts. Drop (3,2); sing.
%Owner-Occupied × Rent/housing	3*5	8	6	Coll. (3,1) & (3,3); conv. Drop (3,2); zero cnts.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	1	Drop (*,1), (1,2), & (2,2); zero cnts. Drop (4,2); sing.
State × Quarter	4*4	9	9	All levels present.
State × Population Density	4*4	9	6	Drop (1,1), (3,1); zero cnts. Drop (2,1); sing.
State × Group Quarter	4*3	6	3	Drop (2,1) & (3,*); zero cnts.
State × %Black	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	0	Drop (1,*), (2,1), & (3,*); zero cnts. Drop (2,2); sing.
State × %Owner-Occupied	4*3	6	4	Drop (1,3); sing. Drop (3,3); zero cnts.
State × Rent/housing	4*5	12	9	Drop (3,1), (3,4); sing. Drop (3,3); zero cnts.
Three-Factor Effects		**96**	**12**	
State × %Owner-Occupied × %Black	4*3*3	12	4	Drop (*,3,1), (3,3,2); zero cnts. Drop (1,3,2), (2,3,2), (2,2,1), (3,2,2); sing.
State × %Owner-Occupied × %Hispanic	4*3*3	12	0	Drop (1,*,*), (2,2,*), (2,3,1), (3,*,*); zero cnts. Drop (1,2,3), (2,3,2); sing.
State × %Owner-Occupied × Rent/housing	4*3*5	24	2	Drop (2,2,1), (2,2,2); conv. Drop (1,2,3), (1,3,1), (2,2,4), (2,3,1), (2,3,4), (3,2,1), (3,2,2), (3,2,3); sing. Drop (1,2,4), (1,3,4), (2,2,3), (3,2,4), (3,3,1), (3,3,4); zero cnts. Drop (*,3,2) & (*,3,3); Coll.. hier.
State × Rent/housing × %Black	4*3*5	24	6	Coll. (1,3,1) & (1,3,2); conv. Drop (2,1,1), (2,2,1), (3,3,2); zero cnts. Drop (1,2,1), (1,4,*), (2,2,2), (2,3,1), (2,4,*), (3,1,*), (3,2,*), (3,4,*); sing.
State × Rent/housing × %Hispanic	4*3*5	24(96)	0	Drop (1,*,*), (2,2,*), (2,3,1), (3,*,*); zero cnts. Drop (2,3,2); sing.
Total		**204**	**88**	

Exhibit D6.2 Covariates for 2002 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**	**79**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	5	Drop (1,3,1), (1,2,1); conv. Coll. (4,2,1) & (4,3,1); sing.
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. (*,2,1) & (*,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		**162**	**156**	

Exhibit D6.3 Covariates for 2002 NSDUH Person Weights (sel.per.ps), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**35**	**33**	
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); conv.
%Black	3	2	2	All levels present.
%Hispanic	3	2	1	Drop (1); zero.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**122**	**90**	
Age × Race (3 levels)	5*3	8	8	All levels present
Age × Hispanicity	5*2	4	3	Drop (4,1); conv.
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
%Owner-Occupied × %Black	3*3	4	3	Drop (3,2); sing.
%Owner-Occupied × %Hispanic	3*3	4	0	Drop all; sing/hier.
%Owner-Occupied × Rent/housing	3*5	8	7	Drop (3,2); sing.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	1	Keep (3,2); 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	6	Coll. (*,3) & (*,4) & (*,5); conv.
State × Hispanicity	4*2	3	3	All levels present
State × Gender	4*2	3	3	All levels present
State × %Black	4*3	6	6	All levels present
State × %Hispanic	4*3	6	0	Drop all; conv/sing.
State × %Owner-Occupied	4*3	6	4	Drop (1,3), (3,3); sing.
State × Rent/housing	4*5	12	9	Drop (3,1), (3,3), (3,4); sing.
Three-Factor Effects		**85**	**45**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	3	Coll. (*,2,1) & (*,3,1); hier. Drop (4,2/3,1); hier.
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); hier.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); hier.
State × Age × Race (3 levels)	4*5*3	24	12	Coll. (*,*,2) & (*,*,3) conv.
State × Age × Hispanicity	4*5*2	12	0	Drop all; conv.
State × Age × Gender	4*5*2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4*3*2	6	0	Drop all; conv.
State × Race (3 levels) × Gender	4*3*2	6	3	Coll. (*,2,1) & (*,3,1); conv.
State × Hispanicity × Gender	4*2*2	3	3	All levels present.
Total		**242**	**168**	

Exhibit D6.4 Covariates for 2002 NSDUH Person Weights (res.per.nr), Model Group 6: East South Central

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**35**	**32**	
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	2	Coll. (3), (4), (5); conv.
Gender	2	1	1	All levels present.
Hispanicity	2	1	1	All levels present.
Relation to Housholder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	1	Drop (1); zero.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**122**	**88**	
Age × Race (3 levels)	5*3	8	7	Coll. (1,2) & (1,3); conv.
Age × Hispanicity	5*2	4	3	Drop (4,1); conv.
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.
%Owner-Occupied × %Black	3*3	4	3	Drop (3,2); sing.
%Owner-Occupied × %Hispanic	3*3	4	0	Drop all; hier/sing.
%Owner-Occupied × Rent/housing	3*5	8	7	Drop (3,2); sing.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	1	Drop (*,1); hier. Drop (1,2), (2,2), (4,2); 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	6	Coll. (*,3) & (*,4) & (*,5); hier.
State × Hispanicity	4*2	3	3	All levels present.
State × Gender	4*2	3	3	All levels present.
State × %Black	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	0	Drop all; hier/sing.
State × %Owner-Occupied	4*3	6	3	Drop (1,3); sing. Drop (3,3); zero. Coll. (2,2) & (2,3); conv.
State × Rent/housing	4*5	12	9	Drop (3,1), (3,3); sing. Drop (3,4); zero.
Three-Factor Effects				
Age × Race (3 levels) × Hispanicity		**85**	**29**	
Age × Race (3 levels) × Gender	5*3*2	8	0	Drop all; conv.
Age × Hispanicity × Gender	5*3*2	8	4	Coll. (*,2,1) & (*,3,1); conv.
Race (3 levels) × Hispanicity × Gender	5*2*2	4	3	Drop (4,1,1); conv.
	3*2*2	2	0	Drop all; conv.
State × Age × Race (3 levels)	4*5*3	24	5	Coll. (*,*,2/3); Drop (*,1,2/3); hier; Drop (2,4,2/3); conv. Coll. (*,2/3,2/3); conv.
State × Age × Hispanicity	4*5*2	12	0	Drop all; conv.
State × Age × Gender	4*5*2	12	12	All levels present
State × Race (3 levels) × Hispanicity	4*3*2	6	0	Drop all; conv.
State × Race (3 levels) × Gender	4*3*2	6	3	Coll. (*,2,1) & (*,3,1); conv.
State × Hispanicity × Gender	4*2*2	3	2	Drop (2,1,1); conv.
Total		**242**	**149**	

Exhibit D6.5 Covariates for 2002 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**	**62**	
Age × Race (3 levels)	6*3	10	10	All levels present.
Age × Hispanicity	6*2	5	4	Drop (5,1); sing.
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	8	Coll. (2,2) & (2,3) & (2,4) & (2,5); conv. Coll. (3,4) & (3,5); conv.
State × Hispanicity	4*2	3	3	All levels present.
State × Gender	4*2	3	3	All levels present.
Three-Factor Effects		**102**	**44**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	1	Coll. (1,2,1) & (1,3,1); conv. Drop (2,2,1) & (3,3,1); sing. Drop (3,2,1), (4,*,1); zero cnts. Drop (2,3,1); conv.
Age × Race (3 levels) × Gender	6*3*2	10	7	Coll. (1,2,1) & (1,3,1); conv.
Age × Hispanicity × Gender	6*2*2	5	3	Drop (4,1,1); sing.
Race (3 levels) × Hispanicity × Gender	3*2*2	2	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	4*6*3	30	12	Coll. (1,*,2) & (1,1,3); conv. Coll. (2,*,2) & (2,*,3); hier. Coll. (3,2/3,2) & (3,2/3,3); conv. Coll. (3,4,2) & (3,4,3); sing.
State × Age × Hispanicity	4*6*2	15	4	Drop (1,3,1), (2,4,1), (3,4,1); sing. Drop (1,4,1); zero cnts. Drop (1,2,1), (2,3,1), (3,2,1), (3,3,1); conv.
State × Age × Gender	4*6*2	15	12	All levels present
State × Race (3 levels) × Hispanicity	4*3*2	6	0	Drop all; conv.
State × Race (3 levels) × Gender	4*3*2	6	3	Coll. (1/2,2,1) & (1/2,3,1); conv. Coll. (2,2,1) & (2,3,1); hier.
State × Hispanicity × Gender	4*2*2	3	1	Drop (1,1,1) & (3,1,1); conv.
Total		**187**	**124**	

Exhibit 6.6 Covariates for 2002 NSDUH Person Weights (res.per.ev), Model Group 6: East South Central

The same covariates were kept as in the res.per.ps model.

Appendix D7

Model Group 7: West South Central

(Arkansas, Louisiana, Oklahoma, Texas)

Table D.7a 2002 NSDUH Person Weight GEM Modeling Summary (Model Group 7: West South Central)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	2.37%	2.28%	0.06%	1.10856	204	(1.02, 1.10)	(1.02,1.10)
	0.78%	1.09%	0.06%	1.10971	109	(1.00, 1.27)	(1.00,1.26)
						(1.05, 1.47)	(1.05,1.47)
res.sdu.ps	0.78%	1.09%	0.06%	1.10972	162	(0.46, 1.10)	(0.46,1.10)
	1.09%	1.62%	0.28%	1.14875	159	(0.11, 4.17)	(1.12,4.02)
						(0.90, 1.21)	(0.90,1.20)
sel.per.ps	2.37%	3.36%	0.74%	2.24045	242	(0.34, 3.00)	(0.34,2.47)
	1.72%	2.89%	0.66%	2.26756	212	(0.30, 4.00)	(0.30,3.21)
						(0.90, 1.81)	(0.90,1.67)
res.per.nr	1.80%	2.90%	0.65%	2.28471	242	(1.00, 3.00)	(1.00,3.00)
	1.35%	3.09%	0.79%	2.49711	179	(1.00, 4.13)	(1.00,4.12)
						(1.20, 1.63)	(1.20,1.63)
res.per.ps	1.41%	3.19%	0.84%	2.49711	187	(0.10, 2.74)	(0.10,2.73)
	1.11%	2.18%	0.44%	2.54196	150	(0.10, 3.86)	(0.10,3.73)
						(0.90, 4.96)	(0.90,4.96)
res.per.ev	1.11%	2.18%	0.44%	2.54196	187	(0.70, 2.80)	(0.88,2.78)
	0.64%	1.41%	0.27%	2.53165	150	(0.80, 2.80)	(0.80,2.01)
						(0.90, 1.10)	(0.90,1.06)

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

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

[3] Number of proposed covariates above, and number finalized after modeling below.

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

Table D.7b Distribution of Weight Adjustment Factors and Weight Products (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]		*res.per.ev* [1]	
	1-6[2]	**7**[3]	**1-7**[3]	**8**[4]	**1-8**[4]	**10**[5]	**1-10**[5]	**11**[5]	**1-11**[5]	**12**[6]	**1-12**[6]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	13	0.79	390	0.12	68	1.01	84	0.27	26	0.38	46	0.09	5	0.68	5
1%	393	1.00	406	0.42	307	1.01	360	0.38	249	0.97	260	0.10	101	0.82	96
5%	430	1.01	452	0.85	441	1.01	588	0.70	532	1.01	598	0.70	475	0.95	482
10%	459	1.02	480	0.93	485	1.01	777	0.78	737	1.03	822	0.87	727	0.99	724
25%	648	1.04	693	1.01	719	1.17	1,167	0.89	1,124	1.06	1,227	0.97	1,215	1.00	1,216
Median	942	1.06	1,009	1.08	1,082	1.32	1,676	0.99	1,696	1.13	1,871	1.02	1,944	1.00	1,946
75%	1,120	1.09	1,212	1.17	1,339	5.14	4,976	1.10	4,825	1.22	5,349	1.06	5,134	1.00	5,163
90%	1,280	1.12	1,343	1.28	1,539	6.75	8,132	1.23	8,424	1.36	9,974	1.16	10,133	1.01	10,161
95%	1,310	1.14	1,391	1.39	1,683	11.17	12,684	1.34	11,873	1.48	14,544	1.20	14,671	1.02	14,606
99%	1,402	1.22	1,489	1.83	1,928	13.27	17,675	1.78	17,627	1.95	23,361	1.56	23,739	1.12	23,735
Maximum	2,494	5.67	2,076	4.02	5,036	27.14	42,181	3.21	49,536	7.25	69,176	6.07	56,730	11.53	54,246
n	12,258	11,457	11,457	11,456	11,456	7,436	7,436	7,436	7,436	6,378	6,378	6,378	6,378	6,378	6,378
Max/Mean	2.81	-	2.18	-	4.81	-	12.13	-	14.25	-	17.07	-	13.99	-	13.38

Note 1: Weight component 9 and weight products 1-9 are excluded because weight 9 = 1 for all selected dwelling units.
Note 2: Under GEM, nonresponse adjustment factors (weight components #7 and #12) 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 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 persons.
[6] Based on questionnaire-complete persons.

Model Group 7 Overview

Dwelling Unit Nonresponse

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

For two-factor effects, variable collapsing and dropping was present in the State × Population Density, State × Group Quarter, State × percent Hispanic, State × percent Owner-Occupied, and State × Rent/housing. Out of 86 proposed variables, 69 were included in the model.

Variable collapsing or dropping was present in all three-factor effects. Out of 96 proposed variables, 19 were included in the model.

In the final model, a total of 109 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 three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity and State × Race × Hispanicity interactions. Out of 85 proposed variables, 82 were included in the model.

In the final model, a total of 159 variables were included; see Exhibit D7.2.

Selected Person-Level Poststratification

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

For two-factor effects, variable dropping was present in the State × percent Hispanic, State × percent Owner-Occupied, and State × Rent/housing interactions. Out of 122 proposed variables, 111 were included in the model.

For three-factor effects, all levels are present for the Age × Race × Gender, Age× Hispanicity × Gender, and State × Age × Hispanicity interactions. All the others were affected by variable collapsing or dropping. Out of 85 proposed variables, 67 were included in the model.

In the final model, a total of 212 variables were included; see Exhibit D7.3.

Respondent Person-Level Nonresponse

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

For two-factor effects, variable collapsing or dropping was present in the State × Race, State × percent Hispanic, State × percent Owner-Occupied, and State × Rent/housing interactions. Out of 122 proposed variables, 105 were included in the model.

For three-factor effects, all levels are present for the Age × Race × Gender, Age× Hispanicity × Gender, State × Age × Gender, and State × Race × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 85 proposed variables, 40 were included in the model.

In the final model, a total of 179 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 one-factor effects were included in the model.

For three-factor effects, all levels are present for the Race × Hispanicity × Gender, State × Race × Hispanicity, and State × Race × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 102 proposed variables, 65 were included in the model.

In the final model, a total of 150 variables were included; see Exhibit D7.5.

Respondent Person-Level Extreme Value

This step used the same variables as the **Respondent Person-Level Poststratification** step.

Exhibit D7.1 Covariates for 2002 NSDUH Person Weights (res.sdu.nr), Model Group 7: West 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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**86**	**69**	
%Owner-occupied × %Black	3*3	4	4	All levels present.
%Owner-occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	4*4	9	9	All levels present.
State × Population Density	4*4	9	7	Drop (2,1); sing. Drop (3,1); zero.
State × Group Quarter	4*3	6	2	Coll. (*,1) & (*,2); hier. Drop (3,*); sing.
State × %Black	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	2	Drop (2,1), (3,1); zero. Drop (4,1), (3,2); sing.
State × %Owner-Occupied	4*3	6	5	Drop (3,3); sing.
State × Rent/housing	4*5	12	6	Drop (4,4), (2,3), (2,4), (3,2), (3,3); sing. Drop (3,4); zero.
Three-Factor Effects		**96**	**19**	
State × %Owner-Occupied × %Black	4*3*3	12	8	Keep (*,2,1), (*,2,2), (4,3,1), (4,3,2).
State × %Owner-Occupied × %Hispanic	4*3*3	12	2	Keep (4,2,2), (4,3,2).
State × %Owner-Occupied × Rent/housing	4*3*5	24	2	Keep (3,2,1), (4,3,2).
State × Rent/housing × %Black	4*3*5	24	6	Keep (2,1,1), (3,1,2), (4,2,2), (4,3,1), (4,3,2). Coll. (4,1,1) & (4,2,1).
State × Rent/housing × %Hispanic	4*3*5	24	1	Keep (4,2,2).
Total		**204**	**109**	

Exhibit D7.2 Covariates for 2002 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**	**82**	
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)	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	4	Drop (2,3,1); zero. Coll. (3,2,1) & (3,3,1); 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		**162**	**159**	

Exhibit D7.3 Covariates for 2002 NSDUH Person Weights (sel.per.ps), Model Group 7: West 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. (2) & (1); conv.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**122**	**111**	
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	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	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	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	2	Drop (2,1), (3,1); zero. Drop (4,1), (3,2); sing.
State × %Owner-Occupied	4*3	6	5	Drop (3,3); sing.
State × Rent/housing	4*5	12	6	Drop (3,4), (4,4), (2,3), (2,4), (3,2), (3,3); zero/sing.
Three-Factor Effects		**85**	**67**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	3	Drop (4,2,1), (4,3,1), (3,2,1); sing. Coll. (1,2,1) & (1,3,1), (2,2,1) & (3,2,1); 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)	4*5*3	24	20	Coll. (2,3,2) & (2,3,3), (2,4,2) & (2,4,3); conv. Coll. (2,1,2) & (2,1,3), (2,2,2) & (2,2,3); conv.
State × Age × Hispanicity	4*5*2	12	10	Drop (3,4,1); sing. Coll. (2,3,1) & (2,4,1); conv.
State × Age × Gender	4*5*2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4*3*2	6	2	Coll. (3,2,1) & (3,3,1); zero. Drop (2,3,1); zero. Coll. (4,2,1) & (4,3,1); conv. Drop (2,2,1); conv.
State × Race (3 levels) × Gender	4*3*2	6	5	Drop (2,3,1); conv.
State × Hispanicity × Gender	4*2*2	3	2	Drop (2,1,1); conv.
Total		**242**	**212**	

Exhibit D7.4 Covariates for 2002 NSDUH Person Weights (res.per.nr), Model Group 7: West 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 Housholder	4	3	3	All levels present.
Population Density	4	3	3	All levels present.
Group Quarter	3	2	2	Coll. (1) & (2); conv.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**122**	**105**	
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	3*3	4	4	All levels present.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	8	All levels present.
Rent/housing × %Hispanic	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	6	Coll. (*,3) & (*,4) & (*,5); conv.
State × Hispanicity	4*2	3	3	All levels present.
State × Gender	4*2	3	3	All levels present.
State × %Black	4*3	6	6	All levels present.
State × %Hispanic	4*3	6	2	Drop (4,1), (3,1), (2,1); zero. Drop (3,2); sing.
State × %Owner-Occupied	4*3	6	5	Drop (3,3); sing.
State × Rent/housing	4*5	12	6	Drop (3,4), (4,4), (2,3), (2,4), (3,2), (3,3); zero/sing.
Three-Factor Effects		**85**	**40**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	0	Drop all.
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(22)	1(13)	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	4*5*3	24	4	Coll. (4,*,2) & (4,*,3). Drop (2,*,*), (3,*,*).
State × Age × Hispanicity	4*5*2	12	4	Keep (4,*,1).
State × Age × Gender	4*5*2	12	12	All levels present.
State × Race (3 levels) × Hispanicity	4*3*2	6	0	Drop all.
State × Race (3 levels) × Gender	4*3*2	6	6	All levels present.
State × Hispanicity × Gender	4*2*2	3	1	Keep (4,1,1).
Total		**242**	**179**	

Exhibit D7.5 Covariates for 2002 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**	**65**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	3	Coll. (1/2/3,2,1) & (1/2/3,3,1), Drop (4/5,*,1).
Age × Race (3 levels) × Gender	6*3*2	10	8	Drop (5,*,1).
Age × Hispanicity × Gender	6*2*2	5	4	Drop (5,1,1).
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	4*6*3	30	12	Coll (*,1/2/3/4,2) & (*,1/2/3/4,3), Drop (*,5,*).
State × Age × Hispanicity	4*6*2	15	10	Drop (*,5,1), (2/3,4,1).
State × Age × Gender	4*6*2	15	12	Drop (*,5,1).
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	2	Drop (2,1,1).
Total		**187**	**150**	

Exhibit 7.6 Covariates for 2002 NSDUH Person Weights (res.per.ev), Model Group 7: West South Central

The same covariates were kept as in the res.per.ps model.

Appendix D8

Model Group 8: Mountain

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

Table D.8a 2002 NSDUH Person Weight GEM Modeling Summary (Model Group 8: Mountain)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	3.12%	2.74%	0.30%	1.51312	408	(1.03, 1.14)	(1.03,1.13)
	3.87%	4.46%	0.83%	1.52542	133	(1.00, 5.25)	(1.00,5.25)
						(1.03, 1.14)	(1.03,1.13)
res.sdu.ps	3.87%	4.46%	0.83%	1.52542	302	(0.63, 1.30)	(0.63,1.30)
	2.17%	3.17%	0.61%	1.56620	291	(0.13, 5.36)	(0.13,5.31)
						(0.90, 1.92)	(0.90,1.91)
sel.per.ps	3.37%	5.76%	1.33%	3.26000	422	(0.10, 3.00)	(0.10,2.88)
	1.91%	4.36%	1.29%	3.29875	329	(0.10, 5.00)	(0.10,4.94)
						(0.60, 3.80)	(0.60,3.79)
res.per.nr	2.02%	5.08%	1.53%	3.42052	422	(1.00, 2.86)	(1.00,2.84)
	1.52%	3.75%	0.92%	3.67521	310	(1.00, 5.00)	(1.00,4.94)
						(1.00, 1.61)	(1.07,1.58)
res.per.ps	1.58%	3.75%	0.92%	3.67521	347	(0.10, 2.30)	(0.10,2.27)
	1.67%	3.78%	0.92%	3.83025	257	(0.10, 4.99)	(0.10,4.99)
						(0.90, 2.10)	(0.90,2.10)
res.per.ev	1.67%	3.78%	0.92%	3.83025	347	(0.80, 2.00)	(0.97,2.00)
	1.16%	3.00%	0.64%	3.80504	257	(0.30, 2.00)	(0.30,1.61)
						(0.90, 1.10)	(0.90,1.10)

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

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

[3] Number of proposed covariates above, and number finalized after modeling below.

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

Table D.8b Distribution of Weight Adjustment Factors and Weight Products (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]		*res.per.ev* [1]	
	1-6[2]	**7**[3]	**1-7**[3]	**8**[4]	**1-8**[4]	**10**[5]	**1-10**[5]	**11**[5]	**1-11**[5]	**12**[6]	**1-12**[6]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	87	0.92	89	0.13	32	1.01	35	0.08	6	0.42	6	0.06	1	0.30	1
1%	88	1.00	92	0.43	88	1.01	101	0.14	60	0.93	67	0.10	32	0.78	33
5%	93	1.02	98	0.81	116	1.01	139	0.61	139	1.00	152	0.35	128	0.97	128
10%	112	1.03	114	0.91	134	1.01	187	0.74	181	1.01	197	0.82	173	0.98	174
25%	178	1.05	184	1.03	193	1.10	399	0.87	380	1.05	409	0.96	379	0.99	378
Median	320	1.06	333	1.14	414	1.35	919	0.98	886	1.11	955	1.01	915	1.00	925
75%	700	1.10	737	1.31	790	5.28	1,956	1.12	1,969	1.22	2,139	1.09	2,152	1.01	2,145
90%	860	1.15	943	1.50	1,119	8.11	4,966	1.30	4,783	1.41	5,600	1.22	5,381	1.03	5,400
95%	957	1.19	1,042	1.70	1,310	11.88	6,856	1.46	7,335	1.60	9,009	1.39	9,192	1.06	9,168
99%	1,179	1.64	1,413	2.32	1,676	13.90	14,879	2.17	14,001	2.35	18,119	2.18	19,063	1.37	19,082
Maximum	2,083	5.25	2,099	5.32	5,272	25.76	43,755	8.71	33,127	5.24	37,462	4.99	40,159	13.33	37,476
n	14,275	13,107	13,107	13,107	13,107	8,282	8,282	8,282	8,282	7,083	7,083	7,083	7,083	7,083	7,083
Max/Mean	4.91	-	4.54	-	9.81	-	23.42	-	17.92	-	17.33	-	18.58	-	17.33

Note 1: Weight component 9 and weight products 1-9 are excluded because weight 9 = 1 for all selected dwelling units.
Note 2: Under GEM, nonresponse adjustment factors (weight components #7 and #12) 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 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 persons.
[6] Based on questionnaire-complete persons.

Model Group 8 Overview

Dwelling Unit Nonresponse

For one-factor effects, College Dorm had to be collapsed with Other Group Quarter due to convergence problems. Out of 26 proposed one-factor effects, 25 were included in the model.

For two-factor effects, all levels were present in the percent Owner-Occupied × percent Hispanic, percent Owner-Occupied × Rent/housing and State × Quarter interactions. All the others were affected by variable collapsing or dropping. Out of 158 proposed variables, 108 were included in the model.

All 224 proposed three-factor effects were dropped.

In the final model, a total of 133 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 three-factor effects, variable collapsing was present in the Age × Race × Hispanicity, State × Age × Race, State × Race × Hispanicity, and State × Race × Gender interactions. Out of 169 proposed variables, 158 were included in the model.

In the final model, a total of 291 variables were included; see Exhibit D8.2.

Selected Person-Level Poststratification

For one-factor effects, College Dorm had to be collapsed with Other Group Quarter due to convergence. Out of 39 proposed one-factor effects, 38 were included in the model.

For two-factor effects, variable collapsing or dropping was present in the Race × Hispanicity, percent Owner-Occupied × percent Black, Rent/housing × percent Black, Rent/housing × percent Hispanic, State × Race, State × percent Black, State × percent Hispanic, State × percent Owner-Occupied, and State × Rent/housing interactions. Out of 214 proposed variables, 175 were included in the model.

For three-factor effects, all levels are present in the Age × Race × Gender, Age× Hispanicity × Gender, State × Age × Gender, and State × Hispanicity × Gender interactions. All the others were affected by variable collapsing or dropping. Out of 169 proposed variables, 116 were included in the model.

In the final model, a total of 329 variables were included; see Exhibit D8.3.

Respondent Person-Level Nonresponse

All 39 proposed one-factor effects were included in the model.

For two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Black, Rent/housing × percent Black, Rent/housing × percent Hispanic, State × Race, State × percent Black, State × percent Hispanic, State × percent Owner-Occupied, and State × Rent/housing interactions. Out of 214 proposed variables, 171 were included in the model.

For three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, Age × Race × Gender, State × Age × Race, State × Age × Hispanicity, State × Race × Hispanicity, and State × Race × Gender interactions. Out of 169 proposed variables, 100 were included in the model.

In the final model, a total of 310 variables were included; see Exhibit D8.4.

Respondent Person-Level Poststratification

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

For two-factor effects, variable collapsing was present in the State × Race interaction. Out of 123 proposed variables, 121 were included in the model.

Variable collapsing or dropping was present in all three-factor effects except the Race × Hispanicity × Gender interaction. Out of 202 proposed variables, 114 were included in the model.

In the final model, a total of 257 variables were included; see Exhibit D8.5.

Respondent Person-Level Extreme Value

This step used the same variables as the **Respondent Person-Level Poststratification** step.

Exhibit D8.1 Covariates for 2002 NHSDA 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	1	Coll. (1) & (2); conv.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**158**	**108**	
%Owner-Occupied × %Black	3*3	4	3	Drop (3,1); zero.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	4	Drop (1,1), (2,1), (2,2), (3,1); zero.
Rent/housing × %Hispanic	3*5	8	7	Drop (1,1); zero.
State × Quarter	8*4	21	21	All levels present.
State × Population Density	8*4	21	16	Drop (2,1), (3,1), (4,1), (5,1), (7,1); zero.
State × Group Quarter	8*3	14	5	Coll. (*,1) & (*2); hier. Drop (2,*), (4,*); zero.
State × %Black	8*3	14	4	Drop(2,1), (2,2), (3,1), (3,2), (5,1), (6,1), (7,1), (7,2); zero. Drop (4,1), (6,2); sing.
State × %Hispanic	8*3	14	11	Drop (3,1), (6,1), (7,1); zero.
State × %Owner-Occupied	8*3	14	13	Drop (3,3); sing.
State × Rent/housing	8*5	28	12	Drop(1,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (5,1), (5,2), (6,4), (7,3), (7,4); zero. Drop (2,1), (3,1), (6,3), (7,2); sing.
Three-Factor Effects		**224**	**0**	
State × %Owner-Occupied × %Black	8*3*3	28	0	Drop all.
State × %Owner-Occupied × %Hispanic	8*3*3	28	0	Drop all.
State × %Owner-Occupied × Rent/housing	8*3*5	56	0	Drop all.
State × Rent/housing × %Black	8*3*5	56	0	Drop all.
State × Rent/housing × %Hispanic	8*3*5	56	0	Drop all.
Total		**408**	**133**	

Exhibit D8.2 Covariates for 2002 NHSDA Person Weights (res.sdu.ps), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
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**	**158**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	7	Coll. (3,2,1) & (3,3,1); 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)	8*5*3	56	52	Coll. (2,3,2) & (2,3,3), (2,4,2) & (2,4,3), (3,3,2) & (3,3,3), (3,1,2) & (3,1,3); zero.
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	9	Coll. (2,2,1) & (2,3,1), (3,2,1) & (3,3,1); zero. Coll. (7,2,1) & (7,3,1); sing. Coll. (1,2,1) & (1,3,1), (6,2,1) & (6,3,1); conv.
State × Race (3 levels) × Gender	8*3*2	14	13	Coll. (3,2,1) & (3,3,1); sing.
State × Hispanicity × Gender	8*2*2	7	7	All levels present.
Total		**302**	**291**	

Exhibit D8.3 Covariates for 2002 NHSDA 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	1	Coll. (1) & (2); conv.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**214**	**175**	
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.
%Owner-Occupied × %Black	3*3	4	3	Drop (3,1); zero.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	4	Drop (1,1), (2,1), (2,2), (3,1); zero.
Rent/housing × %Hispanic	3*5	8	7	Drop (1,1); zero.
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	26	Coll. (3,2) & (3,5), (2,2) & (2,5); conv.
State × Hispanicity	8*2	7	7	All levels present.
State × Gender	8*2	7	7	All levels present.
State × %Black	8*3	14	4	Drop (2,1), (2,2), (3,1), (3,2), (5,1), (6,1), (7,1), (7,2); zero. Drop (4,1), (6,2); sing.
State × %Hispanic	8*3	14	11	Drop (3,1), (6,1), (7,1); zero.
State × %Owner-Occupied	8*3	14	13	Drop (3,3); sing.
State × Rent/housing	8*5	28	12	Drop (1,1), (3,2), (3,3), (3,4), (5,1), (5,2), (4,1), (4,2), (4,3), (6,4), (7,3), (7,4); zero. Drop (2,4), (3,1), (6,3), (7,2); sing.
Three-Factor Effects		**169**	**116**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	4	Coll. (3,2,1) & (3,3,1), (4,2,1) & (4,3,1); zero. Coll. (1,2,1) & (1,3,1), (2,2,1) & (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	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	8*5*3	56	22	Coll.(1,1,2) & (1,1,3), (1,2,2) & (1,2,3), (1,3,2) & (1,3,3), drop (1,4,3); sing. Keep (2,3,3), (2,4,3); conv. Coll. (3,4,2) & (3,4,3). Drop (3,1,2) (3,3,2), (3,1,3). Coll. (4,*,2) & (4,*,3); conv. Coll. (5,1,2) & (5,1,3), (5,2,2) & (5,2,3), (5,3,2) & (5,3,3); conv.. Drop (5,4,3); sing. Coll. (6,*,2) & (6,*,3). Drop (7,8,8); conv.
State × Age × Hispanicity	8*5*2	28	27	Drop (6,4,1); sing.
State × Age × Gender	8*5*2	28	28	All levels present.
State × Race (3 levels) × Hispanicity	8*3*2	14	7	Coll. (*,2,1) & (*,3,1); hier
State × Race (3 levels) × Gender	8*3*2	14	8	Coll. (*,2,1) & (*,3,1) except state 4.
State × Hispanicity × Gender	8*2*2	7	7	All levels present.
Total		**422**	**329**	

Exhibit D8.4 Covariates for 2002 NHSDA Person Weights (res.per.nr), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**39**	**39**	
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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**214**	**171**	
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	3*3	4	2	Drop (3,1); zero. Coll. (1,1) & (1,2); conv.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	4	Drop (1,1), (2,1), (2,2), (3,1); zero.
Rent/housing × %Hispanic	3*5	8	7	Drop (1,1); zero.
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	23	Coll. (3,2) & (3,5); zero. Coll. (4,3) & (4,4), (2/6/7,2) & (2/6/7,5); conv.
State × Hispanicity	8*2	7	7	All levels present.
State × Gender	8*2	7	7	All levels present.
State × %Black	8*3	14	3	Drop (2,1), (2,2), (3,1), (3,2), (5,1), (5,2), (6,1), (7,1), (7,2); zero. Drop (4,1), (6,2); sing.
State × %Hispanic	8*3	14	11	Drop (3,1), (6,1), (7,1); zero.
State × %Owner-Occupied	8*3	14	13	Drop (3,3); sing.
State × Rent/housing	8*5	28	12	Drop (1,1), (3,2), (3,3), (3,4), (4,1), (4,2), (5,1), (5,2), (5,3), (6,4), (7,3), (7,4); zero. Drop (3,1), (2,4), (6,4), (7,2); sing.
Three-Factor Effects		**169**	**100**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	5	Drop (3,2,1), (4,2,1); zero. Drop (2,2,1); sing.
Age × Race (3 levels) × Gender	5*3*2	8	6	Coll. (2,2,1) & (2,3,1), (4,2,1) & (4,3,1); conv.
Age × Hispanicity × Gender	5*2*2	4	4	All levels present.
Race (3 levels) × Hispanicity × Gender	3*2*2	2(22)	2(17)	All levels present.
State × Age × Race (3 levels)	8*5*3	56	16	Drop (3,*,*), (6,*,*), (7,*,*); conv. Coll. (1,*,2) & (1,*,3), (4,*,2)*(4,*,3), (5,*,2) & (5,*,3); conv. Drop (2,*,3); conv.
State × Age × Hispanicity	8*5*2	28	22	Drop (3,2,1), (3,3,1), (3,4,1), (7,3,1), (7,4,1); conv. Drop (6,4,1); sing.
State × Age × Gender	8*5*2	28	28	All levels present.
State × Race (3 levels) × Hispanicity	8*3*2	14	0	Drop all.
State × Race (3 levels) × Gender	8*3*2	14	10	Coll. (3,2,1) & (3,3,1); zero. Drop (2,2,1); zero. Coll. (6,2,1) & (6,3,1), (7,2,1) & (7,3,1); conv.
State × Hispanicity × Gender	8*2*2	7(147)	7(83)	All levels present.
Total		**422**	**310**	

Exhibit D8.5 Covariates for 2002 NHSDA Person Weights (res.per.ps), Model Group 8: Mountain

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**22**	**22**	
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**	**121**	
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	26	Coll. (2/3,2) & (2/3,5); conv.
State × Hispanicity	8*2	7	7	All levels present.
State × Gender	8*2	7	7	All levels present.
Three-Factor Effects		**202**	**114**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	4	Coll. (1/2/3/4,2,1) & (1/2/3/4,3,1). Drop (5,*,1).
Age × Race (3 levels) × Gender	6*3*2	10	6	Coll. (3/4,2,1) & (3/4,3,1). Drop (5,*,1).
Age × Hispanicity × Gender	6*2*2	5	4	Drop (5,1,1).
Race (3 levels) × Hispanicity × Gender	3*2*2	2	2	All levels present.
State × Age × Race (3 levels)	8*6*3	70	28	Coll. (*,*,2) & (*,*,3); conv.
State × Age × Hispanicity	8*6*2	35	23	Drop (*,5,1), (3,*,1), (6,4,1).
State × Age × Gender	8*6*2	35	28	Drop (*,5,1).
State × Race (3 levels) × Hispanicity	8*3*2	14	6	Coll. (*,2,1) & (*,3,1). Drop (3,*,1).
State × Race (3 levels) × Gender	8*3*2	14	7	Coll. (*,2,1) & (*,3,1).
State × Hispanicity × Gender	8*2*2	7	6	Drop (3,1,1).
Total		**347**	**257**	

Exhibit 8.6 Covariates for 2002 NSDUH Person Weights (res.per.ev), Model Group 8: Mountain

The same covariates were kept as in the res.per.ps model.

Appendix D9

Model Group 9: Pacific

(Alaska, Hawaii, Oregon, Washington, California)

Table D.9a 2002 NSDUH Person Weight GEM Modeling Summary (Model Group 9: Pacific)

Modeling Step[1]	Extreme Weight Proportions					Bounds[4]	
	Unweighted	Weighted	Outwinsor	UWE[2]	# XVAR[3]	Nominal	Realized
res.sdu.nr	8.96%	13.98%	1.21%	1.35937	255	(1.06, 1.40)	(1.07,1.40)
	5.02%	8.11%	0.83%	1.37683	116	(1.00, 1.40)	(1.00,1.40)
						(1.08, 2.29)	(1.08,2.29)
res.sdu.ps	5.02%	8.11%	0.83%	1.37683	197	(0.49, 2.34)	(0.50,2.31)
	1.87%	3.25%	0.54%	1.42092	187	(0.11, 4.12)	(0.11,4.05)
						(0.95, 2.54)	(0.95,2.54)
sel.per.ps	3.13%	5.95%	1.19%	2.75624	287	(0.16, 3.19)	(0.16,3.19)
	1.69%	4.29%	0.83%	2.90965	239	(0.48, 4.02)	(0.51,4.02)
						(0.80, 2.97)	(0.80,2.96)
res.per.nr	1.68%	4.47%	0.88%	2.97059	287	(1.00, 3.00)	(1.00,3.00)
	1.47%	3.17%	0.60%	3.54524	214	(1.00, 4.50)	(1.00,4.46)
						(1.20, 1.35)	(1.20,1.32)
res.per.ps	1.49%	3.37%	0.68%	3.54524	227	(0.11, 1.30)	(0.11,1.30)
	1.12%	2.91%	0.53%	3.80705	169	(0.12, 3.02)	(0.12,2.95)
						(0.90, 1.13)	(1.13,1.13)
res.per.ev	1.12%	2.91%	0.53%	3.80705	227	(0.30, 3.00)	(0.93,2.05)
	0.76%	2.20%	0.32%	3.78587	169	(0.30, 5.00)	(0.61,1.39)
						(0.97, 1.01)	(0.97,1.00)

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

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

[3] Number of proposed covariates above, and number finalized after modeling below.

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

Table D.9b Distribution of Weight Adjustment Factors and Weight Products (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]		*res.per.ev* [1]	
	1-6[2]	**7**[3]	**1-7**[3]	**8**[4]	**1-8**[4]	**10**[5]	**1-10**[5]	**11**[5]	**1-11**[5]	**12**[6]	**1-12**[6]	**13**[6]	**1-13**[6]	**14**[6]	**1-14**[6]
Minimum	30	0.85	78	0.11	14	1.01	24	0.09	39	0.46	42	0.05	8	0.61	6
1%	85	0.98	91	0.52	85	1.01	106	0.56	85	0.98	95	0.12	43	0.75	33
5%	97	1.03	103	0.81	116	1.01	164	0.72	157	1.01	170	0.14	149	0.97	147
10%	125	1.04	134	0.91	147	1.01	242	0.80	245	1.02	260	0.64	227	0.98	227
25%	440	1.07	459	1.01	403	1.13	937	0.90	936	1.06	997	0.97	769	1.00	775
Median	1,111	1.09	1,211	1.11	1,305	1.35	2,030	0.99	2,026	1.12	2,213	1.03	2,249	1.00	2,246
75%	1,348	1.12	1,479	1.21	1,690	5.81	4,936	1.10	4,564	1.25	4,811	1.12	4,663	1.01	4,659
90%	1,434	1.17	1,701	1.40	2,068	7.20	11,555	1.26	11,848	1.46	14,057	1.40	14,729	1.01	14,748
95%	1,846	1.22	2,090	1.57	2,352	12.18	16,252	1.37	17,027	1.67	21,479	1.44	21,995	1.02	22,009
99%	1,905	1.30	2,333	2.16	2,917	14.13	25,607	1.92	26,939	2.38	42,348	1.55	40,872	1.11	41,293
Maximum	1,994	8.27	2,954	4.05	6,085	20.81	66,449	4.24	63,242	4.46	88,527	2.95	107,077	3.96	102,497
n	15,601	14,177	14,177	14,177	14,177	8,691	8,691	8,691	8,691	7,257	7,257	7,257	7,257	7,257	7,257
Max/Mean	2.12	-	2.85	-	5.20	-	15.62	-	14.63	-	17.10	-	20.68		19.80

Note 1: Weight component 9 and weight products 1-9 are excluded because weight 9 = 1 for all selected dwelling units.
Note 2: Under GEM, nonresponse adjustment factors (weight components #7 and #12) 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 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 persons.
[6] Based on questionnaire-complete persons.

Model Group 9 Overview

Dwelling Unit Nonresponse

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

For two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Black, Rent/housing × percent Black, State × Population Density, State × Group Quarter, State × percent Black, State × percent Hispanic, 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, 13 were included in the model.

In the final model, a total of 116 variables were included; see Exhibit D9.1.

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 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, 96 were included in the model.

In the final model, a total of 187 variables were included; see Exhibit D9.2.

Selected Person-Level Poststratification

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

For two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Black, Rent/housing × percent Black, State × percent Black, State × percent Hispanic, State × percent Owner-Occupied, and State × Rent/housing interactions. Out of 145 proposed variables, 125 were included in the model.

For 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, 78 were included in the model.

In the final model, a total of 239 variables were included; see Exhibit D9.3.

Respondent Person-Level Nonresponse

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

For two-factor effects, variable collapsing or dropping was present in the percent Owner-Occupied × percent Black, Rent/housing × percent Black, State × percent Black, State × percent Hispanic, and State × Rent/housing interactions. Out of 145 proposed variables, 125 were included in the model.

For three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, Race × Hispanicity × Gender, State × Age × Race, State × Age × Hispanicity, State × Race × Hispanicity, and State × Race × Gender interactions. Out of 106 proposed variables, 53 were included in the model.

In the final model, a total of 214 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 one-factor effects were included in the model.

For three-factor effects, variable collapsing or dropping was present in the Age × Race × Hispanicity, Race × Hispanicity × Gender, State × Age × Race, State × Age × Hispanicity, and State × Race × Hispanicity interactions. Out of 127 proposed variables, 69 were included in the model.

In the final model, a total of 169 variables were included; see Exhibit D9.5.

Respondent Person-Level Extreme Value

This step used the same variables as the **Respondent Person-Level Poststratification** step.

Exhibit D9.1 Covariates for 2002 NSDUH Person Weights (res.sdu.nr), Model Group 9: Pacific

Variables	Levels	Proposed	Final	Comments
One-Factor Effects		**23**	**23**	
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	2	All levels present.
%Black	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**104**	**80**	
%Owner-Occupied × %Black	3*3	4	3	Drop (3,1); zero.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	7	Drop (2,1); zero.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Population Density	5*4	12	10	Drop (1,1) (2,1); zero.
State × Group Quarter	5*3	8	5	Drop (1,1) (2,1); zero. Drop (3,1); ref zero.
State × %Black	5*3	8	3	Drop (1,1) (2,1); zero. Drop (3,1), (3,2), (5,1); sing.
State × %Hispanic	5*3	8	5	Drop (1,1) (2,1); zero. Drop (5,1); sing.
State × %Owner-Occupied	5*3	8	8	All levels present.
State × Rent/housing	5*5	16		Drop (3,2), (3,3), (3,4), (5,1); zero. Drop (3,1), (1,4); ref zero. Drop (5,2), (5,3), (5,4); sing.
Three-Factor Effects		**128**	**13**	
State × %Owner-Occupied × %Black	5*3*3	16	3	Keep (1,3,1/2), (5,2,1/2), (5,3,1/2).
State × %Owner-Occupied × %Hispanic	5*3*3	16	10	Coll. (1,2,1) & (1,2,2), (1,3,1) & (1,3,2), (2,2,1) & (2,2,2), (2,3,1) & (2,3,2), (3,2,1) & (3,2,2), (3,3,1) & (3,3,2); zero/ref zero.
State × %Owner-Occupied × Rent/housing	5*3*5	32	0	Drop all.
State × Rent/housing × %Black	5*3*5	32	0	Drop all.
State × Rent/housing × %Hispanic	5*3*5	32	0	Drop all.
Total		**255**	**116**	

Exhibit D9.2 Covariates for 2002 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**	**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**	**96**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	4	Coll. (*,2,1) & (*,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)	5*5*3	32	31	Coll. (2,2,2) & (2,2,3); 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. (*,2,1) & (*,3,1); 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**	**187**	

Exhibit D9.3 Covariates for 2002 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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**145**	**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.
%Owner-Occupied × %Black	3*3	4	3	Drop (3,1); zero.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	7	Drop (2,1); zero.
Rent/housing × %Hispanic	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	5*3	8	3	Drop (1,1), (2,1); zero. Drop (5,1), (3,1), (3,2); sing.
State × %Hispanic	5*3	8	5	Drop (1,1), (2,1); zero. Drop (5,1); sing.
State × %Owner-Occupied	5*3	8	7	Coll. (1,2) & (1,3); conv.
State × Rent/housing	5*5	16	7	Drop (3,2), (3,3), (3,4), (5,1); zero. Drop (1,4), (2,3), (2,4), (3,1), (5,2); sing.
Three-Factor Effects		**106**	**78**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	6	Coll. (4,2,1) & (4,3,1); zero.; Drop (3,2,1); sing.
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	16	Drop (2,4,2), (3,4,2); sing.; Coll. (1,*,2) & (1,*,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), (5,*,2) & (5,*,3); conv.
State × Age × Hispanicity	5*5*2	16	12	Drop (3,*,1); conv.
State × Age × Gender	5*5*2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	5	Coll. (1,2,1) & (1,3,1), (2,2,1) & (2,3,1) conv. Drop (3,2,1); sing.
State × Race (3 levels) × Gender	5*3*2	8	5	Coll. (1,2,1) & (1,3,1), (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		**287**	**239**	

Exhibit D9.4 Covariates for 2002 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	3	2	2	All levels present.
%Hispanic	3	2	2	All levels present.
%Owner-Occupied	3	2	2	All levels present.
Rent/housing Value	5	4	4	All levels present.
Two-Factor Effects		**145**	**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.
%Owner-Occupied × %Black	3*3	4	3	Drop (3,1); zero.
%Owner-Occupied × %Hispanic	3*3	4	4	All levels present.
%Owner-Occupied × Rent/housing	3*5	8	8	All levels present.
Rent/housing × %Black	3*5	8	6	Drop (2,1); zero. Coll. (1,1) & (1,2); conv.
Rent/housing × %Hispanic	3*5	8	8	All levels present.
State × Quarter	5*4	12	12	All levels present.
State × Age	5*5	16	12	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	5*3	8	3	Drop (1,1), (2,1), (3,1), (3,2), (5,1); sing.
State × %Hispanic	5*3	8	5	Drop (1,1), (2,1), (5,1); sing.
State × %Owner-Occupied	5*3	8	8	All levels present.
State × Rent/housing	5*5	16	7	Drop (1,4), (2,3), (2,4), (3,*), (5,1), (5,2); sing.
Three-Factor Effects		**106**	**53**	
Age × Race (3 levels) × Hispanicity	5*3*2	8	2	Drop (4,2,1); zero. Drop (4,3,1); conv. Coll. (1/2/3,2,1) & (1/2/3.2.1); conv. Drop (3,2/3,1); 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	1	Coll. (2,1,1) & (3,1,1); conv.
State × Age × Race (3 levels)	5*5*3	32	13	Coll. (*,*,2) & (*,*,3); conv. Drop (3,3,2/3) (3,4,2/3); conv. Coll. (3,1+2,2) & (3,1+2,3); conv.
State × Age × Hispanicity	5*5*2	16	0	Drop all; conv.
State × Age × Gender	5*5*2	16	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	0	Drop all; conv.
State × Race (3 levels) × Gender	5*3*2	8	5	Coll. (1/2/3,2,1) & (1/2/3,3,1); conv.
State × Hispanicity × Gender	5*2*2	4	4	All levels present.
Total		**287**	**214**	

Exhibit D9.5 Covariates for 2002 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**	**69**	
Age × Race (3 levels) × Hispanicity	6*3*2	10	4	Coll. (1/2,2,1) & (1/2,3,1); conv. Coll. (3,2,1) & (3,3,1); sing. Coll. (4,2,1) & (4,3,1); zero.
Age × Race (3 levels) × Gender	6*3*2	10	8	All levels present.
Age × Hispanicity × Gender	6*2*2	5	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)	5*6*3	40	16	Coll. (*,*,2) & (*,*,3); sing/zero/conv.
State × Age × Hispanicity	5*6*2	20	6	Drop (1,*,1), (2,*,1); sing/zero/conv. Drop (3,4,1); zero. Drop (5,4,1); conv.
State × Age × Gender	5*6*2	20	16	All levels present.
State × Race (3 levels) × Hispanicity	5*3*2	8	2	Keep (3,2/3,1), (5,2/3,1), drop others; 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		**227**	**169**	

Exhibit D9.6 Covariates for 2002 NSDUH Person Weights (res.per.ev), Model Group 9: Pacific

The same covariates were kept as in the res.per.ps mode

Appendix E

Evaluation of Calibration Weights: Response Rates

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Table E 2002 NSDUH Weighted Response Rates: United States, District of Columbia, and the 50 States

Domain	Dwelling Unit					Person Level		Interview Response Rate	
	Selected DUs	Eligible DUs	Completed DUs	Eligibility Rate	Screening Rate	Selected Persons	Respondents	Weight 1-10[1]	Weight 1-11[2]
United States	178,013	150,162	136,349	84.73%	90.72%	80,581	68,126	78.56%	78.51%
Alabama	2,403	2,028	1,852	84.48%	91.31%	1,103	960	81.85%	81.72%
Alaska	2,408	1,898	1,751	79.01%	92.13%	1,067	915	82.05%	81.92%
Arizona	2,346	1,908	1,770	79.53%	92.66%	1,078	924	79.66%	80.45%
Arkansas	2,540	2,102	2,005	82.61%	95.28%	1,054	877	76.09%	76.32%
California	8,425	7,601	6,816	90.38%	89.60%	4,363	3,599	74.93%	75.19%
Colorado	2,099	1,827	1,664	87.14%	91.01%	1,087	914	81.67%	81.91%
Connecticut	2,718	2,440	2,227	89.49%	91.44%	1,188	977	76.73%	76.49%
Delaware	2,585	2,116	1,908	78.44%	89.64%	1,159	964	78.55%	77.74%
District of Columbia	3,701	3,100	2,608	83.59%	84.08%	979	864	84.79%	84.67%
Florida	10,742	8,622	7,723	77.95%	89.47%	4,340	3,653	77.23%	77.53%
Georgia	2,206	1,896	1,660	85.94%	87.50%	1,066	897	77.76%	77.60%
Hawaii	2,276	1,942	1,759	84.79%	90.38%	1,111	925	76.50%	76.44%
Idaho	2,033	1,634	1,515	79.43%	92.80%	1,052	907	82.81%	82.81%
Illinois	9,263	8,181	6,986	88.40%	85.45%	4,613	3,729	75.32%	74.80%
Indiana	2,261	1,961	1,856	86.75%	94.61%	1,123	945	77.60%	77.14%
Iowa	2,252	1,939	1,835	85.79%	94.68%	1,028	894	84.42%	83.83%
Kansas	1,933	1,683	1,579	87.12%	93.86%	1,041	898	81.96%	80.32%
Kentucky	2,641	2,273	2,155	86.05%	94.79%	1,098	909	79.55%	80.24%
Louisiana	2,189	1,816	1,701	83.03%	93.64%	1,070	930	84.44%	84.34%
Maine	2,828	2,290	2,082	80.95%	90.85%	1,017	906	87.35%	87.09%
Maryland	1,984	1,801	1,610	90.87%	89.42%	1,039	919	81.71%	81.88%
Massachusetts	2,567	2,216	1,930	86.42%	86.95%	1,142	916	71.93%	71.25%
Michigan	9,820	8,073	7,414	80.78%	91.75%	4,432	3,792	81.82%	81.69%
Minnesota	2,173	1,895	1,765	87.32%	93.09%	996	873	83.23%	83.60%
Mississippi	2,261	1,750	1,508	78.37%	86.58%	988	839	77.37%	78.34%

DU = dwelling unit

(continued)

[1] Includes DU-level and person-level design weights, DU nonresponse adjustment, and DU poststratification.
[2] Includes a selected person poststratification weight.

Table E 2002 NSDUH Weighted Response Rates: United States, District of Columbia, and the 50 States (continued)

Domain	Dwelling Unit					Person Level		Interview Response Rate	
	Selected DUs	Eligible DUs	Completed DUs	Eligibility Rate	Screening Rate	Selected Persons	Respondents	Weight 1-10[1]	Weight 1-11[2]
Missouri	2,725	2,236	2,098	82.02%	93.87%	1,039	890	82.05%	82.09%
Montana	2,772	2,174	2,057	78.59%	94.64%	1,075	914	81.98%	81.80%
Nebraska	1,954	1,746	1,652	89.32%	94.59%	1,042	891	82.01%	82.19%
Nevada	2,534	2,069	1,956	80.09%	94.67%	1,147	954	73.54%	73.32%
New Hampshire	2,597	2,154	1,966	81.55%	91.27%	1,092	910	78.10%	77.43%
New Jersey	2,554	2,290	2,042	89.12%	89.28%	1,065	854	74.61%	74.50%
New Mexico	1,950	1,586	1,236	81.15%	77.38%	794	674	81.83%	81.81%
New York	10,480	9,032	7,516	86.26%	83.31%	4,615	3,716	73.14%	72.69%
North Carolina	2,289	1,940	1,792	84.62%	92.57%	1,046	902	80.99%	81.26%
North Dakota	2,307	1,873	1,770	81.22%	94.52%	1,011	913	84.91%	84.86%
Ohio	9,194	7,970	7,476	86.28%	93.76%	4,221	3,554	78.58%	78.39%
Oklahoma	2,300	1,932	1,791	84.06%	92.64%	1,100	922	78.63%	78.83%
Oregon	2,456	2,158	2,019	87.63%	93.43%	1,071	917	80.74%	80.82%
Pennsylvania	10,104	8,482	7,710	83.50%	90.86%	4,251	3,606	79.56%	79.37%
Rhode Island	2,458	2,117	1,883	86.24%	89.14%	1,107	925	74.12%	75.43%
South Carolina	2,332	1,824	1,729	76.73%	94.77%	1,091	913	80.90%	81.06%
South Dakota	2,053	1,717	1,632	83.47%	95.03%	1,013	914	86.83%	87.11%
Tennessee	2,732	2,357	2,212	88.40%	92.82%	1,057	920	83.26%	83.24%
Texas	7,730	6,408	5,960	82.67%	93.05%	4,212	3,649	82.73%	82.67%
Utah	1,487	1,336	1,264	90.14%	94.52%	990	889	84.94%	84.52%
Vermont	2,410	1,914	1,803	79.74%	94.36%	1,013	896	88.02%	88.09%
Virginia	2,426	2,104	1,873	86.52%	89.03%	1,069	884	75.20%	75.06%
Washington	2,454	2,002	1,832	81.62%	91.35%	1,079	901	78.20%	77.71%
West Virginia	2,763	2,299	2,169	83.06%	94.33%	1,059	898	79.91%	79.60%
Wisconsin	2,152	1,709	1,587	76.73%	92.87%	1,029	887	82.44%	82.78%
Wyoming	2,146	1,741	1,645	81.29%	94.49%	1,059	907	79.40%	79.52%

DU = dwelling unit

[1] Includes DU-level and person-level design weights, DU nonresponse adjustment, and DU poststratification.
[2] Includes a selected person poststratification weight.

Appendix F

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

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Table F 2002 NSDUH Dwelling Unit–Level Percentages of Extreme Values and Outwinsors: United States, District of Columbia, and the 50 States

Domain	*n*	Before nr[1] (Weight1*...*Weight6)			After nr & Before ps[2] (Weight1*...*Weight7)			After ps (Weight1*...*Weight8)		
		Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]
United States	136,349	5.06%	6.40%	0.87%	2.61%	3.47%	0.37%	1.73%	2.75%	0.61%
Alabama	1,852	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.75%	4.17%	0.82%
Alaska	1,751	0.29%	0.36%	0.01%	0.00%	0.00%	0.00%	1.43%	2.92%	0.41%
Arizona	1,770	2.43%	5.64%	1.01%	3.56%	6.64%	1.13%	0.34%	1.05%	0.35%
Arkansas	2,005	4.74%	4.64%	0.59%	0.00%	0.00%	0.00%	2.09%	3.72%	0.70%
California	6,816	14.80%	18.24%	1.78%	7.48%	9.58%	1.10%	1.86%	2.96%	0.54%
Colorado	1,664	0.24%	0.18%	0.02%	1.14%	1.56%	0.13%	3.55%	3.94%	1.09%
Connecticut	2,227	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.93%	8.47%	2.22%
Delaware	1,908	2.67%	6.74%	2.26%	1.99%	3.85%	0.30%	0.94%	1.82%	0.17%
District of Columbia	2,608	13.46%	17.87%	1.44%	2.15%	2.91%	0.17%	1.15%	2.57%	0.55%
Florida	7,723	1.86%	4.18%	1.71%	1.33%	1.94%	0.32%	0.97%	0.84%	0.15%
Georgia	1,660	0.24%	0.02%	0.16%	1.02%	1.02%	0.05%	1.33%	1.42%	0.52%
Hawaii	1,759	12.73%	14.61%	1.45%	5.74%	7.12%	0.39%	1.76%	4.11%	0.85%
Idaho	1,515	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.73%	1.65%	0.36%
Illinois	6,986	0.57%	0.56%	0.04%	2.49%	2.88%	0.23%	0.99%	1.43%	0.24%
Indiana	1,856	0.22%	0.01%	0.06%	0.00%	0.00%	0.00%	3.50%	4.54%	1.24%
Iowa	1,835	1.04%	1.26%	0.01%	2.29%	2.64%	0.10%	1.53%	3.67%	0.82%
Kansas	1,579	5.89%	5.81%	0.59%	3.99%	4.24%	0.28%	0.44%	0.65%	0.12%
Kentucky	2,155	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.46%	3.16%	0.70%
Louisiana	1,701	1.94%	2.73%	0.06%	1.41%	2.22%	0.23%	0.53%	1.33%	0.22%
Maine	2,082	5.14%	4.37%	0.17%	0.34%	0.61%	0.03%	4.42%	6.16%	1.25%
Maryland	1,610	5.71%	5.90%	0.30%	2.55%	3.09%	0.14%	0.81%	0.81%	0.04%
Massachusetts	1,930	1.81%	2.15%	0.24%	0.26%	0.54%	0.23%	4.77%	7.44%	2.87%
Michigan	7,414	14.05%	16.18%	1.35%	5.75%	6.78%	0.61%	2.31%	2.67%	0.42%
Minnesota	1,765	4.70%	4.35%	0.10%	0.00%	0.00%	0.00%	2.10%	2.57%	0.51%
Mississippi	1,508	4.71%	3.86%	0.53%	3.85%	3.63%	0.28%	1.33%	2.91%	0.50%

[1] nr = nonresponse adjustment.

(continued)

[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 values and w_k denotes the weight for both extreme values and non-extreme values.

[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.

Table F 2002 NSDUH Dwelling Unit–Level Percentages of Extreme Values and Outwinsors: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before nr[1] (Weight1*...*Weight6)			After nr & Before ps[2] (Weight1*...*Weight7)			After ps (Weight1*...*Weight8)		
		Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]	Unweighted	Weighted[3]	Outwinsor[4]
Missouri	2,098	0.43%	1.78%	1.21%	2.43%	2.22%	0.25%	1.10%	1.08%	0.24%
Montana	2,057	4.38%	4.20%	0.13%	4.13%	4.28%	0.06%	3.65%	4.58%	0.73%
Nebraska	1,652	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.21%	2.96%	0.65%
Nevada	1,956	3.83%	4.34%	0.43%	4.55%	5.78%	0.23%	3.12%	6.67%	1.26%
New Hampshire	1,966	2.29%	4.34%	1.12%	0.00%	0.00%	0.00%	0.51%	1.40%	0.51%
New Jersey	2,042	2.94%	1.91%	0.48%	0.00%	0.00%	0.00%	1.42%	3.20%	0.99%
New Mexico	1,236	0.00%	0.00%	0.00%	3.32%	9.10%	3.99%	2.02%	4.33%	1.07%
New York	7,516	13.68%	13.32%	2.51%	2.22%	2.59%	0.16%	1.82%	3.61%	0.62%
North Carolina	1,792	17.86%	22.66%	4.01%	6.31%	7.92%	0.69%	1.00%	2.33%	0.68%
North Dakota	1,770	12.32%	17.03%	1.02%	6.27%	8.51%	0.58%	0.79%	1.42%	0.39%
Ohio	7,476	0.66%	1.19%	0.17%	0.00%	0.00%	0.00%	1.67%	2.52%	0.44%
Oklahoma	1,791	2.74%	2.86%	0.12%	1.79%	2.07%	0.00%	1.45%	2.94%	0.59%
Oregon	2,019	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.43%	5.01%	0.95%
Pennsylvania	7,710	6.26%	6.70%	0.26%	3.16%	3.86%	0.52%	1.05%	1.70%	0.32%
Rhode Island	1,883	3.29%	2.51%	0.23%	1.59%	1.28%	0.06%	1.81%	3.16%	0.82%
South Carolina	1,729	16.48%	21.15%	2.12%	9.37%	12.85%	1.19%	0.75%	1.31%	0.18%
South Dakota	1,632	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.80%	1.81%	0.28%
Tennessee	2,212	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.35%	6.61%	1.70%
Texas	5,960	1.58%	1.74%	0.18%	0.55%	0.82%	0.04%	0.82%	1.17%	0.27%
Utah	1,264	0.00%	0.00%	0.00%	0.40%	0.49%	0.01%	1.58%	2.90%	0.47%
Vermont	1,803	0.61%	3.33%	2.61%	4.55%	6.39%	0.94%	2.61%	2.40%	0.69%
Virginia	1,873	0.43%	0.59%	0.09%	0.80%	1.34%	0.15%	1.28%	2.75%	0.58%
Washington	1,832	1.75%	2.03%	0.20%	5.46%	6.39%	0.18%	1.80%	3.53%	0.61%
West Virginia	2,169	0.00%	0.00%	0.00%	2.54%	3.46%	0.01%	2.35%	4.40%	0.95%
Wisconsin	1,587	14.81%	19.37%	3.54%	12.35%	14.62%	1.69%	1.45%	3.12%	0.90%
Wyoming	1,645	11.98%	14.07%	0.73%	12.46%	13.77%	0.94%	1.70%	1.72%	0.21%

[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 values and w_k denotes the weight for both extreme values and non-extreme values.
[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.

Appendix G

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

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Table G.1 2002 NSDUH Selected Person-Level Percentages of Extreme Values and Outwinsors: United States, District of Columbia, and the 50 States

Domain	*n*	Before sel.per.ps[1] (Weight1*...*Weight10)			After sel.per.ps[1] (Weight1*...*Weight11)		
		Unweighted	Weighted[2]	Outwinsor[3]	Unweighted	Weighted[2]	Outwinsor[3]
United States	80,581	3.37%	6.02%	1.44%	1.67%	3.68%	0.81%
Alabama	1,103	3.45%	8.37%	2.55%	1.99%	3.15%	0.35%
Alaska	1,067	2.53%	4.64%	0.93%	0.47%	0.99%	0.27%
Arizona	1,078	2.78%	3.61%	0.69%	1.39%	2.88%	0.71%
Arkansas	1,054	3.51%	7.22%	2.09%	2.37%	4.45%	0.95%
California	4,363	3.09%	5.83%	1.09%	1.76%	4.52%	0.87%
Colorado	1,087	4.05%	8.58%	2.93%	2.21%	5.91%	2.46%
Connecticut	1,188	5.05%	14.66%	3.67%	1.77%	5.17%	1.53%
Delaware	1,159	1.81%	2.89%	0.55%	1.29%	2.22%	0.38%
District of Columbia	979	2.15%	4.13%	0.90%	4.80%	5.28%	1.51%
Florida	4,340	2.37%	4.33%	0.71%	1.18%	2.73%	0.81%
Georgia	1,066	1.22%	2.42%	0.35%	0.47%	1.54%	0.31%
Hawaii	1,111	3.60%	8.39%	2.31%	0.90%	2.47%	0.28%
Idaho	1,052	3.33%	5.55%	1.26%	1.43%	1.89%	0.21%
Illinois	4,613	3.58%	6.62%	1.52%	1.34%	2.03%	0.29%
Indiana	1,123	4.72%	7.35%	2.59%	1.25%	1.87%	0.26%
Iowa	1,028	1.95%	3.74%	0.69%	1.07%	2.19%	0.76%
Kansas	1,041	3.55%	7.35%	1.21%	3.27%	8.38%	2.25%
Kentucky	1,098	4.19%	4.63%	0.78%	1.28%	2.55%	0.94%
Louisiana	1,070	1.59%	3.46%	0.67%	1.87%	3.11%	0.90%
Maine	1,017	5.80%	7.92%	1.74%	0.49%	0.63%	0.26%
Maryland	1,039	0.67%	0.83%	0.08%	0.38%	0.76%	0.21%
Massachusetts	1,142	6.83%	9.23%	3.27%	4.38%	10.08%	2.20%
Michigan	4,432	5.39%	6.95%	1.43%	1.60%	2.35%	0.30%
Minnesota	996	3.61%	4.90%	1.11%	1.81%	3.11%	1.00%
Mississippi	988	2.13%	4.41%	0.99%	1.32%	5.54%	1.63%

[1] Before sel.per.ps (Weight1*...*Weight10) and after sel.per.ps (Weight1*...*Weight11) used demographic variables from screener data for all selected persons.

(continued)

[2] Weighted extreme value percentage = 100 * $\sum_k w_{ek} / \sum_k w_k$, where w_{ek} denotes the weight for extreme values and w_k denotes the weight for both extreme values and non-extreme values.

[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.

Table G.1 2002 NSDUH Selected Person-Level Percentages of Extreme Values and Outwinsors: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before sel.per.ps[1] (Weight1*...*Weight10)			After sel.per.ps[1] (Weight1*...*Weight11)		
		Unweighted	Weighted[2]	Outwinsor[3]	Unweighted	Weighted[2]	Outwinsor[3]
Missouri	1,039	3.75%	5.99%	0.84%	0.77%	1.50%	0.25%
Montana	1,075	2.79%	3.28%	0.64%	1.40%	1.62%	0.25%
Nebraska	1,042	2.88%	3.84%	0.85%	3.45%	8.42%	2.25%
Nevada	1,147	3.75%	7.59%	1.36%	1.66%	5.40%	2.10%
New Hampshire	1,092	2.29%	3.57%	0.60%	0.92%	1.74%	0.31%
New Jersey	1,065	3.10%	6.57%	2.59%	2.72%	5.58%	1.07%
New Mexico	794	2.64%	7.20%	2.26%	2.27%	5.09%	1.25%
New York	4,615	3.60%	7.45%	1.71%	1.63%	3.51%	0.48%
North Carolina	1,046	1.82%	4.15%	1.41%	1.34%	3.16%	0.49%
North Dakota	1,011	3.76%	5.68%	0.50%	1.19%	2.35%	1.05%
Ohio	4,221	5.35%	8.73%	1.78%	1.68%	3.25%	0.54%
Oklahoma	1,100	2.18%	3.56%	0.55%	1.00%	2.81%	0.60%
Oregon	1,071	3.36%	6.06%	1.32%	2.15%	5.11%	1.28%
Pennsylvania	4,251	3.36%	5.40%	1.11%	0.87%	1.54%	0.41%
Rhode Island	1,107	1.99%	3.14%	0.81%	1.36%	4.13%	1.58%
South Carolina	1,091	2.02%	3.87%	0.90%	1.19%	1.77%	0.27%
South Dakota	1,013	2.86%	4.99%	1.73%	4.15%	7.95%	2.15%
Tennessee	1,057	4.26%	16.36%	6.08%	4.07%	12.59%	3.15%
Texas	4,212	1.78%	2.61%	0.59%	1.33%	2.63%	0.63%
Utah	990	2.63%	4.21%	0.58%	3.43%	7.89%	1.60%
Vermont	1,013	4.74%	4.94%	1.41%	1.48%	1.76%	0.57%
Virginia	1,069	3.55%	8.98%	1.33%	1.68%	2.41%	0.40%
Washington	1,079	3.80%	7.08%	1.76%	3.61%	5.78%	1.06%
West Virginia	1,059	3.40%	5.38%	1.19%	1.51%	3.17%	0.61%
Wisconsin	1,029	3.79%	7.10%	2.04%	2.43%	5.25%	1.22%
Wyoming	1,059	4.06%	7.59%	1.38%	0.66%	1.98%	0.16%

[1] Before sel.per.ps (Weight1*...*Weight10) and after sel.per.ps (Weight1*...*Weight11) used demographic variables from screener data for all selected persons.

[2] Weighted extreme value percentage = 100 * $\sum_k w_{ek} / \sum_k w_k$, where w_{ek} denotes the weight for extreme values and w_k denotes the weight for both extreme values and non-extreme values.

[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.

Table G.2 2002 NSDUH Respondent Person-Level Percentages of Extreme Values and Outwinsors: United States, District of Columbia, and the 50 States

Domain	*n*	Before res.per.nr[1] (Weight1*…*Weight11)			After res.per.nr[1] (Weight1*…*Weight12)			Before res.per.ps[2] (Weight1*…*Weight12)			After res.per.ps[2] & before res.per.ev[3] (Weight1*…*Weight13)			After res.per.ev[3] (Weight1*…*Weight14)		
		Unwtd	Wtd[4]	Outwinsor[5]	Unwtd	Wtd[4]	Outwinsor[5]	Unwtd	Wtd[4]	Outwinsor[5]	Unwtd[4]	Wtd[4]	Outwinsor[5]	Unwtd	Wtd[4]	Outwinsor[5]
United States	68,126	1.73%	3.86%	0.85%	1.68%	4.36%	0.98%	1.75%	4.57%	1.09%	1.34%	3.47%	0.80%	1.14%	2.79%	0.53%
Alabama	960	2.50%	4.42%	0.54%	1.77%	4.06%	0.71%	1.88%	4.17%	0.70%	1.56%	2.48%	0.43%	1.15%	2.06%	0.28%
Alaska	915	0.77%	1.82%	0.31%	0.87%	4.62%	0.20%	0.87%	4.62%	0.32%	0.77%	1.87%	0.39%	0.77%	1.97%	0.32%
Arizona	924	1.52%	3.17%	0.84%	0.87%	2.54%	0.44%	0.97%	2.65%	0.39%	0.54%	1.79%	0.50%	0.22%	0.89%	0.31%
Arkansas	877	2.62%	4.70%	0.86%	1.60%	3.01%	0.77%	1.60%	3.01%	0.76%	1.37%	2.75%	1.04%	0.91%	2.27%	0.95%
California	3,599	1.94%	4.86%	0.95%	1.39%	3.12%	0.52%	1.44%	3.30%	0.57%	0.47%	2.47%	0.39%	0.36%	1.64%	0.19%
Colorado	914	2.41%	6.99%	2.93%	2.63%	5.54%	1.65%	2.63%	5.54%	1.65%	3.06%	5.24%	0.81%	1.75%	4.36%	0.54%
Connecticut	977	1.74%	4.47%	1.07%	1.23%	8.52%	2.82%	1.13%	8.42%	2.81%	1.02%	4.17%	0.60%	1.13%	3.87%	0.79%
Delaware	964	1.04%	1.79%	0.36%	1.66%	4.76%	1.12%	1.66%	4.76%	1.11%	1.66%	3.52%	0.54%	1.04%	1.81%	0.19%
District of Columbia	864	4.40%	5.73%	1.63%	1.62%	1.50%	0.30%	1.85%	1.58%	0.27%	1.85%	3.24%	0.91%	2.20%	3.13%	0.52%
Florida	3,653	1.18%	3.05%	0.87%	0.77%	2.80%	0.52%	0.82%	2.91%	0.58%	0.36%	1.01%	0.17%	0.19%	0.18%	0.04%
Georgia	897	0.45%	0.95%	0.21%	0.56%	2.29%	0.72%	0.78%	3.01%	0.94%	0.45%	2.43%	0.83%	0.56%	2.35%	0.64%
Hawaii	925	0.86%	1.90%	0.20%	1.19%	3.19%	0.53%	1.19%	3.59%	0.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Idaho	907	1.43%	1.66%	0.17%	1.76%	3.37%	0.97%	1.76%	3.37%	1.00%	1.65%	3.80%	1.13%	2.09%	3.95%	0.90%
Illinois	3,729	1.37%	2.15%	0.28%	1.96%	5.26%	1.13%	2.04%	5.45%	1.32%	1.69%	4.88%	1.04%	0.91%	3.21%	0.78%
Indiana	945	1.06%	1.91%	0.26%	0.95%	1.35%	0.25%	1.27%	1.54%	0.40%	0.63%	0.64%	0.11%	0.32%	0.32%	0.04%
Iowa	894	1.01%	2.37%	0.88%	1.01%	2.95%	0.43%	1.12%	3.07%	0.44%	1.79%	3.25%	0.73%	1.90%	3.13%	0.48%
Kansas	898	3.01%	6.82%	1.57%	3.90%	6.44%	1.80%	4.01%	6.54%	1.77%	3.01%	4.35%	1.21%	2.34%	4.07%	0.90%
Kentucky	909	1.65%	3.11%	1.05%	2.86%	4.76%	0.86%	2.75%	4.70%	0.87%	0.99%	3.72%	1.12%	0.77%	2.53%	0.87%
Louisiana	930	2.15%	3.68%	1.07%	2.15%	4.64%	0.82%	2.04%	4.03%	0.81%	1.29%	1.94%	0.44%	1.29%	1.80%	0.31%
Maine	906	0.55%	0.72%	0.30%	1.10%	2.87%	0.76%	1.10%	3.08%	0.67%	1.10%	2.36%	0.43%	1.10%	2.39%	0.46%
Maryland	919	0.33%	0.27%	0.03%	0.98%	3.37%	0.85%	1.20%	3.70%	1.01%	1.20%	4.32%	1.14%	0.87%	2.23%	0.48%
Massachusetts	916	4.59%	10.09%	2.50%	4.26%	6.43%	2.19%	4.04%	6.28%	2.20%	4.15%	9.51%	3.03%	4.37%	8.85%	2.24%
Michigan	3,792	1.61%	2.05%	0.28%	1.85%	3.77%	0.68%	1.93%	3.92%	0.79%	1.61%	2.34%	0.40%	1.50%	1.83%	0.26%
Minnesota	873	1.95%	3.61%	1.20%	1.37%	2.41%	0.58%	1.60%	3.06%	0.66%	1.60%	3.09%	0.58%	1.60%	2.56%	0.45%
Mississippi	839	1.67%	9.27%	2.26%	0.72%	6.95%	1.06%	0.60%	5.22%	0.74%	0.48%	1.39%	0.43%	0.48%	1.67%	0.21%

(continued)

[1] Before res.per.nr (Weight1*...*Weight11) and after res.per.nr (Weight1*...*Weight12) used demographic variables from screener data for all respondents.
[2] Before res.per.ps (Weight1*...*Weight12) and after res.per.ps (Weight1*...*Weight13) used demographic variables from questionnaire data for all respondents.
[3] Before res.per.ev (Weight1*...*Weight13) and after res.per.ev (Weight1*...*Weight14) used demographic variables from questionnaire data for all respondents.
[4] 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 non-outliers.
[5] 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.

Table G.2 2002 NSDUH Respondent Person-Level Percentages of Extreme Values and Outwinsors: United States, District of Columbia, and the 50 States (continued)

Domain	*n*	Before res.per.nr[1] (Weight1*…*Weight11)			After res.per.nr[1] (Weight1*…*Weight12)			Before res.per.ps[2] (Weight1*…*Weight12)			After res.per.ps[2] & before res.per.ev[3] (Weight1*…*Weight13)			After res.per.ev[3] (Weight1*…*Weight14)		
		Unwtd	Wtd[4]	Outwinsor[5]	Unwtd	Wtd[4]	Outwinsor[5]	Unwtd	Wtd[4]	Outwinsor[5]	Unwtd[4]	Wtd[4]	Outwinsor[5]	Unwtd	Wtd[4]	Outwinsor[5]
Missouri	890	0.56%	0.91%	0.14%	1.46%	1.87%	0.23%	1.46%	1.87%	0.23%	1.12%	1.34%	0.33%	0.90%	1.10%	0.18%
Montana	914	1.09%	1.49%	0.25%	0.77%	1.26%	0.45%	1.31%	2.11%	0.56%	1.75%	3.17%	0.72%	1.09%	1.79%	0.47%
Nebraska	891	3.14%	8.11%	2.11%	2.69%	5.73%	2.08%	2.69%	5.73%	2.09%	1.46%	6.42%	2.58%	1.35%	6.15%	2.36%
Nevada	954	1.47%	4.32%	1.94%	1.89%	4.93%	1.38%	1.89%	5.41%	1.45%	1.78%	6.17%	2.51%	1.89%	5.57%	1.84%
New Hampshire	910	0.88%	1.47%	0.24%	0.66%	0.77%	0.22%	0.66%	0.85%	0.30%	0.88%	1.10%	0.40%	1.10%	1.22%	0.36%
New Jersey	854	3.04%	6.59%	1.16%	1.99%	4.66%	0.67%	1.76%	5.38%	1.48%	1.52%	6.96%	1.67%	1.87%	6.54%	0.96%
New Mexico	674	2.37%	6.71%	1.39%	0.89%	1.98%	0.53%	1.19%	2.31%	0.56%	1.19%	2.09%	0.33%	0.59%	1.37%	0.22%
New York	3,716	1.72%	3.52%	0.43%	2.18%	7.59%	1.73%	2.31%	8.15%	2.04%	2.15%	7.87%	1.54%	1.67%	5.98%	0.64%
North Carolina	902	1.11%	3.44%	0.54%	1.66%	4.88%	1.23%	1.33%	3.80%	1.22%	1.22%	2.86%	1.16%	1.22%	2.77%	1.06%
North Dakota	913	1.20%	2.69%	1.26%	1.53%	2.31%	0.74%	1.64%	2.64%	0.74%	0.77%	2.53%	0.68%	0.77%	2.57%	0.72%
Ohio	3,554	1.60%	2.86%	0.45%	2.00%	4.99%	0.86%	1.97%	4.97%	0.86%	1.27%	2.88%	0.44%	1.01%	2.14%	0.34%
Oklahoma	922	1.30%	3.73%	0.75%	1.63%	2.97%	0.50%	1.63%	2.97%	0.51%	1.63%	7.21%	1.54%	0.98%	5.29%	0.68%
Oregon	917	2.07%	5.31%	1.29%	2.29%	3.78%	0.80%	2.51%	4.88%	1.40%	2.29%	6.17%	1.23%	1.64%	4.95%	0.96%
Pennsylvania	3,606	0.97%	1.62%	0.41%	1.05%	2.97%	0.68%	1.19%	3.35%	0.85%	1.16%	1.87%	0.35%	1.28%	1.72%	0.13%
Rhode Island	925	1.62%	5.47%	1.95%	2.59%	8.25%	2.33%	2.81%	8.52%	2.28%	2.05%	8.33%	2.52%	1.41%	6.64%	1.58%
South Carolina	913	1.20%	1.89%	0.28%	1.10%	2.05%	0.42%	1.10%	2.05%	0.41%	0.66%	2.30%	1.01%	0.55%	2.08%	0.83%
South Dakota	914	4.27%	8.29%	2.37%	2.08%	5.28%	1.24%	2.19%	5.42%	1.25%	1.86%	4.09%	1.12%	1.09%	2.99%	0.99%
Tennessee	920	4.78%	14.16%	3.54%	6.85%	17.79%	3.96%	6.96%	17.72%	3.84%	2.28%	6.54%	1.91%	2.61%	6.48%	1.31%
Texas	3,649	1.29%	2.23%	0.52%	1.04%	2.81%	0.83%	1.15%	3.07%	0.91%	0.66%	1.36%	0.19%	0.38%	0.62%	0.11%
Utah	889	3.49%	8.31%	1.75%	2.25%	4.84%	0.45%	1.80%	3.63%	0.43%	1.80%	5.09%	1.11%	2.02%	5.04%	0.88%
Vermont	896	1.45%	1.88%	0.62%	0.67%	1.21%	0.40%	0.78%	1.44%	0.50%	0.89%	2.97%	0.93%	0.45%	2.00%	0.68%
Virginia	884	1.81%	2.67%	0.43%	2.60%	6.71%	2.47%	2.94%	8.91%	2.69%	1.47%	3.54%	1.08%	1.58%	3.37%	0.77%
Washington	901	3.66%	5.42%	1.10%	3.33%	5.27%	1.28%	3.66%	5.52%	1.30%	2.77%	5.44%	1.25%	3.11%	6.04%	1.00%
West Virginia	898	1.89%	3.75%	0.74%	0.78%	0.73%	0.08%	0.89%	0.94%	0.19%	1.34%	1.47%	0.29%	0.78%	0.72%	0.17%
Wisconsin	887	3.16%	6.88%	1.35%	1.92%	5.66%	0.81%	2.03%	6.23%	0.96%	1.24%	1.81%	0.53%	1.92%	2.18%	0.39%
Wyoming	907	0.55%	1.72%	0.27%	0.33%	0.61%	0.02%	0.44%	0.75%	0.10%	0.55%	1.85%	0.38%	0.44%	1.68%	0.27%

[1] Before res.per.nr (Weight1*...*Weight11) and after res.per.nr (Weight1*...*Weight12) used demographic variables from screener data for all respondents.
[2] Before res.per.ps (Weight1*...*Weight12) and after res.per.ps (Weight1*...*Weight13) used demographic variables from questionnaire data for all respondents.
[3] Before res.per.ev (Weight1*...*Weight13) and after res.per.ev (Weight1*...*Weight14) used demographic variables from questionnaire data for all respondents.
[4] 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 non-outliers.
[5] 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.

Appendix H

Evaluation of Calibration Weights: Slippage Rates

Table H1 2002 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		68,126	235,143,246	235,143,245	235,143,245	0.00	0.00
Quarter	**Quarter 1**	16,916	58,486,973	58,486,973	58,486,973	0.00	0.00
	Quarter 2	16,505	58,677,402	58,677,402	58,677,402	0.00	0.00
	Quarter 3	18,590	58,884,041	58,884,041	58,884,041	0.00	0.00
	Quarter 4	16,115	59,094,830	59,094,830	59,094,830	0.00	0.00
Age Group	**12-17**	23,645	24,789,258	24,753,586	24,753,586	0.14	0.00
	18-25	23,066	30,919,611	31,024,280	31,024,280	-0.34	0.00
	26-34	6,374	35,129,695	35,162,943	35,162,943	-0.09	0.00
	35-49	9,620	65,321,179	65,123,596	65,123,596	0.30	0.00
	50-64	3,182	47,267,172	45,101,552	45,101,552	4.80	0.00
	65+	2,239	31,716,330	33,977,288	33,977,288	-6.65	0.00
Race	**White**	52,747	185,269,567	192,343,045	192,343,045	-3.68	-0.00
	Black	8,834	28,941,103	27,878,539	27,878,539	3.81	0.00
	Other	6,545	20,932,575	14,921,662	14,921,662	40.28	0.00
Hispanicity	**Hispanic**	8,811	29,441,600	29,078,796	29,078,796	1.25	0.00
	Non-Hispanic	59,315	205,701,646	206,064,450	206,064,450	-0.18	0.00
Gender	**Male**	32,767	113,623,682	113,602,082	113,602,082	0.02	0.00
	Female	35,359	121,519,564	121,541,164	121,541,164	-0.02	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H2 2002 NSDUH Slippage Rates: Alabama

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		960	3,686,602	3,686,602	3,686,602	0.00	0.00
Quarter	**Quarter 1**	189	919,178	919,178	919,178	0.00	0.00
	Quarter 2	240	920,447	920,447	920,447	0.00	0.00
	Quarter 3	264	922,454	922,454	922,454	0.00	0.00
	Quarter 4	267	924,523	924,523	924,523	0.00	0.00
Age Group	**12-17**	330	378,043	378,922	378,922	-0.23	0.00
	18-25	325	498,241	497,362	497,362	0.18	0.00
	26-34	98	528,508	528,040	528,040	0.09	0.00
	35-49	125	976,523	982,966	982,966	-0.66	0.00
	50-64	44	739,886	734,966	734,966	0.67	0.00
	65+	38	565,400	564,346	564,346	0.19	0.00
Race	**White**	669	2,621,199	2,692,162	2,692,162	-2.64	0.00
	Black	260	921,804	917,985	917,985	0.42	0.00
	Other	31	143,598	76,455	76,455	87.82	0.00
Hispanicity	**Hispanic**	19	84,851	64,850	64,850	30.84	0.00
	Non-Hispanic	941	3,601,751	3,621,752	3,621,752	-0.55	0.00
Gender	**Male**	443	1,753,742	1,748,572	1,748,572	0.30	0.00
	Female	517	1,932,859	1,938,030	1,938,030	-0.27	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H3 2002 NSDUH Slippage Rates: Alaska

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		915	496,025	496,025	496,025	0.00	0.00
Quarter	**Quarter 1**	200	122,928	122,928	122,928	0.00	0.00
	Quarter 2	276	123,502	123,502	123,502	0.00	0.00
	Quarter 3	244	124,271	124,271	124,271	0.00	0.00
	Quarter 4	195	125,324	125,324	125,324	0.00	0.00
Age Group	**12-17**	353	69,980	70,050	70,050	-0.10	0.00
	18-25	303	57,711	58,061	58,061	-0.60	0.00
	26-34	73	69,251	68,095	68,095	1.70	0.00
	35-49	129	157,335	159,141	159,141	-1.13	-0.00
	50-64	42	107,054	103,159	103,159	3.78	0.00
	65+	15	34,694	37,519	37,519	-7.53	0.00
Race	**White**	635	362,609	362,342	362,342	0.07	0.00
	Black	25	15,832	15,422	15,422	2.66	0.00
	Other	255	117,584	118,261	118,261	-0.57	0.00
Hispanicity	**Hispanic**	45	18,844	19,218	19,218	-1.95	0.00
	Non-Hispanic	870	477,181	476,807	476,807	0.08	0.00
Gender	**Male**	446	246,411	249,547	249,547	-1.26	0.00
	Female	469	249,614	246,478	246,478	1.27	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H4 2002 NSDUH Slippage Rates: Arizona

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		924	4,361,020	4,361,020	4,361,020	0.00	0.00
Quarter	**Quarter 1**	253	1,081,719	1,081,719	1,081,719	0.00	0.00
	Quarter 2	144	1,089,745	1,089,745	1,089,745	0.00	0.00
	Quarter 3	300	1,094,262	1,094,262	1,094,262	0.00	0.00
	Quarter 4	227	1,095,294	1,095,294	1,095,294	0.00	0.00
Age Group	**12-17**	329	480,214	477,791	477,791	0.51	0.00
	18-25	299	577,653	593,368	593,368	-2.65	0.00
	26-34	90	682,300	678,860	678,860	0.51	-0.00
	35-49	128	1,118,330	1,122,387	1,122,387	-0.36	0.00
	50-64	40	691,926	803,274	803,274	-13.86	0.00
	65+	38	810,597	685,341	685,341	18.28	0.00
Race	**White**	738	3,739,721	3,872,148	3,872,148	-3.42	0.00
	Black	38	125,930	135,281	130,105	-3.21	3.98
	Other	148	495,369	353,591	358,767	38.08	-1.44
Hispanicity	**Hispanic**	318	1,054,694	1,063,348	1,063,348	-0.81	0.00
	Non-Hispanic	606	3,306,326	3,297,672	3,297,672	0.26	0.00
Gender	**Male**	455	2,141,552	2,144,400	2,144,400	-0.13	0.00
	Female	469	2,219,468	2,216,620	2,216,620	0.13	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H5 2002 NSDUH Slippage Rates: Arkansas

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		877	2,216,033	2,216,033	2,216,033	0.00	0.00
Quarter	**Quarter 1**	202	552,377	552,377	552,377	0.00	-0.00
	Quarter 2	230	553,440	553,440	553,440	0.00	0.00
	Quarter 3	281	554,569	554,569	554,569	0.00	-0.00
	Quarter 4	164	555,647	555,647	555,647	0.00	0.00
Age Group	**12-17**	340	232,228	232,228	232,228	0.00	0.00
	18-25	251	293,615	299,329	299,329	-1.91	-0.00
	26-34	86	320,892	310,899	310,899	3.21	0.00
	35-49	108	567,497	571,775	571,775	-0.75	-0.00
	50-64	49	415,122	445,169	445,169	-6.75	0.00
	65+	43	386,678	356,632	356,632	8.43	0.00
Race	**White**	690	1,826,306	1,832,352	1,832,352	-0.33	0.00
	Black	145	327,568	327,047	327,047	0.16	0.00
	Other	42	62,159	56,634	56,634	9.76	0.00
Hispanicity	**Hispanic**	28	72,177	70,595	70,595	2.24	0.00
	Non-Hispanic	849	2,143,856	2,145,438	2,145,438	-0.07	0.00
Gender	**Male**	411	1,067,081	1,067,081	1,067,081	0.00	0.00
	Female	466	1,148,951	1,148,951	1,148,951	0.00	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H6 2002 NSDUH Slippage Rates: California

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		3,599	28,231,483	28,231,483	28,231,483	0.00	0.00
Quarter	**Quarter 1**	831	7,002,005	7,002,005	7,002,005	-0.00	0.00
	Quarter 2	985	7,034,579	7,034,579	7,034,579	0.00	0.00
	Quarter 3	1,068	7,074,495	7,074,495	7,074,495	0.00	0.00
	Quarter 4	715	7,120,404	7,120,405	7,120,405	-0.00	0.00
Age Group	**12-17**	1,301	3,118,799	3,119,651	3,119,651	-0.03	0.00
	18-25	1,202	3,842,949	3,910,445	3,910,445	-1.73	0.00
	26-34	353	4,803,622	4,739,168	4,739,168	1.36	0.00
	35-49	510	7,819,361	7,879,083	7,879,083	-0.76	0.00
	50-64	156	5,792,500	4,985,499	4,985,499	16.19	0.00
	65+	77	2,854,251	3,597,637	3,597,637	-20.66	0.00
Race	**White**	2,386	19,491,883	21,974,938	21,974,938	-11.30	0.00
	Black	291	2,019,800	1,844,178	1,844,178	9.52	0.00
	Other	922	6,719,800	4,412,368	4,412,368	52.29	0.00
Hispanicity	**Hispanic**	1,467	9,006,244	8,846,260	8,846,260	1.81	0.00
	Non-Hispanic	2,132	19,225,240	19,385,224	19,385,224	-0.83	0.00
Gender	**Male**	1,786	13,858,294	13,859,953	13,859,953	-0.01	0.00
	Female	1,813	14,373,189	14,371,530	14,371,530	0.01	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H7 2002 NSDUH Slippage Rates: Colorado

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		914	3,655,496	3,655,496	3,655,496	0.00	0.00
Quarter	**Quarter 1**	277	908,019	908,019	908,019	0.00	0.00
	Quarter 2	175	912,177	912,177	912,177	0.00	0.00
	Quarter 3	211	915,879	915,879	915,879	0.00	0.00
	Quarter 4	251	919,421	919,421	919,421	0.00	0.00
Age Group	**12-17**	308	385,581	386,275	386,275	-0.18	0.00
	18-25	317	487,197	488,328	488,328	-0.23	0.00
	26-34	72	593,454	598,532	598,532	-0.85	0.00
	35-49	144	1,081,083	1,065,329	1,065,329	1.48	0.00
	50-64	55	820,096	700,050	700,050	17.15	0.00
	65+	18	288,085	416,982	416,982	-30.91	0.00
Race	**White**	787	3,168,974	3,334,145	3,334,145	-4.95	0.00
	Black	19	146,564	134,739	134,739	8.78	-0.00
	Other	108	339,959	186,612	186,612	82.17	0.00
Hispanicity	**Hispanic**	188	624,990	606,021	606,021	3.13	0.00
	Non-Hispanic	726	3,030,506	3,049,475	3,049,475	-0.62	0.00
Gender	**Male**	466	1,810,218	1,815,118	1,815,118	-0.27	0.00
	Female	448	1,845,278	1,840,378	1,840,378	0.27	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H8 2002 NSDUH Slippage Rates: Connecticut

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		977	2,827,588	2,827,588	2,827,588	0.00	-0.00
Quarter	**Quarter 1**	263	704,056	704,056	704,056	0.00	-0.00
	Quarter 2	199	705,457	705,457	705,457	0.00	0.00
	Quarter 3	223	707,638	707,638	707,638	0.00	0.00
	Quarter 4	292	710,437	710,437	710,437	0.00	0.00
Age Group	**12-17**	336	298,239	297,332	297,332	0.31	0.00
	18-25	339	313,585	314,467	314,467	-0.28	0.00
	26-34	83	384,897	376,499	376,499	2.23	0.00
	35-49	132	821,019	829,442	829,442	-1.02	0.00
	50-64	47	569,904	566,449	566,449	0.61	-0.00
	65+	40	439,945	443,399	443,399	-0.78	-0.00
Race	**White**	767	2,396,106	2,452,680	2,452,680	-2.31	0.00
	Black	119	298,120	258,089	258,089	15.51	0.00
	Other	91	133,362	116,820	116,820	14.16	-0.00
Hispanicity	**Hispanic**	200	282,091	254,691	254,691	10.76	0.00
	Non-Hispanic	777	2,545,497	2,572,897	2,572,897	-1.06	-0.00
Gender	**Male**	442	1,351,439	1,353,208	1,353,208	-0.13	-0.00
	Female	535	1,476,149	1,474,379	1,474,379	0.12	-0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H9 2002 NSDUH Slippage Rates: Delaware

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		964	665,926	665,926	665,926	0.00	0.00
Quarter	**Quarter 1**	196	165,657	165,657	165,657	0.00	0.00
	Quarter 2	250	166,402	166,402	166,402	0.00	0.00
	Quarter 3	225	166,880	166,880	166,880	0.00	0.00
	Quarter 4	293	166,987	166,987	166,987	0.00	0.00
Age Group	**12-17**	348	64,144	64,655	64,655	-0.79	0.00
	18-25	287	88,343	87,670	87,670	0.77	0.00
	26-34	106	94,607	96,051	96,051	-1.50	0.00
	35-49	134	188,249	186,967	186,967	0.69	0.00
	50-64	54	134,312	129,724	129,724	3.54	0.00
	65+	35	96,271	100,858	100,858	-4.55	0.00
Race	**White**	720	506,498	519,749	519,749	-2.55	0.00
	Black	177	127,687	120,632	120,632	5.85	0.00
	Other	67	31,740	25,544	25,544	24.26	0.00
Hispanicity	**Hispanic**	64	35,470	30,643	30,643	15.75	0.00
	Non-Hispanic	900	630,455	635,282	635,282	-0.76	0.00
Gender	**Male**	458	317,578	317,315	317,315	0.08	0.00
	Female	506	348,347	348,611	348,611	-0.08	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H10 2002 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		864	482,635	482,635	482,635	0.00	0.00
Quarter	**Quarter 1**	261	120,522	120,522	120,522	0.00	0.00
	Quarter 2	242	120,251	120,251	120,251	0.00	0.00
	Quarter 3	167	120,612	120,612	120,612	0.00	0.00
	Quarter 4	194	121,249	121,249	121,249	0.00	0.00
Age Group	**12-17**	325	33,402	33,553	33,553	-0.45	0.00
	18-25	251	72,469	73,858	73,858	-1.88	0.00
	26-34	103	92,596	93,935	93,935	-1.43	0.00
	35-49	125	126,444	124,737	124,737	1.37	0.00
	50-64	36	92,081	91,312	91,312	0.84	0.00
	65+	24	65,642	65,240	65,240	0.62	0.00
Race	**White**	299	172,946	179,204	179,204	-3.49	0.00
	Black	498	284,902	280,319	280,319	1.63	-0.00
	Other	67	24,786	23,112	23,112	7.25	0.00
Hispanicity	**Hispanic**	95	39,661	42,859	42,859	-7.46	0.00
	Non-Hispanic	769	442,973	439,775	439,775	0.73	0.00
Gender	**Male**	390	222,333	222,544	222,544	-0.09	0.00
	Female	474	260,301	260,090	260,090	0.08	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H11 2002 NSDUH Slippage Rates: Florida

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		3,653	13,832,088	13,832,088	13,832,088	0.00	0.00
Quarter	**Quarter 1**	886	3,439,423	3,439,423	3,439,423	0.00	0.00
	Quarter 2	939	3,457,445	3,457,445	3,457,445	0.00	0.00
	Quarter 3	991	3,467,513	3,467,513	3,467,513	0.00	0.00
	Quarter 4	837	3,467,707	3,467,707	3,467,707	0.00	0.00
Age Group	**12-17**	1,214	1,332,564	1,332,058	1,332,058	0.04	0.00
	18-25	1,298	1,520,047	1,526,407	1,526,407	-0.42	0.00
	26-34	302	1,776,273	1,825,218	1,825,218	-2.68	0.00
	35-49	466	3,674,335	3,629,499	3,629,499	1.24	0.00
	50-64	195	2,889,399	2,748,487	2,748,487	5.13	0.00
	65+	178	2,639,471	2,770,419	2,770,419	-4.73	0.00
Race	**White**	2,596	11,019,362	11,417,145	11,417,145	-3.48	0.00
	Black	754	2,066,058	1,968,305	1,968,305	4.97	0.00
	Other	303	746,668	446,639	446,639	67.18	0.00
Hispanicity	**Hispanic**	885	2,442,834	2,449,264	2,449,264	-0.26	0.00
	Non-Hispanic	2,768	11,389,254	11,382,825	11,382,825	0.06	0.00
Gender	**Male**	1,738	6,639,191	6,637,283	6,637,283	0.03	0.00
	Female	1,915	7,192,898	7,194,806	7,194,806	-0.03	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H12 2002 NSDUH Slippage Rates: Georgia

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		897	6,842,168	6,842,168	6,842,168	-0.00	0.00
Quarter	**Quarter 1**	221	1,700,335	1,700,335	1,700,335	0.00	0.00
	Quarter 2	234	1,708,157	1,708,157	1,708,157	0.00	0.00
	Quarter 3	215	1,714,749	1,714,749	1,714,749	-0.00	0.00
	Quarter 4	227	1,718,928	1,718,928	1,718,928	0.00	0.00
Age Group	**12-17**	310	746,857	740,287	740,287	0.89	0.00
	18-25	278	914,358	931,197	931,197	-1.81	0.00
	26-34	106	1,135,274	1,161,848	1,161,849	-2.29	-0.00
	35-49	147	2,024,719	1,961,228	1,961,228	3.24	0.00
	50-64	37	1,311,022	1,159,468	1,266,367	3.53	-8.44
	65+	19	709,938	888,140	781,241	-9.13	13.68
Race	**White**	532	4,623,614	4,736,968	4,736,968	-2.39	0.00
	Black	309	1,880,703	1,861,693	1,861,693	1.02	0.00
	Other	56	337,851	243,507	243,507	38.74	0.00
Hispanicity	**Hispanic**	102	461,346	384,419	384,419	20.01	0.00
	Non-Hispanic	795	6,380,822	6,457,749	6,457,749	-1.19	0.00
Gender	**Male**	424	3,274,633	3,292,842	3,292,842	-0.55	0.00
	Female	473	3,567,535	3,549,327	3,549,327	0.51	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H13 2002 NSDUH Slippage Rates: Hawaii

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		925	962,485	962,485	962,485	0.00	0.00
Quarter	**Quarter 1**	217	238,414	238,414	238,414	0.00	0.00
	Quarter 2	256	239,546	239,546	239,546	0.00	0.00
	Quarter 3	200	241,203	241,203	241,203	0.00	0.00
	Quarter 4	252	243,323	243,323	243,323	0.00	0.00
Age Group	**12-17**	309	107,395	106,624	106,624	0.72	0.00
	18-25	291	120,606	123,983	123,983	-2.72	0.00
	26-34	94	140,391	135,000	135,000	3.99	0.00
	35-49	150	256,567	257,366	257,366	-0.31	0.00
	50-64	52	217,538	192,782	192,782	12.84	0.00
	65+	29	119,987	146,730	146,730	-18.23	0.00
Race	**White**	212	238,350	243,720	243,720	-2.20	0.00
	Black	14	15,984	14,888	14,888	7.36	0.00
	Other	699	708,151	703,877	703,877	0.61	0.00
Hispanicity	**Hispanic**	145	103,612	59,144	59,144	75.19	0.00
	Non-Hispanic	780	858,873	903,341	903,341	-4.92	-0.00
Gender	**Male**	455	462,333	464,294	464,294	-0.42	0.00
	Female	470	500,152	498,191	498,191	0.39	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H14 2002 NSDUH Slippage Rates: Idaho

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		907	1,074,515	1,074,515	1,074,515	0.00	-0.00
Quarter	**Quarter 1**	196	266,993	266,993	266,993	0.00	0.00
	Quarter 2	233	268,304	268,304	268,304	0.00	-0.00
	Quarter 3	259	269,246	269,246	269,246	0.00	0.00
	Quarter 4	219	269,972	269,972	269,972	0.00	0.00
Age Group	**12-17**	312	126,988	128,019	128,019	-0.81	0.00
	18-25	303	162,851	162,155	162,155	0.43	-0.00
	26-34	84	151,582	151,248	151,248	0.22	0.00
	35-49	126	278,666	282,262	282,262	-1.27	0.00
	50-64	44	189,528	205,470	205,470	-7.76	0.00
	65+	38	164,899	145,362	145,362	13.44	0.00
Race	**White**	835	1,011,877	1,030,627	1,030,627	-1.82	0.00
	Black	2	407	1,573	4,641	-91.23	-66.12
	Other	70	62,230	42,315	39,246	58.56	7.82
Hispanicity	**Hispanic**	83	84,023	79,898	79,898	5.16	-0.00
	Non-Hispanic	824	990,492	994,617	994,617	-0.41	0.00
Gender	**Male**	416	523,917	530,747	530,747	-1.29	0.00
	Female	491	550,597	543,768	543,768	1.26	-0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H15 2002 NSDUH Slippage Rates: Illinois

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		3,729	10,258,735	10,258,735	10,258,735	0.00	0.00
Quarter	**Quarter 1**	934	2,552,590	2,552,590	2,552,590	0.00	0.00
	Quarter 2	911	2,557,628	2,557,628	2,557,628	0.00	0.00
	Quarter 3	927	2,567,368	2,567,368	2,567,368	0.00	0.00
	Quarter 4	957	2,581,149	2,581,149	2,581,149	-0.00	0.00
Age Group	**12-17**	1,302	1,081,039	1,081,426	1,081,426	-0.04	0.00
	18-25	1,282	1,364,676	1,366,021	1,366,021	-0.10	0.00
	26-34	346	1,593,204	1,611,607	1,611,607	-1.14	0.00
	35-49	534	2,866,454	2,853,343	2,853,343	0.46	0.00
	50-64	151	1,911,089	1,924,566	1,924,566	-0.70	0.00
	65+	114	1,442,273	1,421,773	1,421,773	1.44	0.00
Race	**White**	2,809	7,903,476	8,284,136	8,284,136	-4.60	0.00
	Black	599	1,479,225	1,448,817	1,448,817	2.10	-0.00
	Other	321	876,034	525,782	525,782	66.62	0.00
Hispanicity	**Hispanic**	547	1,235,075	1,251,637	1,251,637	-1.32	0.00
	Non-Hispanic	3,182	9,023,660	9,007,098	9,007,098	0.18	0.00
Gender	**Male**	1,815	4,965,596	4,963,128	4,963,128	0.05	0.00
	Female	1,914	5,293,139	5,295,607	5,295,607	-0.05	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H16 2002 NSDUH Slippage Rates: Indiana

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		945	5,019,711	5,019,711	5,019,711	0.00	0.00
Quarter	**Quarter 1**	238	1,250,957	1,250,957	1,250,957	-0.00	0.00
	Quarter 2	225	1,252,983	1,252,983	1,252,983	0.00	0.00
	Quarter 3	263	1,255,872	1,255,872	1,255,872	0.00	0.00
	Quarter 4	219	1,259,899	1,259,899	1,259,899	0.00	-0.00
Age Group	**12-17**	323	546,964	537,937	537,937	1.68	0.00
	18-25	342	691,393	699,137	699,137	-1.11	0.00
	26-34	86	736,762	728,649	728,649	1.11	-0.00
	35-49	130	1,377,045	1,377,548	1,377,548	-0.04	0.00
	50-64	39	1,023,653	963,654	963,654	6.23	-0.00
	65+	25	643,894	712,786	712,786	-9.67	-0.00
Race	**White**	800	4,459,360	4,514,081	4,514,081	-1.21	-0.00
	Black	109	409,229	392,131	392,131	4.36	0.00
	Other	36	151,122	113,498	113,498	33.15	0.00
Hispanicity	**Hispanic**	65	156,100	174,744	174,744	-10.67	0.00
	Non-Hispanic	880	4,863,611	4,844,967	4,844,967	0.38	-0.00
Gender	**Male**	452	2,442,719	2,439,052	2,439,052	0.15	0.00
	Female	493	2,576,992	2,580,659	2,580,659	-0.14	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H17 2002 NSDUH Slippage Rates: Iowa

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		894	2,440,614	2,440,614	2,440,614	0.00	0.00
Quarter	**Quarter 1**	184	608,298	608,298	608,298	0.00	0.00
	Quarter 2	218	609,225	609,225	609,225	0.00	0.00
	Quarter 3	287	610,559	610,559	610,559	0.00	0.00
	Quarter 4	205	612,532	612,532	612,532	0.00	0.00
Age Group	**12-17**	312	247,142	247,154	247,154	-0.00	0.00
	18-25	278	349,431	348,675	348,675	0.22	0.00
	26-34	81	315,889	321,395	321,395	-1.71	0.00
	35-49	143	652,912	648,149	648,149	0.73	0.00
	50-64	41	442,663	473,445	473,445	-6.50	0.00
	65+	39	432,577	401,795	401,795	7.66	0.00
Race	**White**	849	2,323,322	2,332,758	2,332,758	-0.40	0.00
	Black	18	52,760	46,280	46,280	14.00	0.00
	Other	27	64,532	61,576	61,576	4.80	0.00
Hispanicity	**Hispanic**	28	52,496	64,680	64,680	-18.84	0.00
	Non-Hispanic	866	2,388,118	2,375,934	2,375,934	0.51	0.00
Gender	**Male**	436	1,191,864	1,190,824	1,190,824	0.09	0.00
	Female	458	1,248,750	1,249,790	1,249,790	-0.08	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H18 2002 NSDUH Slippage Rates: Kansas

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		898	2,202,285	2,202,285	2,202,285	0.00	0.00
Quarter	**Quarter 1**	254	548,330	548,330	548,330	0.00	0.00
	Quarter 2	218	549,532	549,532	549,532	0.00	0.00
	Quarter 3	202	551,134	551,134	551,134	0.00	0.00
	Quarter 4	224	553,289	553,289	553,289	0.00	0.00
Age Group	**12-17**	302	243,200	242,248	242,248	0.39	0.00
	18-25	319	316,255	316,706	316,706	-0.14	0.00
	26-34	90	301,755	305,690	305,690	-1.29	0.00
	35-49	110	600,126	596,692	596,692	0.58	0.00
	50-64	44	401,199	410,675	410,675	-2.31	0.00
	65+	33	339,750	330,274	330,274	2.87	0.00
Race	**White**	756	1,930,693	1,990,950	1,990,950	-3.03	0.00
	Black	66	118,186	116,407	116,407	1.53	0.00
	Other	76	153,406	94,927	94,927	61.60	0.00
Hispanicity	**Hispanic**	80	144,209	149,126	149,126	-3.30	0.00
	Non-Hispanic	818	2,058,076	2,053,159	2,053,159	0.24	0.00
Gender	**Male**	436	1,066,023	1,073,806	1,073,806	-0.72	0.00
	Female	462	1,136,262	1,128,479	1,128,479	0.69	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H19 2002 NSDUH Slippage Rates: Kentucky

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		909	3,395,143	3,395,143	3,395,143	0.00	0.00
Quarter	**Quarter 1**	185	845,501	845,500	845,501	0.00	-0.00
	Quarter 2	256	848,312	848,312	848,312	0.00	0.00
	Quarter 3	238	850,135	850,135	850,135	0.00	0.00
	Quarter 4	230	851,196	851,196	851,196	0.00	0.00
Age Group	**12-17**	327	320,629	317,845	317,845	0.88	0.00
	18-25	284	452,198	457,462	457,462	-1.15	-0.00
	26-34	91	504,756	502,275	502,275	0.49	0.00
	35-49	130	942,602	942,602	942,602	0.00	0.00
	50-64	47	747,499	692,034	692,034	8.01	0.00
	65+	30	427,460	482,925	482,925	-11.49	0.00
Race	**White**	806	3,061,315	3,101,861	3,101,861	-1.31	-0.00
	Black	76	227,878	176,734	230,566	-1.17	-23.35
	Other	27	105,950	116,548	62,716	68.94	85.84
Hispanicity	**Hispanic**	13	50,228	52,044	52,044	-3.49	-0.00
	Non-Hispanic	896	3,344,915	3,343,099	3,343,099	0.05	0.00
Gender	**Male**	418	1,659,241	1,632,789	1,632,789	1.62	0.00
	Female	491	1,735,902	1,762,354	1,762,354	-1.50	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H20 2002 NSDUH Slippage Rates: Louisiana

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		930	3,607,669	3,607,669	3,607,669	0.00	0.00
Quarter	**Quarter 1**	181	899,316	899,316	899,316	0.00	0.00
	Quarter 2	265	900,301	900,301	900,301	0.00	0.00
	Quarter 3	297	902,605	902,605	902,605	0.00	0.00
	Quarter 4	187	905,448	905,448	905,448	0.00	0.00
Age Group	**12-17**	309	406,108	408,864	408,864	-0.67	0.00
	18-25	310	531,242	533,943	533,943	-0.51	0.00
	26-34	95	522,651	509,441	509,441	2.59	0.00
	35-49	140	992,158	970,872	970,872	2.19	0.00
	50-64	42	640,669	691,650	691,650	-7.37	0.00
	65+	34	514,841	492,900	492,900	4.45	-0.00
Race	**White**	587	2,403,335	2,401,651	2,401,651	0.07	0.00
	Black	323	1,112,553	1,109,159	1,109,159	0.31	0.00
	Other	20	91,781	96,859	96,859	-5.24	0.00
Hispanicity	**Hispanic**	26	90,116	90,113	90,113	0.00	0.00
	Non-Hispanic	904	3,517,554	3,517,557	3,517,557	-0.00	0.00
Gender	**Male**	432	1,691,834	1,703,695	1,703,695	-0.70	0.00
	Female	498	1,915,835	1,903,975	1,903,975	0.62	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H21 2002 NSDUH Slippage Rates: Maine

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		906	1,104,764	1,104,764	1,104,764	0.00	0.00
Quarter	**Quarter 1**	236	275,201	275,201	275,201	0.00	0.00
	Quarter 2	225	276,226	276,226	276,226	0.00	0.00
	Quarter 3	248	276,672	276,672	276,672	0.00	0.00
	Quarter 4	197	276,666	276,666	276,666	0.00	0.00
Age Group	**12-17**	310	107,138	107,138	107,138	0.00	0.00
	18-25	292	126,373	128,854	128,854	-1.93	0.00
	26-34	83	144,086	137,482	137,482	4.80	0.00
	35-49	146	312,847	318,908	318,908	-1.90	0.00
	50-64	39	221,541	234,689	234,689	-5.60	0.00
	65+	36	192,779	177,693	177,693	8.49	0.00
Race	**White**	867	1,054,569	1,076,642	1,076,642	-2.05	0.00
	Black	6	11,803	5,618	5,618	110.10	0.00
	Other	33	38,393	22,505	22,505	70.60	0.00
Hispanicity	**Hispanic**	13	3,996	7,785	7,785	-48.68	0.00
	Non-Hispanic	893	1,100,769	1,096,979	1,096,979	0.35	0.00
Gender	**Male**	440	530,839	532,832	532,832	-0.37	0.00
	Female	466	573,926	571,932	571,932	0.35	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H22 2002 NSDUH Slippage Rates: Maryland

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		919	4,449,299	4,449,299	4,449,299	0.00	0.00
Quarter	**Quarter 1**	207	1,106,333	1,106,333	1,106,333	0.00	0.00
	Quarter 2	217	1,110,483	1,110,483	1,110,483	0.00	0.00
	Quarter 3	251	1,114,638	1,114,638	1,114,638	0.00	0.00
	Quarter 4	244	1,117,846	1,117,846	1,117,846	0.00	0.00
Age Group	**12-17**	346	471,851	472,125	472,125	-0.06	0.00
	18-25	299	530,861	525,127	525,127	1.09	0.00
	26-34	86	630,648	648,041	648,041	-2.68	0.00
	35-49	134	1,337,911	1,323,728	1,323,728	1.07	0.00
	50-64	40	1,074,362	994,314	887,414	21.07	12.05
	65+	14	403,666	485,965	592,864	-31.91	-18.03
Race	**White**	539	2,891,484	2,983,821	2,983,821	-3.09	0.00
	Black	311	1,251,260	1,198,550	1,198,550	4.40	0.00
	Other	69	306,556	266,928	266,928	14.85	0.00
Hispanicity	**Hispanic**	66	221,476	198,063	198,063	11.82	0.00
	Non-Hispanic	853	4,227,823	4,251,236	4,251,236	-0.55	0.00
Gender	**Male**	457	2,102,385	2,102,385	2,102,385	0.00	0.00
	Female	462	2,346,915	2,346,915	2,346,915	0.00	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H23 2002 NSDUH Slippage Rates: Massachusetts

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		916	5,387,071	5,387,071	5,387,071	0.00	0.00
Quarter	**Quarter 1**	232	1,341,324	1,341,324	1,341,324	0.00	0.00
	Quarter 2	230	1,343,983	1,343,983	1,343,983	0.00	0.00
	Quarter 3	204	1,348,096	1,348,096	1,348,096	0.00	0.00
	Quarter 4	250	1,353,669	1,353,669	1,353,669	0.00	0.00
Age Group	**12-17**	355	507,378	502,081	502,081	1.06	0.00
	18-25	279	652,801	670,475	670,475	-2.64	0.00
	26-34	95	830,818	818,441	818,441	1.51	0.00
	35-49	125	1,530,497	1,547,971	1,547,971	-1.13	0.00
	50-64	29	871,581	1,035,746	1,035,746	-15.85	0.00
	65+	33	993,996	812,358	812,358	22.36	0.00
Race	**White**	760	4,577,363	4,758,240	4,758,240	-3.80	0.00
	Black	89	366,681	330,378	330,378	10.99	0.00
	Other	67	443,028	298,454	298,454	48.44	0.00
Hispanicity	**Hispanic**	76	382,507	349,425	349,425	9.47	0.00
	Non-Hispanic	840	5,004,565	5,037,646	5,037,646	-0.66	0.00
Gender	**Male**	424	2,570,836	2,571,956	2,571,956	-0.04	0.00
	Female	492	2,816,235	2,815,115	2,815,115	0.04	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H24 2002 NSDUH Slippage Rates: Michigan

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		3,792	8,255,399	8,255,399	8,255,399	-0.00	0.00
Quarter	**Quarter 1**	1,025	2,056,175	2,056,175	2,056,175	-0.00	0.00
	Quarter 2	770	2,059,885	2,059,885	2,059,885	0.00	0.00
	Quarter 3	988	2,065,735	2,065,735	2,065,735	0.00	0.00
	Quarter 4	1,009	2,073,603	2,073,603	2,073,603	0.00	0.00
Age Group	**12-17**	1,298	891,941	892,683	892,683	-0.08	0.00
	18-25	1,362	1,082,099	1,078,221	1,078,221	0.36	0.00
	26-34	325	1,182,981	1,184,328	1,184,328	-0.11	0.00
	35-49	508	2,288,929	2,307,661	2,307,661	-0.81	0.00
	50-64	166	1,536,564	1,607,741	1,607,741	-4.43	0.00
	65+	133	1,272,885	1,184,764	1,184,764	7.44	0.00
Race	**White**	3,025	6,817,450	6,850,501	6,850,501	-0.48	0.00
	Black	564	1,078,356	1,094,574	1,094,574	-1.48	0.00
	Other	203	359,592	310,324	310,324	15.88	0.00
Hispanicity	**Hispanic**	152	259,212	255,864	255,864	1.31	0.00
	Non-Hispanic	3,640	7,996,186	7,999,535	7,999,535	-0.04	0.00
Gender	**Male**	1,828	3,976,071	3,996,775	3,996,775	-0.52	0.00
	Female	1,964	4,279,327	4,258,624	4,258,624	0.49	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H25 2002 NSDUH Slippage Rates: Minnesota

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		873	4,154,504	4,154,504	4,154,504	0.00	0.00
Quarter	**Quarter 1**	228	1,033,844	1,033,844	1,033,844	0.00	0.00
	Quarter 2	236	1,036,887	1,036,887	1,036,887	0.00	0.00
	Quarter 3	235	1,040,053	1,040,053	1,040,053	0.00	0.00
	Quarter 4	174	1,043,720	1,043,720	1,043,720	0.00	0.00
Age Group	**12-17**	288	446,622	447,909	447,909	-0.29	0.00
	18-25	315	564,474	564,444	564,444	0.01	0.00
	26-34	82	597,359	602,520	602,520	-0.86	0.00
	35-49	120	1,203,341	1,196,925	1,196,925	0.54	0.00
	50-64	46	860,017	778,682	778,682	10.45	0.00
	65+	22	482,689	564,024	564,024	-14.42	0.00
Race	**White**	747	3,764,804	3,807,046	3,807,046	-1.11	0.00
	Black	49	144,562	135,618	135,618	6.59	0.00
	Other	77	245,137	211,839	211,839	15.72	0.00
Hispanicity	**Hispanic**	42	109,851	114,862	114,862	-4.36	0.00
	Non-Hispanic	831	4,044,653	4,039,641	4,039,641	0.12	0.00
Gender	**Male**	407	2,044,204	2,044,204	2,044,204	0.00	0.00
	Female	466	2,110,300	2,110,300	2,110,300	0.00	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H26 2002 NSDUH Slippage Rates: Mississippi

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		839	2,307,320	2,307,320	2,307,320	0.00	0.00
Quarter	**Quarter 1**	238	575,239	575,239	575,239	0.00	0.00
	Quarter 2	182	575,988	575,988	575,988	0.00	-0.00
	Quarter 3	187	577,368	577,368	577,368	0.00	0.00
	Quarter 4	232	578,725	578,725	578,725	0.00	-0.00
Age Group	**12-17**	314	261,806	257,043	257,043	1.85	-0.00
	18-25	268	341,643	346,485	346,485	-1.40	0.00
	26-34	94	333,912	330,060	330,060	1.17	-0.00
	35-49	108	616,118	605,866	605,866	1.69	0.00
	50-64	37	531,266	439,214	439,214	20.96	0.00
	65+	18	222,575	328,651	328,651	-32.28	0.00
Race	**White**	449	1,448,451	1,466,903	1,466,903	-1.26	-0.00
	Black	369	805,048	801,635	801,635	0.43	0.00
	Other	21	53,821	38,783	38,783	38.78	0.00
Hispanicity	**Hispanic**	17	26,335	32,334	32,335	-18.55	-0.00
	Non-Hispanic	822	2,280,985	2,274,985	2,274,985	0.26	0.00
Gender	**Male**	393	1,088,979	1,088,962	1,088,963	0.00	-0.00
	Female	446	1,218,341	1,218,357	1,218,357	-0.00	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H27 2002 NSDUH Slippage Rates: Missouri

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		890	4,656,459	4,656,459	4,656,459	0.00	0.00
Quarter	**Quarter 1**	206	1,160,201	1,160,201	1,160,201	0.00	0.00
	Quarter 2	237	1,162,880	1,162,880	1,162,880	0.00	0.00
	Quarter 3	245	1,165,460	1,165,460	1,165,460	0.00	0.00
	Quarter 4	202	1,167,919	1,167,919	1,167,919	0.00	0.00
Age Group	**12-17**	326	486,596	489,034	489,034	-0.50	0.00
	18-25	289	620,061	621,802	621,802	-0.28	0.00
	26-34	80	643,718	652,123	652,123	-1.29	0.00
	35-49	121	1,271,541	1,271,610	1,271,610	-0.01	0.00
	50-64	45	962,755	909,752	909,752	5.83	0.00
	65+	29	671,788	712,139	712,139	-5.67	0.00
Race	**White**	711	4,013,971	4,036,145	4,036,145	-0.55	0.00
	Black	142	501,441	491,268	491,268	2.07	0.00
	Other	37	141,048	129,046	129,046	9.30	0.00
Hispanicity	**Hispanic**	28	94,695	94,695	94,695	0.00	0.00
	Non-Hispanic	862	4,561,764	4,561,764	4,561,764	0.00	0.00
Gender	**Male**	434	2,232,839	2,232,839	2,232,839	0.00	0.00
	Female	456	2,423,621	2,423,621	2,423,621	0.00	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H28 2002 NSDUH Slippage Rates: Montana

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		914	759,543	759,543	759,543	0.00	0.00
Quarter	**Quarter 1**	233	189,263	189,263	189,263	0.00	0.00
	Quarter 2	211	189,716	189,716	189,716	0.00	0.00
	Quarter 3	220	190,094	190,094	190,094	0.00	0.00
	Quarter 4	250	190,470	190,470	190,470	0.00	0.00
Age Group	**12-17**	347	82,032	82,057	82,057	-0.03	0.00
	18-25	262	102,009	101,661	101,662	0.34	-0.00
	26-34	65	86,590	89,976	89,976	-3.76	-0.00
	35-49	136	209,593	206,828	206,828	1.34	0.00
	50-64	59	160,767	163,029	163,029	-1.39	0.00
	65+	45	118,551	115,992	115,992	2.21	0.00
Race	**White**	818	694,561	699,966	699,966	-0.77	-0.00
	Black	2	405	104	2,211	-81.67	-95.31
	Other	94	64,577	59,473	57,366	12.57	3.67
Hispanicity	**Hispanic**	29	11,796	14,019	14,019	-15.86	0.00
	Non-Hispanic	885	747,747	745,524	745,524	0.30	0.00
Gender	**Male**	444	375,433	374,821	374,821	0.16	0.00
	Female	470	384,110	384,722	384,722	-0.16	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H29 2002 NSDUH Slippage Rates: Nebraska

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		891	1,411,983	1,411,983	1,411,983	0.00	0.00
Quarter	**Quarter 1**	191	351,575	351,575	351,575	0.00	0.00
	Quarter 2	233	352,289	352,289	352,289	0.00	0.00
	Quarter 3	308	353,328	353,328	353,328	-0.00	0.00
	Quarter 4	159	354,792	354,792	354,792	0.00	0.00
Age Group	**12-17**	315	151,590	152,803	152,803	-0.79	0.00
	18-25	280	202,512	202,014	202,014	0.25	0.00
	26-34	82	200,927	198,182	198,182	1.39	0.00
	35-49	129	382,233	377,770	377,770	1.18	0.00
	50-64	43	254,151	264,501	264,501	-3.91	0.00
	65+	42	220,569	216,712	216,712	1.78	0.00
Race	**White**	813	1,295,495	1,314,453	1,314,453	-1.44	0.00
	Black	42	52,525	51,928	51,928	1.15	-0.00
	Other	36	63,963	45,602	45,602	40.26	0.00
Hispanicity	**Hispanic**	53	74,046	73,598	73,598	0.61	0.00
	Non-Hispanic	838	1,337,937	1,338,385	1,338,385	-0.03	0.00
Gender	**Male**	434	686,734	689,918	689,918	-0.46	0.00
	Female	457	725,249	722,065	722,065	0.44	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H30 2002 NSDUH Slippage Rates: Nevada

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		954	1,742,004	1,742,004	1,742,004	0.00	0.00
Quarter	**Quarter 1**	226	431,633	431,633	431,633	0.00	0.00
	Quarter 2	187	435,663	435,663	435,663	0.00	0.00
	Quarter 3	247	437,515	437,515	437,515	0.00	0.00
	Quarter 4	294	437,193	437,193	437,193	0.00	0.00
Age Group	**12-17**	360	182,656	182,000	182,000	0.36	0.00
	18-25	305	206,959	208,607	208,607	-0.79	0.00
	26-34	68	287,329	288,764	288,764	-0.50	0.00
	35-49	134	486,235	480,026	480,026	1.29	0.00
	50-64	52	330,882	348,748	348,748	-5.12	-0.00
	65+	35	247,944	233,860	233,860	6.02	0.00
Race	**White**	776	1,445,435	1,482,131	1,482,131	-2.48	0.00
	Black	67	107,788	110,455	110,455	-2.41	0.00
	Other	111	188,781	149,418	149,418	26.34	0.00
Hispanicity	**Hispanic**	259	344,753	334,118	334,118	3.18	0.00
	Non-Hispanic	695	1,397,251	1,407,886	1,407,886	-0.76	0.00
Gender	**Male**	470	895,927	877,858	877,858	2.06	0.00
	Female	484	846,077	864,146	864,146	-2.09	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H31 2002 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		910	1,065,165	1,065,165	1,065,165	0.00	0.00
Quarter	**Quarter 1**	255	264,930	264,930	264,930	0.00	0.00
	Quarter 2	210	266,074	266,074	266,074	0.00	0.00
	Quarter 3	266	266,830	266,830	266,830	0.00	0.00
	Quarter 4	179	267,331	267,331	267,331	0.00	0.00
Age Group	**12-17**	298	112,117	112,627	112,627	-0.45	0.00
	18-25	341	126,825	126,521	126,521	0.24	0.00
	26-34	76	141,597	141,420	141,420	0.12	0.00
	35-49	145	325,940	326,473	326,473	-0.16	0.00
	50-64	30	201,765	214,546	214,546	-5.96	0.00
	65+	20	156,921	143,579	143,579	9.29	0.00
Race	**White**	867	1,023,682	1,030,619	1,030,619	-0.67	0.00
	Black	8	2,890	8,440	8,440	-65.76	-0.00
	Other	35	38,594	26,107	26,107	47.83	0.00
Hispanicity	**Hispanic**	32	19,642	16,576	16,576	18.50	0.00
	Non-Hispanic	878	1,045,523	1,048,590	1,048,590	-0.29	0.00
Gender	**Male**	484	519,959	520,958	520,958	-0.19	0.00
	Female	426	545,207	544,207	544,207	0.18	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H32 2002 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		854	7,075,581	7,075,581	7,075,581	-0.00	0.00
Quarter	**Quarter 1**	240	1,759,478	1,759,478	1,759,478	-0.00	0.00
	Quarter 2	200	1,764,376	1,764,376	1,764,376	-0.00	0.00
	Quarter 3	202	1,771,494	1,771,494	1,771,494	-0.00	0.00
	Quarter 4	212	1,780,234	1,780,234	1,780,234	-0.00	0.00
Age Group	**12-17**	294	720,036	712,611	712,611	1.04	0.00
	18-25	298	801,474	775,060	775,060	3.41	0.00
	26-34	68	1,023,424	1,019,078	1,019,078	0.43	0.00
	35-49	113	2,092,432	2,091,899	2,091,899	0.03	0.00
	50-64	52	1,583,212	1,401,254	1,401,254	12.99	0.00
	65+	29	855,003	1,075,679	1,075,679	-20.52	0.00
Race	**White**	610	5,186,374	5,574,214	5,574,215	-6.96	-0.00
	Black	124	1,018,863	959,987	959,987	6.13	0.00
	Other	120	870,344	541,380	541,380	60.76	0.00
Hispanicity	**Hispanic**	170	1,026,568	957,070	957,070	7.26	0.00
	Non-Hispanic	684	6,049,013	6,118,511	6,118,511	-1.14	0.00
Gender	**Male**	411	3,368,479	3,387,444	3,387,444	-0.56	0.00
	Female	443	3,707,102	3,688,138	3,688,138	0.51	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H33 2002 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		674	1,500,281	1,500,281	1,500,281	0.00	0.00
Quarter	**Quarter 1**	177	372,830	372,830	372,830	0.00	0.00
	Quarter 2	141	374,409	374,409	374,409	0.00	0.00
	Quarter 3	168	375,895	375,895	375,895	0.00	0.00
	Quarter 4	188	377,147	377,147	377,147	0.00	0.00
Age Group	**12-17**	211	175,430	176,221	176,221	-0.45	0.00
	18-25	249	206,125	207,372	207,372	-0.60	0.00
	26-34	63	207,927	203,570	203,570	2.14	0.00
	35-49	101	401,175	403,495	403,496	-0.58	-0.00
	50-64	28	295,530	295,561	295,561	-0.01	0.00
	65+	22	214,092	214,061	214,061	0.01	0.00
Race	**White**	514	1,218,164	1,291,771	1,291,771	-5.70	0.00
	Black	13	31,142	30,278	30,278	2.85	0.00
	Other	147	250,974	178,232	178,232	40.81	0.00
Hispanicity	**Hispanic**	336	607,254	618,764	618,764	-1.86	0.00
	Non-Hispanic	338	893,027	881,517	881,517	1.31	0.00
Gender	**Male**	326	728,613	725,323	725,323	0.45	0.00
	Female	348	771,668	774,958	774,958	-0.42	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H34 2002 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		3,716	15,882,822	15,882,822	15,882,822	0.00	0.00
Quarter	**Quarter 1**	808	3,952,119	3,952,119	3,952,119	0.00	0.00
	Quarter 2	936	3,958,524	3,958,524	3,958,524	0.00	0.00
	Quarter 3	1,109	3,974,404	3,974,404	3,974,404	0.00	0.00
	Quarter 4	863	3,997,775	3,997,775	3,997,775	0.00	0.00
Age Group	**12-17**	1,234	1,555,359	1,564,858	1,564,858	-0.61	0.00
	18-25	1,337	2,048,363	2,026,299	2,026,299	1.09	0.00
	26-34	356	2,420,878	2,420,516	2,420,516	0.01	0.00
	35-49	526	4,460,127	4,430,539	4,430,539	0.67	0.00
	50-64	168	3,375,537	3,075,224	3,075,224	9.77	0.00
	65+	95	2,022,557	2,365,386	2,365,386	-14.49	0.00
Race	**White**	2,520	10,919,205	11,913,664	11,913,664	-8.35	0.00
	Black	708	3,011,172	2,666,760	2,666,760	12.92	0.00
	Other	488	1,952,444	1,302,398	1,302,398	49.91	0.00
Hispanicity	**Hispanic**	732	2,406,485	2,404,985	2,404,985	0.06	0.00
	Non-Hispanic	2,984	13,476,337	13,477,837	13,477,837	-0.01	0.00
Gender	**Male**	1,760	7,594,330	7,549,191	7,549,191	0.60	0.00
	Female	1,956	8,288,492	8,333,630	8,333,630	-0.54	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H35 2002 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		902	6,726,205	6,726,205	6,726,205	0.00	0.00
Quarter	**Quarter 1**	256	1,674,187	1,674,187	1,674,187	0.00	-0.00
	Quarter 2	193	1,679,543	1,679,543	1,679,543	0.00	0.00
	Quarter 3	270	1,684,453	1,684,453	1,684,453	0.00	0.00
	Quarter 4	183	1,688,023	1,688,023	1,688,023	0.00	0.00
Age Group	**12-17**	326	679,915	677,525	677,525	0.35	0.00
	18-25	291	864,430	866,820	866,820	-0.28	0.00
	26-34	86	1,086,640	1,054,760	1,054,760	3.02	0.00
	35-49	123	1,811,833	1,853,875	1,853,875	-2.27	0.00
	50-64	49	1,511,374	1,320,974	1,320,974	14.41	0.00
	65+	27	772,014	952,252	952,252	-18.93	0.00
Race	**White**	605	4,987,978	5,090,409	5,090,409	-2.01	0.00
	Black	258	1,468,411	1,392,541	1,392,541	5.45	-0.00
	Other	39	269,816	243,256	243,256	10.92	0.00
Hispanicity	**Hispanic**	34	342,215	323,529	323,529	5.78	0.00
	Non-Hispanic	868	6,383,991	6,402,676	6,402,676	-0.29	0.00
Gender	**Male**	440	3,249,637	3,223,869	3,223,869	0.80	0.00
	Female	462	3,476,569	3,502,337	3,502,337	-0.74	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H36 2002 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		913	527,574	527,574	527,574	0.00	0.00
Quarter	**Quarter 1**	239	131,617	131,617	131,617	0.00	0.00
	Quarter 2	209	131,628	131,628	131,628	0.00	0.00
	Quarter 3	275	131,885	131,885	131,885	0.00	0.00
	Quarter 4	190	132,444	132,444	132,444	0.00	0.00
Age Group	**12-17**	336	54,608	54,725	54,725	-0.21	0.00
	18-25	305	81,500	81,994	81,994	-0.60	-0.00
	26-34	84	66,481	66,392	66,392	0.13	0.00
	35-49	121	136,704	137,997	137,997	-0.94	0.00
	50-64	37	106,402	99,404	99,404	7.04	0.00
	65+	30	81,879	87,064	87,064	-5.96	0.00
Race	**White**	830	494,427	494,035	494,035	0.08	0.00
	Black	4	2,019	3,171	3,171	-36.32	-0.00
	Other	79	31,128	30,369	30,369	2.50	0.00
Hispanicity	**Hispanic**	15	5,302	5,744	5,744	-7.69	0.00
	Non-Hispanic	898	522,273	521,831	521,831	0.08	0.00
Gender	**Male**	462	261,665	260,638	260,638	0.39	0.00
	Female	451	265,910	266,936	266,936	-0.38	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H37 2002 NSDUH Slippage Rates: Ohio

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		3,554	9,369,125	9,369,125	9,369,125	0.00	0.00
Quarter	**Quarter 1**	814	2,336,614	2,336,614	2,336,614	-0.00	0.00
	Quarter 2	968	2,338,813	2,338,813	2,338,813	0.00	0.00
	Quarter 3	981	2,343,359	2,343,359	2,343,359	0.00	0.00
	Quarter 4	791	2,350,340	2,350,340	2,350,340	0.00	0.00
Age Group	**12-17**	1,219	990,220	991,716	991,716	-0.15	0.00
	18-25	1,215	1,207,771	1,217,589	1,217,589	-0.81	0.00
	26-34	335	1,331,566	1,319,248	1,319,248	0.93	0.00
	35-49	497	2,575,762	2,576,767	2,576,767	-0.04	0.00
	50-64	167	1,907,940	1,835,165	1,835,165	3.97	0.00
	65+	121	1,355,866	1,428,641	1,428,641	-5.09	-0.00
Race	**White**	3,018	8,108,835	8,129,527	8,129,527	-0.25	0.00
	Black	395	1,014,523	999,357	999,357	1.52	0.00
	Other	141	245,767	240,241	240,241	2.30	0.00
Hispanicity	**Hispanic**	100	142,017	169,956	169,956	-16.44	0.00
	Non-Hispanic	3,454	9,227,108	9,199,169	9,199,169	0.30	0.00
Gender	**Male**	1,702	4,484,717	4,496,708	4,496,708	-0.27	0.00
	Female	1,852	4,884,408	4,872,418	4,872,418	0.25	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H38 2002 NSDUH Slippage Rates: Oklahoma

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		922	2,822,615	2,822,615	2,822,615	0.00	0.00
Quarter	**Quarter 1**	220	702,127	702,127	702,127	0.00	0.00
	Quarter 2	238	703,880	703,880	703,880	0.00	0.00
	Quarter 3	271	706,518	706,518	706,518	0.00	0.00
	Quarter 4	193	710,090	710,090	710,090	0.00	0.00
Age Group	**12-17**	307	304,875	305,129	305,129	-0.08	0.00
	18-25	330	406,526	408,904	408,904	-0.58	0.00
	26-34	95	384,653	392,195	392,195	-1.92	0.00
	35-49	128	733,329	731,557	731,557	0.24	0.00
	50-64	39	600,314	555,851	555,851	8.00	0.00
	65+	23	392,918	428,979	428,979	-8.41	0.00
Race	**White**	669	2,218,023	2,269,567	2,269,567	-2.27	0.00
	Black	79	194,786	196,883	196,883	-1.06	0.00
	Other	174	409,806	356,166	356,166	15.06	0.00
Hispanicity	**Hispanic**	56	143,476	138,894	138,894	3.30	0.00
	Non-Hispanic	866	2,679,139	2,683,722	2,683,722	-0.17	0.00
Gender	**Male**	431	1,360,520	1,360,520	1,360,520	0.00	0.00
	Female	491	1,462,096	1,462,096	1,462,096	0.00	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H39 2002 NSDUH Slippage Rates: Oregon

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		917	2,916,974	2,916,974	2,916,974	0.00	0.00
Quarter	**Quarter 1**	290	725,519	725,519	725,519	0.00	0.00
	Quarter 2	157	728,661	728,661	728,661	0.00	0.00
	Quarter 3	264	730,758	730,758	730,758	0.00	0.00
	Quarter 4	206	732,036	732,036	732,036	0.00	0.00
Age Group	**12-17**	322	301,643	297,634	297,634	1.35	0.00
	18-25	307	385,285	379,401	379,401	1.55	0.00
	26-34	75	433,877	432,181	432,181	0.39	0.00
	35-49	136	788,485	782,701	782,701	0.74	0.00
	50-64	45	584,018	596,370	596,370	-2.07	0.00
	65+	32	423,667	428,688	428,688	-1.17	0.00
Race	**White**	813	2,631,230	2,677,203	2,677,203	-1.72	0.00
	Black	19	54,766	45,329	45,329	20.82	0.00
	Other	85	230,978	194,443	194,443	18.79	0.00
Hispanicity	**Hispanic**	90	250,002	223,736	223,736	11.74	0.00
	Non-Hispanic	827	2,666,973	2,693,238	2,693,238	-0.98	-0.00
Gender	**Male**	447	1,411,474	1,432,529	1,432,529	-1.47	0.00
	Female	470	1,505,500	1,484,446	1,484,446	1.42	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H40 2002 NSDUH Slippage Rates: Pennsylvania

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		3,606	10,298,941	10,298,942	10,298,942	-0.00	0.00
Quarter	**Quarter 1**	928	2,568,654	2,568,654	2,568,654	-0.00	0.00
	Quarter 2	825	2,572,282	2,572,282	2,572,282	-0.00	0.00
	Quarter 3	1,031	2,576,584	2,576,584	2,576,584	0.00	0.00
	Quarter 4	822	2,581,422	2,581,422	2,581,422	-0.00	0.00
Age Group	**12-17**	1,244	1,026,659	1,025,357	1,025,357	0.13	0.00
	18-25	1,285	1,277,458	1,270,338	1,270,338	0.56	0.00
	26-34	299	1,302,770	1,332,611	1,332,611	-2.24	0.00
	35-49	483	2,868,016	2,818,621	2,818,621	1.75	0.00
	50-64	165	2,151,213	2,049,305	2,049,305	4.97	0.00
	65+	130	1,672,825	1,802,711	1,802,711	-7.20	0.00
Race	**White**	3,084	8,933,749	9,033,801	9,033,801	-1.11	0.00
	Black	370	979,698	964,906	964,906	1.53	0.00
	Other	152	385,495	300,235	300,235	28.40	0.00
Hispanicity	**Hispanic**	157	289,515	303,847	303,847	-4.72	0.00
	Non-Hispanic	3,449	10,009,427	9,995,095	9,995,095	0.14	0.00
Gender	**Male**	1,742	4,892,789	4,917,190	4,917,190	-0.50	0.00
	Female	1,864	5,406,153	5,381,752	5,381,752	0.45	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H41 2002 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		925	896,699	896,699	896,699	0.00	0.00
Quarter	**Quarter 1**	242	223,118	223,118	223,118	0.00	0.00
	Quarter 2	178	224,018	224,018	224,018	0.00	0.00
	Quarter 3	288	224,632	224,632	224,632	0.00	0.00
	Quarter 4	217	224,930	224,930	224,930	0.00	0.00
Age Group	**12-17**	334	84,097	83,814	83,814	0.34	0.00
	18-25	302	125,092	124,681	124,681	0.33	0.00
	26-34	101	123,263	123,245	123,245	0.02	0.00
	35-49	121	250,902	251,615	251,615	-0.28	0.00
	50-64	39	200,358	169,931	169,931	17.91	0.00
	65+	28	112,986	143,413	143,413	-21.22	0.00
Race	**White**	741	743,823	811,059	811,059	-8.29	0.00
	Black	82	89,342	47,130	47,130	89.56	0.00
	Other	102	63,534	38,509	38,509	64.98	0.00
Hispanicity	**Hispanic**	132	85,775	73,036	73,036	17.44	0.00
	Non-Hispanic	793	810,924	823,662	823,662	-1.55	0.00
Gender	**Male**	431	428,094	426,270	426,270	0.43	0.00
	Female	494	468,605	470,428	470,428	-0.39	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H42 2002 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		913	3,371,646	3,371,646	3,371,646	0.00	0.00
Quarter	**Quarter 1**	259	838,821	838,821	838,821	0.00	-0.00
	Quarter 2	184	842,297	842,297	842,297	0.00	0.00
	Quarter 3	272	844,828	844,828	844,828	0.00	0.00
	Quarter 4	198	845,700	845,700	845,700	0.00	0.00
Age Group	**12-17**	304	336,281	336,271	336,271	0.00	0.00
	18-25	338	452,438	458,511	458,511	-1.32	0.00
	26-34	73	496,463	490,350	490,350	1.25	0.00
	35-49	132	914,469	914,519	914,519	-0.01	-0.00
	50-64	37	615,470	688,281	688,281	-10.58	0.00
	65+	29	556,525	483,714	483,714	15.05	0.00
Race	**White**	572	2,335,708	2,342,140	2,342,140	-0.27	0.00
	Black	318	945,704	959,254	959,254	-1.41	0.00
	Other	23	90,234	70,252	70,252	28.44	0.00
Hispanicity	**Hispanic**	21	61,304	83,845	83,845	-26.88	0.00
	Non-Hispanic	892	3,310,342	3,287,801	3,287,801	0.69	0.00
Gender	**Male**	418	1,601,190	1,598,192	1,598,192	0.19	0.00
	Female	495	1,770,456	1,773,454	1,773,454	-0.17	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H43 2002 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		914	619,768	619,768	619,768	0.00	0.00
Quarter	**Quarter 1**	188	154,443	154,443	154,443	0.00	0.00
	Quarter 2	267	154,684	154,684	154,684	0.00	-0.00
	Quarter 3	264	155,044	155,044	155,044	0.00	0.00
	Quarter 4	195	155,597	155,597	155,597	0.00	-0.00
Age Group	**12-17**	343	70,145	70,145	70,145	0.00	0.00
	18-25	281	89,708	89,870	89,870	-0.18	-0.00
	26-34	80	78,499	78,548	78,548	-0.06	0.00
	35-49	122	165,138	164,927	164,927	0.13	0.00
	50-64	42	102,775	115,681	115,681	-11.16	0.00
	65+	46	113,502	100,597	100,597	12.83	0.00
Race	**White**	807	557,638	561,980	561,980	-0.77	0.00
	Black	11	3,926	3,824	3,824	2.67	0.00
	Other	96	58,204	53,964	53,964	7.86	-0.00
Hispanicity	**Hispanic**	21	6,005	7,975	7,975	-24.70	0.00
	Non-Hispanic	893	613,762	611,792	611,792	0.32	0.00
Gender	**Male**	445	306,327	303,863	303,863	0.81	0.00
	Female	469	313,441	315,905	315,905	-0.78	-0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H44 2002 NSDUH Slippage Rates: Tennessee

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		920	4,766,688	4,766,688	4,766,688	0.00	0.00
Quarter	**Quarter 1**	229	1,187,734	1,187,734	1,187,734	0.00	0.00
	Quarter 2	208	1,190,669	1,190,669	1,190,669	0.00	0.00
	Quarter 3	246	1,193,201	1,193,201	1,193,201	0.00	0.00
	Quarter 4	237	1,195,085	1,195,084	1,195,085	0.00	-0.00
Age Group	**12-17**	354	477,718	472,625	472,625	1.08	0.00
	18-25	228	623,036	610,806	610,807	2.00	-0.00
	26-34	111	694,563	717,514	717,514	-3.20	0.00
	35-49	140	1,297,786	1,312,960	1,312,961	-1.16	-0.00
	50-64	54	1,035,532	967,997	967,997	6.98	0.00
	65+	33	638,053	684,785	684,785	-6.82	-0.00
Race	**White**	732	3,931,368	3,927,415	3,927,415	0.10	-0.00
	Black	172	713,601	788,522	734,690	-2.87	7.33
	Other	16	121,719	50,750	104,583	16.39	-51.47
Hispanicity	**Hispanic**	27	82,072	105,483	105,483	-22.19	0.00
	Non-Hispanic	893	4,684,616	4,661,205	4,661,205	0.50	0.00
Gender	**Male**	443	2,270,149	2,284,072	2,284,072	-0.61	0.00
	Female	477	2,496,539	2,482,616	2,482,616	0.56	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H45 2002 NSDUH Slippage Rates: Texas

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		3,649	17,207,615	17,207,615	17,207,615	0.00	0.00
Quarter	**Quarter 1**	841	4,268,625	4,268,625	4,268,625	0.00	0.00
	Quarter 2	939	4,291,003	4,291,003	4,291,003	0.00	0.00
	Quarter 3	1,094	4,313,430	4,313,430	4,313,430	0.00	0.00
	Quarter 4	775	4,334,558	4,334,558	4,334,558	0.00	0.00
Age Group	**12-17**	1,224	2,007,642	2,004,787	2,004,787	0.14	0.00
	18-25	1,239	2,474,201	2,477,451	2,477,451	-0.13	0.00
	26-34	383	2,807,197	2,811,509	2,811,509	-0.15	0.00
	35-49	523	4,765,675	4,769,025	4,769,025	-0.07	0.00
	50-64	166	2,989,671	3,091,609	3,091,609	-3.30	-0.00
	65+	114	2,163,228	2,053,234	2,053,234	5.36	-0.00
Race	**White**	2,920	14,072,396	14,514,917	14,514,917	-3.05	0.00
	Black	413	1,962,866	1,881,877	1,881,877	4.30	-0.00
	Other	316	1,172,353	810,821	810,821	44.59	0.00
Hispanicity	**Hispanic**	1,383	5,434,749	5,431,132	5,431,132	0.07	0.00
	Non-Hispanic	2,266	11,772,865	11,776,483	11,776,483	-0.03	0.00
Gender	**Male**	1,772	8,442,694	8,378,300	8,378,300	0.77	0.00
	Female	1,877	8,764,920	8,829,315	8,829,315	-0.73	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H46 2002 NSDUH Slippage Rates: Utah

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		889	1,807,003	1,807,003	1,807,003	0.00	0.00
Quarter	**Quarter 1**	229	448,140	448,140	448,140	0.00	0.00
	Quarter 2	224	450,422	450,422	450,422	0.00	0.00
	Quarter 3	228	452,814	452,814	452,814	0.00	0.00
	Quarter 4	208	455,627	455,627	455,627	0.00	0.00
Age Group	**12-17**	308	226,843	227,575	227,575	-0.32	0.00
	18-25	289	363,953	363,300	363,300	0.18	0.00
	26-34	115	317,518	318,071	318,071	-0.17	0.00
	35-49	121	438,918	431,471	431,471	1.73	0.00
	50-64	32	246,425	274,368	274,368	-10.18	0.00
	65+	24	213,345	192,219	192,219	10.99	0.00
Race	**White**	835	1,682,153	1,700,654	1,700,654	-1.09	0.00
	Black	9	17,455	15,028	15,028	16.15	0.00
	Other	45	107,396	91,322	91,322	17.60	0.00
Hispanicity	**Hispanic**	88	162,207	161,700	161,700	0.31	0.00
	Non-Hispanic	801	1,644,796	1,645,303	1,645,303	-0.03	0.00
Gender	**Male**	424	895,663	895,226	895,226	0.05	0.00
	Female	465	911,340	911,777	911,777	-0.05	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H47 2002 NSDUH Slippage Rates: Vermont

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		896	525,061	525,061	525,061	0.00	-0.00
Quarter	**Quarter 1**	264	130,786	130,786	130,786	0.00	0.00
	Quarter 2	210	131,146	131,146	131,146	0.00	0.00
	Quarter 3	212	131,427	131,427	131,427	0.00	-0.00
	Quarter 4	210	131,702	131,702	131,702	0.00	0.00
Age Group	**12-17**	313	53,677	53,892	53,892	-0.40	-0.00
	18-25	313	69,883	68,583	68,583	1.90	0.00
	26-34	68	63,772	64,858	64,858	-1.67	0.00
	35-49	132	149,042	151,245	151,245	-1.46	0.00
	50-64	41	112,283	111,147	111,147	1.02	0.00
	65+	29	76,403	75,337	75,337	1.42	-0.00
Race	**White**	856	503,812	510,661	510,661	-1.34	0.00
	Black	6	5,959	2,693	2,693	121.28	-0.00
	Other	34	15,290	11,707	11,707	30.61	0.00
Hispanicity	**Hispanic**	17	5,624	4,667	4,667	20.50	0.00
	Non-Hispanic	879	519,437	520,394	520,394	-0.18	-0.00
Gender	**Male**	455	255,858	255,858	255,858	0.00	-0.00
	Female	441	269,204	269,204	269,204	0.00	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H48 2002 NSDUH Slippage Rates: Virginia

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		884	5,862,299	5,862,299	5,862,299	0.00	0.00
Quarter	**Quarter 1**	269	1,458,350	1,458,350	1,458,350	0.00	0.00
	Quarter 2	163	1,463,397	1,463,397	1,463,397	0.00	0.00
	Quarter 3	251	1,468,283	1,468,283	1,468,283	0.00	0.00
	Quarter 4	201	1,472,269	1,472,269	1,472,269	0.00	0.00
Age Group	**12-17**	279	601,765	600,443	600,443	0.22	0.00
	18-25	339	732,677	728,869	728,869	0.52	0.00
	26-34	81	841,305	874,631	874,631	-3.81	0.00
	35-49	130	1,785,298	1,695,714	1,695,714	5.28	0.00
	50-64	38	1,335,564	1,181,474	1,181,474	13.04	0.00
	65+	17	565,690	781,168	781,168	-27.58	0.00
Race	**White**	571	4,330,492	4,428,147	4,428,147	-2.21	0.00
	Black	241	1,062,305	1,098,202	1,098,202	-3.27	0.00
	Other	72	469,502	335,950	335,950	39.75	0.00
Hispanicity	**Hispanic**	65	300,520	283,611	283,611	5.96	0.00
	Non-Hispanic	819	5,561,780	5,578,689	5,578,689	-0.30	0.00
Gender	**Male**	410	2,781,491	2,784,088	2,784,088	-0.09	0.00
	Female	474	3,080,808	3,078,212	3,078,212	0.08	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H49 2002 NSDUH Slippage Rates: Washington

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		901	4,962,300	4,962,300	4,962,300	0.00	0.00
Quarter	**Quarter 1**	186	1,233,701	1,233,701	1,233,701	0.00	0.00
	Quarter 2	235	1,238,525	1,238,525	1,238,525	0.00	0.00
	Quarter 3	228	1,242,913	1,242,913	1,242,913	0.00	0.00
	Quarter 4	252	1,247,161	1,247,161	1,247,161	0.00	0.00
Age Group	**12-17**	264	531,171	530,187	530,187	0.19	0.00
	18-25	302	634,557	640,479	640,479	-0.92	0.00
	26-34	110	760,055	747,608	747,608	1.66	0.00
	35-49	160	1,410,280	1,417,789	1,417,789	-0.53	0.00
	50-64	35	890,985	974,441	974,441	-8.56	0.00
	65+	30	735,251	651,796	651,796	12.80	0.00
Race	**White**	755	4,180,679	4,302,566	4,302,566	-2.83	0.00
	Black	15	135,254	151,722	151,722	-10.85	-0.00
	Other	131	646,366	508,012	508,012	27.23	0.00
Hispanicity	**Hispanic**	77	326,299	348,595	348,595	-6.40	0.00
	Non-Hispanic	824	4,636,000	4,613,704	4,613,704	0.48	0.00
Gender	**Male**	431	2,427,334	2,431,240	2,431,240	-0.16	0.00
	Female	470	2,534,965	2,531,059	2,531,059	0.15	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H50 2002 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		898	1,527,885	1,527,885	1,527,885	0.00	0.00
Quarter	**Quarter 1**	254	381,597	381,597	381,597	0.00	0.00
	Quarter 2	190	381,950	381,950	381,950	0.00	0.00
	Quarter 3	239	382,122	382,122	382,122	-0.00	0.00
	Quarter 4	215	382,215	382,215	382,215	-0.00	0.00
Age Group	**12-17**	305	139,220	139,243	139,243	-0.02	0.00
	18-25	292	196,251	193,439	193,439	1.45	0.00
	26-34	77	191,997	197,202	197,202	-2.64	0.00
	35-49	139	395,003	397,445	397,445	-0.61	0.00
	50-64	48	351,737	335,001	335,001	5.00	0.00
	65+	37	253,678	265,555	265,555	-4.47	0.00
Race	**White**	831	1,449,428	1,460,890	1,460,890	-0.78	0.00
	Black	40	43,041	44,300	44,300	-2.84	0.00
	Other	27	35,416	22,695	22,695	56.05	0.00
Hispanicity	**Hispanic**	11	6,593	9,880	9,880	-33.28	0.00
	Non-Hispanic	887	1,521,292	1,518,004	1,518,004	0.22	0.00
Gender	**Male**	433	741,785	736,114	736,114	0.77	0.00
	Female	465	786,100	791,771	791,771	-0.72	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H51 2002 NSDUH Slippage Rates: Wisconsin

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C %	(F-C)/C %
Total		887	4,511,335	4,511,335	4,511,335	0.00	0.00
Quarter	**Quarter 1**	266	1,123,368	1,123,368	1,123,368	-0.00	-0.00
	Quarter 2	208	1,126,474	1,126,474	1,126,474	-0.00	-0.00
	Quarter 3	229	1,129,314	1,129,314	1,129,314	0.00	0.00
	Quarter 4	184	1,132,180	1,132,180	1,132,180	0.00	0.00
Age Group	**12-17**	281	484,533	482,456	482,456	0.43	0.00
	18-25	336	608,876	613,508	613,508	-0.75	-0.00
	26-34	77	616,110	613,557	613,557	0.42	0.00
	35-49	121	1,283,528	1,270,839	1,270,839	1.00	0.00
	50-64	46	1,023,196	862,289	862,289	18.66	0.00
	65+	26	495,091	668,687	668,687	-25.96	-0.00
Race	**White**	789	4,102,367	4,134,101	4,134,101	-0.77	-0.00
	Black	57	228,532	225,451	225,451	1.37	0.00
	Other	41	180,435	151,783	151,783	18.88	0.00
Hispanicity	**Hispanic**	39	143,989	152,471	152,471	-5.56	0.00
	Non-Hispanic	848	4,367,346	4,358,863	4,358,864	0.19	-0.00
Gender	**Male**	409	2,205,393	2,210,279	2,210,279	-0.22	0.00
	Female	478	2,305,942	2,301,055	2,301,055	0.21	-0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Table H52 2002 NSDUH Slippage Rates: Wyoming

Domain		*n*	Initial Total (I)[1]	Final Total (F)[2]	Census Total (C)	(I-C)/C%	(F-C)/C%
Total		907	413,099	413,099	413,099	0.00	0.00
Quarter	**Quarter 1**	272	102,812	102,812	102,812	0.00	0.00
	Quarter 2	198	103,197	103,197	103,197	0.00	0.00
	Quarter 3	207	103,453	103,453	103,453	0.00	0.00
	Quarter 4	230	103,636	103,636	103,636	0.00	0.00
Age Group	**12-17**	296	46,174	45,958	45,958	0.47	0.00
	18-25	339	58,570	58,222	58,222	0.60	0.00
	26-34	62	52,104	51,512	51,512	1.15	0.00
	35-49	134	110,666	113,442	113,442	-2.45	0.00
	50-64	53	104,845	87,436	87,436	19.91	0.00
	65+	23	40,739	56,530	56,530	-27.93	0.00
Race	**White**	830	393,509	394,244	394,244	-0.19	0.00
	Black	9	3,786	3,081	3,081	22.89	-0.00
	Other	68	15,803	15,774	15,774	0.18	0.00
Hispanicity	**Hispanic**	75	26,261	24,984	24,984	5.11	0.00
	Non-Hispanic	832	386,838	388,115	388,115	-0.33	0.00
Gender	**Male**	441	205,277	205,464	205,464	-0.09	0.00
	Female	466	207,822	207,635	207,635	0.09	0.00

[1] Weight1*...*Weight12 (before person poststratification).
[2] Weight1*...*Weight13 (after person poststratification).

Appendix I

Evaluation of Calibration Weights: Weight Summary Statistics

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Table I.1 2002 NSDUH Dwelling Unit–Level Weight Summary Statistics: United States, District of Columbia, and the 50 States

Domain	n	Before res.du.nr (Weight1*...*Weight6)[1]						After res.du.nr & Before res.du.ps (Weight1*...*Weight7)[1]						After res.du.ps (Weight1*...*Weight8)[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	136,349	19	417	567	913	6,749	1.43	39	451	626	988	7,005	1.43	14	471	691	1,094	10,757	1.43
Alaska	1,751	78	87	98	109	130	1.02	78	94	106	122	143	1.02	14	107	124	147	373	1.08
Alabama	1,852	698	733	795	1,012	1,082	1.02	712	794	897	1,101	1,369	1.03	80	834	934	1,084	3,185	1.08
Arkansas	2,005	386	402	453	479	638	1.03	390	418	475	509	702	1.03	68	453	493	630	2,056	1.09
Arizona	1,770	451	726	758	1,032	2,083	1.08	540	753	883	1,103	2,099	1.08	111	857	1,068	1,333	5,272	1.10
California	6,816	167	1,262	1,350	1,398	1,964	1.02	1,212	1,414	1,490	1,620	2,954	1.03	152	1,523	1,684	1,974	6,085	1.06
Colorado	1,664	493	740	799	863	925	1.01	591	821	883	943	1,319	1.01	102	897	1,025	1,138	4,254	1.08
Connecticut	2,227	320	333	465	546	589	1.04	332	401	529	588	1,115	1.04	44	503	563	639	2,451	1.12
District of Columbia	2,608	36	65	69	76	106	1.04	61	76	85	98	138	1.04	20	83	98	115	385	1.08
Delaware	1,908	75	112	120	146	600	1.11	84	125	137	175	505	1.08	24	134	155	186	533	1.10
Florida	7,723	136	626	686	723	2,111	1.05	493	686	754	834	1,560	1.04	109	761	856	956	2,287	1.06
Georgia	1,660	112	1,339	1,395	1,440	1,525	1.00	1,083	1,502	1,575	1,646	1,902	1.01	225	1,607	1,890	2,105	10,757	1.08
Hawaii	1,759	30	165	174	184	262	1.02	142	178	190	217	282	1.02	42	184	212	254	799	1.10
Iowa	1,835	445	474	530	575	697	1.02	477	506	562	616	746	1.02	100	533	622	748	2,296	1.10
Idaho	1,515	214	232	254	308	376	1.02	231	253	284	322	397	1.02	58	284	322	370	1,010	1.06
Illinois	6,986	19	490	503	527	568	1.00	421	548	583	628	987	1.01	129	603	651	715	2,129	1.03
Indiana	1,856	36	954	1,134	1,333	1,766	1.03	927	1,038	1,184	1,382	1,892	1.03	101	1,105	1,207	1,419	5,130	1.10
Kansas	1,579	482	502	602	624	730	1.02	491	587	642	672	804	1.02	107	583	655	760	1,530	1.05
Kentucky	2,155	582	602	612	700	744	1.01	588	634	673	734	861	1.01	70	684	749	856	3,495	1.06
Louisiana	1,701	654	681	789	939	1,294	1.06	665	736	839	1,032	1,481	1.06	96	783	925	1,225	3,005	1.09
Massachusetts	1,930	913	954	978	1,023	2,074	1.00	935	1,070	1,119	1,193	2,626	1.01	111	1,136	1,223	1,332	7,462	1.11
Maryland	1,610	274	900	977	1,029	1,236	1.01	689	1,016	1,092	1,188	1,501	1.01	252	1,121	1,280	1,470	2,431	1.05
Maine	2,082	175	184	218	228	240	1.01	188	205	236	256	424	1.01	23	227	254	283	988	1.07
Michigan	7,414	131	415	422	435	853	1.01	219	445	461	495	1,242	1.02	59	475	507	560	2,063	1.03
Minnesota	1,765	809	915	941	965	1,039	1.00	828	942	1,009	1,046	1,152	1.00	197	1,035	1,142	1,268	3,302	1.05
Missouri	2,098	434	782	930	1,041	3,928	1.06	596	857	1,055	1,120	1,400	1.02	83	975	1,115	1,237	2,637	1.05

[1] Weight1-Weight6 are design-based weight components; nr = nonresponse adjustment, ps = poststratification.

(continued)

[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.

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

Table I.1 2002 NSDUH Dwelling Unit–Level Weight Summary Statistics: United States, District of Columbia, and the 50 States (continued)

Domain	n	Before res.du.nr (Weight1*...*Weight6)[1]						After res.du.nr & Before res.du.ps (Weight1*...*Weight7)[1]						After res.du.ps (Weight1*...*Weight8)[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	1,508	331	479	510	544	646	1.04	342	506	557	652	854	1.05	137	563	676	815	2,342	1.10
Montana	2,057	120	130	156	173	185	1.02	127	143	165	182	201	1.02	38	165	175	194	597	1.05
North Carolina	1,792	328	1,293	1,331	1,360	1,995	1.02	1,215	1,389	1,427	1,545	2,303	1.02	346	1,481	1,710	2,063	8,832	1.10
North Dakota	1,770	39	108	111	123	176	1.04	39	113	119	134	205	1.04	20	128	142	160	392	1.06
Nebraska	1,652	322	349	408	446	485	1.01	322	370	439	471	565	1.01	55	334	395	478	1,419	1.09
New Hampshire	1,966	187	195	205	236	584	1.04	204	214	225	263	368	1.03	39	221	245	301	1,202	1.09
New Jersey	2,042	732	771	1,257	1,358	1,628	1.05	802	1,188	1,409	1,502	1,876	1.05	462	1,328	1,475	1,697	8,520	1.09
New Mexico	1,236	342	365	386	441	493	1.01	350	435	479	522	2,033	1.15	50	454	528	650	2,488	1.13
Nevada	1,956	99	256	270	284	463	1.02	179	273	281	302	492	1.01	42	337	376	446	1,706	1.11
New York	7,516	380	619	639	657	1,203	1.04	380	677	742	825	1,320	1.05	295	784	895	1,060	3,769	1.08
Ohio	7,476	173	462	488	550	1,012	1.02	319	491	519	594	870	1.02	139	519	591	650	2,151	1.05
Oklahoma	1,791	505	533	648	670	740	1.01	515	596	710	743	829	1.02	110	651	746	849	2,374	1.09
Oregon	2,019	439	459	551	710	754	1.04	449	492	585	767	840	1.04	141	595	692	785	2,226	1.07
Pennsylvania	7,710	98	504	521	536	804	1.01	364	547	567	605	3,599	1.03	183	568	623	683	2,474	1.03
Rhode Island	1,883	26	148	192	204	294	1.02	151	172	214	228	307	1.02	20	194	234	261	1,057	1.09
South Carolina	1,729	84	699	789	818	1,196	1.04	544	741	819	897	1,475	1.04	132	756	880	1,047	3,273	1.08
South Dakota	1,632	110	120	134	188	222	1.06	116	128	142	203	235	1.06	15	147	182	209	527	1.07
Tennessee	2,212	204	739	861	1,050	6,749	2.15	348	791	920	1,142	7,005	2.16	80	788	928	1,185	8,325	1.36
Texas	5,960	126	973	1,086	1,169	2,494	1.02	690	1,075	1,185	1,295	2,076	1.02	142	1,142	1,301	1,467	5,036	1.04
Utah	1,264	376	486	525	564	783	1.02	376	507	549	606	831	1.02	125	523	594	653	2,738	1.05
Virginia	1,873	200	1,134	1,233	1,381	2,273	1.01	876	1,287	1,380	1,554	2,839	1.02	249	1,266	1,445	1,674	6,020	1.07
Vermont	1,803	100	105	109	121	643	1.13	104	109	118	139	230	1.03	14	129	143	155	433	1.04
Washington	1,832	602	964	991	1,037	1,994	1.01	917	1,022	1,075	1,158	1,994	1.01	126	1,107	1,247	1,432	4,795	1.06
Wisconsin	1,587	857	915	934	956	2,493	1.04	901	977	1,007	1,055	2,316	1.04	249	1,127	1,235	1,427	4,739	1.09
West Virginia	2,169	241	254	276	292	409	1.03	248	271	293	314	431	1.03	48	292	324	377	1,582	1.08
Wyoming	1,645	87	92	94	98	117	1.01	89	96	100	104	129	1.01	32	112	123	137	371	1.04

[1] Weight1-Weight6 are design-based weight components; nr = nonresponse adjustment, ps = poststratification.
[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[3] Unequal weighting effect defined as $1+[(n-1)/n]* CV^2$, where CV = coefficient of variation of weights.

Table I.2 2002 NSDUH Selected Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States

Domain	n	Before sel.per.ps (Weight1*...*Weight10)[1]						After sel.per.ps (Weight1*...*Weight11)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
United States	80,581	16	680	1,246	3,364	83,104	2.94	6	670	1,244	3,333	63,242	3.04
Alaska	1,067	24	147	189	577	4,126	2.36	40	139	196	620	4,260	2.56
Alabama	1,103	81	970	1,287	4,960	31,832	2.21	36	946	1,379	4,640	25,410	2.30
Arkansas	1,054	84	608	975	2,979	21,051	2.12	26	597	997	3,232	12,878	2.00
Arizona	1,078	112	1,240	1,705	5,706	27,183	2.20	33	1,218	1,826	5,655	33,127	2.33
California	4,363	197	2,023	2,765	9,794	66,449	2.10	217	2,013	2,829	9,626	63,242	2.21
Colorado	1,087	113	1,004	1,320	5,514	43,755	2.46	22	959	1,364	5,446	32,186	2.34
Connecticut	1,188	48	634	902	3,823	23,644	2.62	10	590	931	3,291	35,075	2.70
District of Columbia	979	24	101	242	762	3,040	2.19	11	93	234	690	5,040	2.82
Delaware	1,159	33	170	253	792	4,576	2.24	20	165	272	774	3,638	2.19
Florida	4,340	128	882	1,120	5,367	25,466	2.29	53	880	1,153	5,265	35,930	2.27
Georgia	1,066	256	2,047	3,045	10,047	31,652	1.97	74	2,041	3,219	9,295	54,694	2.09
Hawaii	1,111	53	269	409	1,298	7,233	2.14	39	275	450	1,227	6,505	2.08
Iowa	1,028	130	776	1,103	3,071	13,058	2.11	83	738	1,131	3,060	16,225	2.27
Idaho	1,052	62	345	489	1,535	8,383	2.03	59	354	490	1,479	6,381	2.06
Illinois	4,613	159	679	851	3,561	27,309	2.21	90	682	894	3,441	19,344	2.28
Indiana	1,123	102	1,294	1,705	7,092	29,063	2.35	42	1,300	1,890	6,642	31,250	2.37
Kansas	1,041	154	737	904	3,026	17,833	2.27	38	673	902	2,866	24,423	2.32
Kentucky	1,098	71	893	1,332	4,627	17,455	2.15	16	876	1,326	4,512	22,512	2.37
Louisiana	1,070	114	1,097	1,592	4,272	36,380	2.35	110	1,069	1,558	4,620	23,428	2.22
Massachusetts	1,142	112	1,200	1,687	7,407	54,524	2.32	69	1,185	1,795	6,881	45,506	2.42
Maryland	1,039	318	1,285	1,595	5,848	28,230	2.35	62	1,236	1,639	6,117	33,983	2.73
Maine	1,017	39	302	393	1,712	6,836	2.39	29	304	410	1,486	9,103	2.60
Michigan	4,432	65	562	681	2,866	13,704	2.24	84	555	735	2,702	15,420	2.36
Minnesota	996	243	1,320	1,686	5,946	20,439	2.15	127	1,300	1,728	6,498	30,663	2.29
Missouri	1,039	107	1,336	1,803	6,403	28,204	2.33	21	1,350	1,865	6,550	33,078	2.43

[1] Weight1*...*Weight10 and Weight1*...*Weight11 used demographic variables from screener data; ps = poststratification.

(continued)

[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.

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

Table I.2 2002 NSDUH Selected Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States (continued)

Domain	n	Before sel.per.ps (Weight1*...*Weight10)[1]						After sel.per.ps (Weight1*...*Weight11)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
Mississippi	988	160	722	1,139	3,116	16,119	2.20	16	706	1,155	2,848	32,369	2.64
Montana	1,075	38	223	324	1,111	3,346	2.00	6	222	330	1,052	2,992	1.98
North Carolina	1,046	367	1,868	2,518	10,095	52,005	2.33	493	1,837	2,632	9,334	48,043	2.26
North Dakota	1,011	25	162	248	680	3,502	2.32	14	157	231	683	3,860	2.44
Nebraska	1,042	56	404	619	2,027	7,860	2.03	11	384	611	2,040	12,019	2.23
New Hampshire	1,092	40	261	355	1,431	7,475	2.52	6	263	375	1,282	7,581	2.87
New Jersey	1,065	521	1,683	2,220	10,137	83,104	2.28	347	1,741	2,372	11,161	52,713	2.30
New Mexico	794	69	559	857	2,703	20,765	2.39	33	472	851	2,396	24,770	2.63
Nevada	1,147	70	425	581	2,364	15,203	2.21	7	421	617	2,246	15,862	2.45
New York	4,615	389	913	1,288	4,907	32,888	2.38	230	931	1,369	4,727	29,837	2.45
Ohio	4,221	147	672	869	3,326	17,179	2.11	70	682	902	3,344	21,024	2.19
Oklahoma	1,100	156	796	1,160	3,451	18,480	2.32	87	755	1,185	3,209	28,799	2.76
Oregon	1,071	153	812	1,078	4,276	17,390	2.16	126	774	1,079	4,143	24,680	2.38
Pennsylvania	4,251	281	682	845	3,672	18,451	2.33	277	696	882	3,729	20,733	2.40
Rhode Island	1,107	21	245	342	1,173	5,775	2.28	14	208	350	1,055	8,774	2.58
South Carolina	1,091	209	827	1,173	4,312	23,919	2.55	46	771	1,240	4,329	30,234	2.74
South Dakota	1,013	16	191	269	886	6,809	2.22	14	185	263	998	4,945	2.15
Tennessee	1,057	85	1,166	2,482	5,715	57,237	2.54	8	1,090	2,484	5,301	28,842	2.39
Texas	4,212	183	1,424	1,815	6,298	42,181	2.07	69	1,408	1,876	6,331	49,536	2.10
Utah	990	341	804	1,066	2,380	9,168	1.66	36	791	1,077	2,385	11,297	1.81
Virginia	1,069	393	1,583	2,112	8,699	41,739	2.35	115	1,477	2,223	7,034	41,751	2.52
Vermont	1,013	26	146	179	681	3,311	2.54	33	148	192	751	4,076	2.61
Washington	1,079	199	1,470	2,127	6,601	42,038	2.07	153	1,474	2,221	6,244	44,397	2.12
Wisconsin	1,029	301	1,279	1,724	6,621	42,569	2.34	90	1,313	1,754	6,281	38,070	2.31
West Virginia	1,059	67	418	590	2,185	9,900	2.15	11	414	603	2,033	13,134	2.32
Wyoming	1,059	35	129	161	590	3,291	2.25	26	134	167	561	2,985	2.23

[1] Weight1*...*Weight10 and Weight1*...*Weight11 used demographic variables from screener data; ps = poststratification.
[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[3] Unequal weighting effect defined as $1+[(n-1)/n]* CV^2$, where CV = coefficient of variation of weights.

Table I.3 2002 NSDUH Respondent Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States

Domain	n	Before res.per.nr (Weight1*...*Weight11)[1]						After res.per.nr (Weight1*...*Weight12)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
United States	68,126	6	650	1,183	2,967	56,735	3.09	6	730	1,360	3,587	88,527	3.61
Alaska	915	40	139	193	557	4,167	2.54	42	153	224	634	5,939	2.87
Alabama	960	36	936	1,334	4,237	25,410	2.35	36	1,012	1,488	4,840	29,412	2.65
Arkansas	877	26	575	948	2,872	12,878	2.06	46	659	1,052	3,745	18,610	2.36
Arizona	924	33	1,171	1,716	4,978	33,127	2.42	33	1,281	1,968	6,240	37,462	2.62
California	3,599	217	1,960	2,654	8,941	56,735	2.26	221	2,206	3,131	10,735	88,527	2.68
Colorado	914	22	940	1,336	5,141	32,186	2.41	22	1,072	1,575	6,061	32,182	2.45
Connecticut	977	11	573	908	02,869	19,959	2.66	11	689	1,066	3,358	50,606	3.30
District of Columbia	864	11	90	229	655	5,040	2.89	27	103	255	774	6,410	2.95
Delaware	964	20	161	255	702	3,527	2.24	20	176	302	892	7,563	2.52
Florida	3,653	53	866	1,119	4,484	35,930	2.39	101	964	1,280	5,587	37,208	2.65
Georgia	897	120	2,039	3,133	8,942	38,801	2.02	186	2,265	3,519	10,167	62,018	2.56
Hawaii	925	39	269	425	1,107	6,339	2.10	49	290	472	1,359	10,350	2.54
Iowa	894	83	730	1,121	2,949	16,225	2.30	85	799	1,258	3,565	22,913	2.41
Idaho	907	59	349	476	1,358	6,381	2.11	59	385	544	1,643	10,859	2.26
Illinois	3,729	90	666	857	3,212	18,329	2.31	90	757	1,042	3,968	47,271	2.80
Indiana	945	42	1,295	1,878	6,150	28,667	2.35	42	1,452	2,118	7,587	68,126	2.87
Kansas	898	91	670	877	2,433	13,372	2.25	91	701	934	3,230	15,634	2.47
Kentucky	909	16	852	1,253	4,431	22,512	2.47	55	1,023	1,528	5,629	24,978	2.44
Louisiana	930	110	1,055	1,544	4,437	23,428	2.22	118	1,183	1,795	5,071	35,035	2.46
Massachusetts	916	85	1,168	1,728	5,835	36,396	2.46	85	1,283	1,899	7,415	62,412	3.12
Maryland	919	62	1,204	1,602	5,459	33,983	2.75	322	1,310	1,754	6,177	67,502	3.45
Maine	906	29	302	408	1,470	9,103	2.59	29	320	454	1,603	11,906	2.79
Michigan	3,792	84	553	715	2,548	13,836	2.40	84	619	813	3,170	22,614	2.58
Minnesota	873	127	1,286	1,701	5,865	30,663	2.36	127	1,422	1,900	6,820	31,570	2.48
Missouri	890	21	1,343	1,844	5,913	33,078	2.50	21	1,479	2,041	7,636	47,607	2.65

[1] Weight1*...*Weight11 and Weight1*...*Weight12 used demographic variables from screener data; nr = nonresponse adjustment.

(continued)

[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.

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

Table I.3 2002 NSDUH Respondent Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States (continued)

Domain	n	Before res.per.nr (Weight1*...*Weight11)[1]						After res.per.nr (Weight1*...*Weight12)[1]					
		Min	Q1[2]	Med	Q3[2]	Max	UWE[3]	Min	Q1[2]	Med	Q3[2]	Max	UWE[3]
Mississippi	839	16	689	1,100	2,327	32,369	2.79	16	744	1,275	2,907	38,539	3.04
Montana	914	6	215	313	1,031	2,992	2.03	6	241	364	1,304	4,313	2.12
North Carolina	902	742	1,801	2,582	8,769	48,043	2.32	811	1,981	2,865	10,148	65,341	2.62
North Dakota	913	14	149	225	601	3,860	2.48	14	158	235	729	5,128	2.77
Nebraska	891	11	380	597	1,952	12,019	2.26	11	433	651	2,423	19,119	2.34
New Hampshire	910	6	260	372	1,141	7,581	2.86	6	288	429	1,340	13,020	3.36
New Jersey	854	347	1,711	2,261	10,054	52,713	2.43	347	1,968	2,752	12,752	57,881	2.61
New Mexico	674	33	458	806	2,302	24,770	2.73	39	530	955	2,690	21,989	2.74
Nevada	954	11	418	583	1,859	11,168	2.48	11	455	660	2,148	21,837	3.24
New York	3,716	230	901	1,296	4,279	28,149	2.48	251	1,037	1,567	5,255	79,597	3.15
Ohio	3,554	86	675	871	3,122	15,262	2.22	86	759	1,014	3,831	33,454	2.58
Oklahoma	922	87	748	1,134	2,881	28,799	2.81	93	886	1,289	3,580	36,738	3.12
Oregon	917	126	766	1,058	3,844	24,680	2.40	126	828	1,221	4,560	26,182	2.64
Pennsylvania	3,606	277	687	860	3,381	19,926	2.46	277	759	994	4,098	47,074	2.77
Rhode Island	925	14	201	328	894	8,774	2.74	14	225	363	1,128	15,927	3.47
South Carolina	913	46	764	1,149	4,057	30,234	2.90	46	909	1,368	5,337	32,477	2.90
South Dakota	914	14	182	256	951	4,945	2.21	14	196	295	1,064	5,818	2.34
Tennessee	920	8	1,049	2,375	5,176	28,842	2.44	9	1,150	2,724	6,487	44,155	2.51
Texas	3,649	69	1,395	1,845	5,749	46,084	2.11	70	1,550	2,084	6,899	69,176	2.31
Utah	889	36	774	1,036	2,249	11,297	1.81	36	802	1,139	2,507	17,717	2.11
Virginia	884	115	1,466	2,152	6,511	41,545	2.58	121	1,607	2,440	7,851	72,245	3.25
Vermont	896	33	148	192	751	4,076	2.61	33	161	213	814	5,092	2.71
Washington	901	153	1,464	2,120	6,015	44,397	2.10	163	1,611	2,423	7,195	46,108	2.48
Wisconsin	887	90	1,313	1,691	6,113	38,070	2.36	327	1,459	1,998	7,331	42,743	2.53
West Virginia	898	11	398	579	1,948	13,134	2.40	11	453	683	2,334	13,908	2.63
Wyoming	907	26	133	165	492	2,985	2.26	26	147	184	615	3,233	2.56

[1] Weight1*...*Weight11 and Weight1*...*Weight12 used demographic variables from screener data; nr = nonresponse adjustment.
[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[3] Unequal weighting effect defined as $1+[(n-1)/n]* CV^2$, where CV = coefficient of variation of weights.

Table I.4 2002 NSDUH Respondent Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States

Domain	n	Before res.per.ps (Weight1*...*Weight12)[1]						After res.per.ps & Before res.per.ev (Weight1*...*Weight13)[1]						Final Weight After res.per.ev (Weight1*...*Weight14)[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	68,126	6	730	1,360	3,587	88,527	3.61	1	704	1,348	3,552	107,077	3.75	1	703	1,352	3,557	102,497	3.72
Alaska	915	42	153	224	634	5,939	2.87	12	150	222	628	5,423	2.80	9	150	222	624	5,136	2.80
Alabama	960	36	1,012	1,488	4,840	29,412	2.65	19	1,042	1,511	4,886	36,667	2.69	20	1,041	1,520	4,875	36,667	2.69
Arkansas	877	46	659	1,052	3,745	18,610	2.36	5	653	1,073	3,706	26,567	2.43	5	653	1,071	3,675	26,567	2.43
Arizona	924	33	1,281	1,968	6,240	37,462	2.62	6	1,226	2,086	6,108	37,607	2.65	6	1,225	2,088	6,091	36,772	2.63
California	3,599	221	2,206	3,131	10,735	88,527	2.68	27	2,229	3,346	10,673	107,077	2.89	27	2,222	3,341	10,665	102,497	2.88
Colorado	914	22	1,072	1,575	6,061	32,182	2.45	2	1,049	1,605	5,930	39,700	2.62	3	1,052	1,628	5,900	37,476	2.62
Connecticut	977	11	689	1,066	3,358	50,606	3.30	2	680	1,077	3,329	26,939	2.91	1	682	1,076	3,317	28,619	2.92
District of Columbia	864	27	103	255	774	6,410	2.95	5	103	254	816	7,557	3.19	4	105	253	825	7,619	3.18
Delaware	964	20	176	302	892	7,563	2.52	6	175	307	901	7,225	2.51	3	176	314	897	6,478	2.49
Florida	3,653	101	964	1,280	5,587	37,208	2.65	23	996	1,337	5,412	45,753	2.68	24	997	1,344	5,450	29,603	2.67
Georgia	897	186	2,265	3,519	10,167	62,018	2.56	19	2,241	3,619	10,194	81,815	2.70	11	2,225	3,609	10,354	82,599	2.68
Hawaii	925	49	290	472	1,359	10,350	2.54	8	306	519	1,353	10,984	2.64	6	306	522	1,346	10,285	2.66
Iowa	894	85	799	1,258	3,565	22,913	2.41	14	791	1,264	3,536	24,229	2.44	12	792	1,271	3,504	22,757	2.42
Idaho	907	59	385	544	1,643	10,859	2.26	9	380	559	1,588	9,549	2.32	9	378	557	1,569	8,500	2.30
Illinois	3,729	90	757	1,042	3,968	47,271	2.80	27	747	1,071	3,857	53,997	2.91	34	752	1,075	3,851	49,872	2.87
Indiana	945	42	1,452	2,118	7,587	68,126	2.87	9	1,424	2,127	7,177	55,799	2.83	5	1,432	2,136	6,944	54,530	2.83
Kansas	898	91	701	934	3,230	15,634	2.47	21	724	982	3,120	18,434	2.52	18	726	994	3,072	18,506	2.52
Kentucky	909	55	1,023	1,528	5,629	24,978	2.44	45	1,030	1,484	5,679	33,428	2.54	40	1,044	1,501	5,649	32,834	2.53
Louisiana	930	118	1,183	1,795	5,071	35,035	2.46	107	1,215	1,779	4,886	36,376	2.53	95	1,219	1,788	4,893	34,733	2.51
Massachusetts	916	85	1,283	1,899	7,415	62,412	3.12	9	1,301	1,980	7,139	68,919	3.32	3	1,323	2,010	7,244	57,486	3.25
Maryland	919	322	1,310	1,754	6,177	67,502	3.45	96	1,344	1,792	6,366	93,311	3.63	54	1,363	1,794	6,410	72,192	3.55
Maine	906	29	320	454	1,603	11,906	2.79	4	326	463	1,581	14,556	2.79	1	326	465	1,580	14,747	2.79
Michigan	3,792	84	619	813	3,170	22,614	2.58	10	621	823	3,172	19,343	2.56	6	622	824	3,161	17,955	2.56
Minnesota	873	127	1,422	1,900	6,820	31,570	2.48	30	1,400	1,869	6,831	41,498	2.58	22	1,402	1,875	6,773	37,762	2.57
Missouri	890	21	1,479	2,041	7,636	47,607	2.65	18	1,473	2,046	7,540	44,856	2.66	13	1,480	2,067	7,523	44,254	2.65

[1] Weight1*...*Weight12, Weight1*…*Weight13, and Weight1*...*Weight14 used demographic variables from questionnaire data; ps = poststratification, ev = extreme value adjustment.
[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[3] Unequal weighting effect defined as $1+[(n-1)/n]* CV^2$, where CV = coefficient of variation of weights.

Table I.4 2002 NSDUH Respondent Person-Level Weight Summary Statistics: United States, District of Columbia, and the 50 States (continued)

Domain	n	Before res.per.ps (Weight1*...*Weight12) [1]						After res.per.ps & Before res.per.ev (Weight1*...*Weight13) [1]						Final Weight After res.per.ps (Weight1*...*Weight14) [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	839	16	744	1,275	2,907	38,539	3.04	3	734	1,233	2,963	30,349	3.09	2	745	1,248	2,918	29,923	3.09
Montana	914	6	241	364	1,304	4,313	2.12	2	247	371	1,293	4,522	2.12	15	247	374	1,302	4,524	2.11
North Carolina	902	811	1,981	2,865	10,148	65,341	2.62	151	1,948	2,871	10,108	70,973	2.73	124	1,952	2,885	10,061	66,686	2.73
North Dakota	913	14	158	235	729	5,128	2.77	5	166	238	718	7,696	2.85	4	165	238	716	8,144	2.86
Nebraska	891	11	433	651	2,423	19,119	2.34	13	462	690	2,286	27,744	2.63	10	459	693	2,282	27,443	2.61
New Hampshire	910	6	288	429	1,340	13,020	3.36	4	277	424	1,323	14,376	3.38	1	275	420	1,333	14,418	3.39
New Jersey	854	347	1,968	2,752	12,752	57,881	2.61	100	2,001	2,898	12,518	73,840	2.81	40	1,951	2,878	12,369	65,348	2.78
New Mexico	674	39	530	955	2,690	21,989	2.74	33	549	960	2,648	27,204	2.93	34	555	993	2,600	26,040	2.92
Nevada	954	11	455	660	2,148	21,837	3.24	1	435	659	2,086	40,159	3.57	1	443	663	2,054	35,651	3.46
New York	3,716	251	1,037	1,567	5,255	79,597	3.15	39	1,046	1,613	5,001	73,386	3.28	23	1,033	1,622	4,938	53,956	3.22
Ohio	3,554	86	759	1,014	3,831	33,454	2.58	25	771	1,032	3,730	27,835	2.54	14	771	1,033	3,724	24,539	2.53
Oklahoma	922	93	886	1,289	3,580	36,738	3.12	26	845	1,313	3,443	56,730	3.52	21	841	1,324	3,460	54,246	3.46
Oregon	917	126	828	1,221	4,560	26,182	2.64	75	847	1,260	4,245	40,289	2.84	51	858	1,286	4,278	41,437	2.83
Pennsylvania	3,606	277	759	994	4,098	47,074	2.77	36	753	1,007	4,016	29,778	2.77	14	754	1,008	3,982	26,388	2.76
Rhode Island	925	14	225	363	1,128	15,927	3.47	2	215	364	1,126	24,300	3.75	3	216	367	1,142	17,084	3.42
South Carolina	913	46	909	1,368	5,337	32,477	2.90	39	889	1,391	5,037	43,411	3.07	26	891	1,392	5,017	43,687	3.05
South Dakota	914	14	196	295	1,064	5,818	2.34	6	193	295	1,033	9,140	2.46	5	194	296	1,026	9,441	2.47
Tennessee	920	9	1,150	2,724	6,487	44,155	2.51	15	1,137	2,591	6,482	43,899	2.43	11	1,136	2,574	6,577	38,873	2.39
Texas	3,649	70	1,550	2,084	6,899	69,176	2.31	7	1,576	2,158	6,786	39,840	2.30	6	1,579	2,159	6,784	38,821	2.30
Utah	889	36	802	1,139	2,507	17,717	2.11	9	796	1,127	2,485	16,783	2.20	10	792	1,127	2,469	16,690	2.20
Virginia	884	121	1,607	2,440	7,851	72,245	3.25	15	1,578	2,402	7,815	86,083	3.30	13	1,575	2,422	7,909	82,222	3.27
Vermont	896	33	161	213	814	5,092	2.71	3	161	220	844	9,350	2.84	1	162	222	843	8,655	2.81
Washington	901	163	1,611	2,423	7,195	46,108	2.48	30	1,682	2,581	6,920	44,647	2.55	26	1,679	2,602	6,979	45,100	2.54
Wisconsin	887	327	1,459	1,998	7,331	42,743	2.53	36	1,439	1,985	7,675	44,184	2.57	40	1,436	1,979	7,653	41,448	2.56
West Virginia	898	11	453	683	2,334	13,908	2.63	3	458	668	2,347	13,885	2.63	3	459	671	2,348	13,963	2.63
Wyoming	907	26	147	184	615	3,233	2.56	8	145	189	617	5,490	2.71	10	145	189	617	5,490	2.70

[1] Weight1*...*Weight12, Weight1*…*Weight13, and Weight1*...*Weight14 used demographic variables from questionnaire data; ps = poststratification, ev = extreme value adjustment.
[2] Q1 and Q3 refer to the first and third quartile of the weight distribution.
[3] Unequal weighting effect defined as $1+[(n-1)/n]* CV^2$, where CV = coefficient of variation of weight.