1. (2015 NSDUH Methodological Summary and Definitions): <https://www.samhsa.gov/data/sites/default/files/NSDUH-MethodSummDefsHTML-2015/NSDUH-MethodSummDefsHTML-2015/NSDUH-MethodSummDefs-2015.pdf>

* "In 2015, some substantial changes were made to data collection equipment, respondent materials, and the survey questionnaire used for NSDUH. Changes were made to the NSDUH data collection equipment including the handheld computer and laptops based on recent technological improvements. Several NSDUH respondent materials, such as a question-and-answer brochure, were redesigned or updated for the 2015 survey to increase their appeal with potential respondents and to reflect the most current information. The changes made to the survey questionnaire were intended to improve the quality of the data collected and to address changing substance use and mental health policy and research needs. The 2015 changes to data collection equipment, respondent materials, and the survey questionnaire were evaluated in field tests during 2012 and 2013, with appropriate adjustments being made as a result of those pretests (CBHSQ, 2014c, 2014d). -page 6
* The data collection methods that are used in NSDUH to conduct in-person interviews with sampled individuals incorporate procedures to increase respondents' cooperation and willingness to report honestly about sensitive topics, such as illicit drug use behavior and mental health issues. The changes that were described previously for 2015 also were intended to increase respondents' cooperation and willingness to provide information about sensitive topics. -page 6
* "NSDUH utilizes widely accepted methodological practices for increasing the accuracy of self-reports, such as encouraging privacy through audio computer-assisted self-interviewing (ACASI) and providing assurances that individual responses will remain confidential" -page 36
* For substance use, demographic, and other key variables that still had missing or ambiguous values after editing, statistical imputation was used to replace these values with appropriate response codes. For estimates of SUDs (i.e., illicit drug or alcohol dependence or abuse) presented in reports and tables, missing values in the dependence or abuse variables for alcohol, marijuana, cocaine, and heroin were treated as though respondents did not meet the relevant criteria (i.e., they were treated the same as a response of "no"). AND Missing data were not imputed in 2015 for SUDs involving alcohol, marijuana, cocaine in any form (including crack cocaine), and heroin to preserve comparability of estimates in 2015 with those in 2002 to 2014 for measurement of trends. -pg 13
* The sampling error of an estimate is the error caused by the selection of a sample instead of conducting a census of the population. The sampling error may be reduced by selecting a large sample, by using efficient sample design and estimation strategies (such as stratification, optimal allocation, and ratio estimation), or by taking both approaches. The use of probability sampling methods in NSDUH allows estimation of sampling error from the survey data. Estimates based on NSDUH data are presented in reports and in sets of tables referred to as "detailed tables" that are available at http://www.samhsa.gov/data/. The national estimates, along with the associated standard errors (SEs, which are the square roots of the variances), were 24 computed for all detailed tables using a multiprocedure package, SUDAAN® Software for Statistical Analysis of Correlated Data. This software uses a Taylor series linearization approach that accounts for the effects of NSDUH's complex sample design features in estimating the SEs (RTI International, 2012). The SEs are used to identify unreliable estimates and to test for the statistical significance of differences between estimates. The final, nonresponse-adjusted, and poststratified analysis weights were used in SUDAAN to compute unbiased design-based estimates. -pg 24
* Note: No changes in heroin questions from 2014 to 2015 (and same 2015 to 2016).

2. (2015 NSDUH Methodological Resource Book Section 10: Editing and Imputation Report)

<https://www.samhsa.gov/data/sites/default/files/NSDUHmrbEditImputation2015.pdf>

* Response propensity is defined as the probability of response, whether at the unit level or item level. The purpose of response propensity is to adjust the sampling weights for item nonresponse so that the item respondent weights that are used only during the imputation process are representative of the entire domain of interest. In the RP step of PMN, the item response propensity is modeled as a function of a predetermined set of covariates. The model can be thought of as a special case of the generalized exponential model (GEM)31 developed for weighting procedures, in that imputations that are done at the item level are similar in nature to the weight adjustments made for entire units. -pg 63
* Moreover, because of the obvious problem of specifying an accurate probability distribution underlying survey data...-pg 74
* 6.5.1.6.1.4 Hierarchical Modeling For heroin, the proportion of users who were past year users was quite small when compared with the total number of lifetime users. The lopsided distributions115 for heroin caused convergence problems when fitting polytomous logistic models. To alleviate this problem, the single polytomous logistic model was replaced with two dichotomous logistic models116 that were fit hierarchically. -pg 231
* The LIFEREG procedure uses standard likelihood methods of inference and incorporates the survey weights. (dealing with income) -pg 392

3. (2015 NSDUH Methodological Resource Book Section 13: Statistical Inference Report) <https://www.samhsa.gov/data/sites/default/files/NSDUHmrbStatInference2015.pdf>

* Goal: Statistical inference occurs whenever data obtained from sample observations belonging to and considered representative of a larger target population are used to make generalizations concerning the larger population. Examples of conducting statistical inference include the use of the weighted estimate and the corresponding standard error of the number of users of illicit drugs2 based on a sample to make a statement about the number of users in the U.S. civilian, noninstitutionalized population -pg 1
* Prevalence estimates are the proportions of the population who exhibit characteristics of interest (such as substance use) -pg 9
* Logistic regression for mental health -pg 13
* To determine whether the observed difference between estimates is statistically significant, the degrees of freedom (df) are needed to locate the corresponding probability level (p value) of the test statistic. The test statistic is computed from the sample data and represents a numerical summary of the difference between the estimates under consideration; it is a random variable that has a predetermined distribution (such as Student's t, chi-square, or F). -pg 29

4. (2015 NSDUH: Person-level sampling weight calibration) <https://www.samhsa.gov/data/sites/default/files/NSDUHmrbSamplingWgt2015.pdf>

* Discusses selection of dwelling units and people to survey; adjusts design weights for nonresponse (based only on responding units), post-stratification (undercoverage bias and variance reduction), and extreme weight. -pg 7
* Process of adjustments: pg 14
* 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. -pg 35
* The 2015 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. -pg 23
* For poststratification, quarterly state-specific totals for the target population (civilian, noninstitutionalized, aged 12 or older) are required for 120 demographic domains defined by Age, Race, Gender, and Hispanicity (6 × 5 × 2 × 2) (Exhibit B.1). The Population Estimates Branch of the U.S. Census Bureau produced, in response to a special request, the necessary population estimates based on monthly state-level estimates of the target population, which were based on the enumerated population from the census. In general, the controls include adjustments for births, deaths, and net migration, as well as adjustments from the Count Question Resolution Program and any geography updates. However, the controls do not include any adjustments for the undercount or overcount of specific populations as determined from the 2010 Census Coverage Measurement Program -B-3 section

5. (State estimates of substance use from the 2001 National Household Survey on Drug Abuse: Volume II. Individual state tables and technical appendices) <https://babel.hathitrust.org/cgi/pt?id=coo.31924092417215&view=1up&seq=175>

* This seems like it's more about the change in estimates from one year to the next-pages 149-152

6. 2015-2016 Overview of NSDUH and Model-Based State Estimates:

<https://www.samhsa.gov/data/sites/default/files/NSDUHsaeMethodology2016/NSDUHsaeMethodology2016.htm#b.1>

* General information about state-estimates and references (5.)
* Section A4: confidence intervals and margins of error
* Section B1
* Section B5: The self-calibration built into the survey-weighted hierarchical Bayes (SWHB) solution ensures that the population-weighted average of the state small area estimates will closely match the national design-based estimates. The national design-based estimates in NSDUH are based entirely on survey-weighted data using a direct estimation approach, whereas the state and census region estimates are model-based.

7.  (2015 NSDUH Methodological Resource Book Section 2: Sample Design Report) <https://www.samhsa.gov/data/sites/default/files/NSDUHmrbSampleDesign2015.pdf>

* Sample weight flowchart -pg 43