

Attachment M

Sample Design

SAMPLE DESIGN

First and Second Stages of Selection: Census Tracts and Segments

The 2013 National Survey on Drug Use and Health (NSDUH) sample design provides for estimates by state in all 50 states and the District of Columbia. States may therefore be viewed as the “first level” of stratification as well as a reporting variable. Eight states, labeled as the “large” states in **Table 1**, will have a sample designed to yield 3,600 respondents per state. The remaining 43 (“small”) states¹, will have a sample designed to yield 900 respondents per state. Each state sample will be allocated equally to the three age groups 12 to 17, 18 to 25, and 26 or older. This national target sample size of 67,500 will consist of 22,500 for each of the three age groups.

The larger sample sizes obtained at the state level along with small area estimation techniques refined under previous survey contracts will enable the development of estimates for all states, for several demographic subgroups within each state (e.g., age group and race/ethnicity group), for some Core Based Statistical Areas (CBSAs), and for similar small areas.

A coordinated sample for the period 2005-2013² has been selected down to the area segment level as a means of coordinating the overlap of sample areas from year to year. The “second level” of stratification within the coordinated design was defined as contiguous geographic areas within each state. These state sampling (SS) regions are of approximately equal size in terms of the allocated sample.

The design of the first stage of selection began with the construction of an area sample frame that contained one record for each census tract in the United States. If necessary, census tracts were aggregated until each tract had, at a minimum, 150 dwelling units in urban areas and 100 dwelling units in rural areas. After primary sampling units (PSUs; one or more census tracts) were formed, a sample was selected within each SS region with probabilities proportionate to a composite size measure and with minimum replacement. Additional implicit stratification was achieved by sorting the first-stage sampling units by a CBSA/SES (socioeconomic status) indicator³ and by percent non-Hispanic white prior to selection.

For the second stage of sampling for the coordinated sample, each of the selected Census tracts was partitioned into clusters of dwelling units by aggregating adjacent Census blocks. Consistent with the terminology used in previous surveys, these geographic clusters of blocks are

¹ For reporting and stratification purposes, the District of Columbia is treated the same as a state and no distinction is made in the discussion.

² The coordinated design developed for the 2005-2009 NSDUHs was extended to the 2010, 2011 and 2012 NSDUHs and will also be used for the 2013 NSDUH. A total of 48 segments per SS region were selected for the 2005-2009 NSDUHs. Only 24 segments per region were used for these surveys; the remaining 24 segments constitute the "reserve" sample. Twelve reserve segments per region were used to support the 2010 through 2012 NSDUHs and the remaining 12 segments per region will be available for use in 2013.

³ Four categories are defined as: (1) CBSA/low SES, (2) CBSA /high SES, (3) Non-CBSA /low SES, and (4) Non CBSA /high SES.

referred to as *segments*. Segments were formed so that they contain at least 150 dwelling units in urban areas or 100 dwelling units in rural areas and were constructed using 2000 Decennial Census data supplemented with revised population counts obtained from outside sources. A sample *dwelling unit* in the survey refers to either a housing unit or a group quarters listing unit such as a dormitory room or a shelter bed.

One segment was selected within each selected Census tract with probability proportional to a composite size measure. Segments were formed so that they will contain sufficient numbers of dwelling units to support one field test and two annual survey samples. This allows half of the segments used in any given year's main sample to be used again in the following year as a means of improving the precision of measures of annual change. This also allows for any special supplemental sample or field test that SAMHSA may wish to conduct within the same segments.

A sample of 8 segments per SS region will be used for the 2013 survey year. These 8 segments will be randomly assigned to quarters and to two panels within each quarter. The panels used in the 2013 survey will be designated as panels 9 and 10. Panel 9 segments have been used for the 2012 survey and will be used for the second time in the 2013 survey. The panel 10 segments will be used for the 2013 survey only. Dwelling units that were not selected for the 2012 survey will be eligible for selection in the panel 9 segments in 2013.

Approximately one-fourth of the final sample of respondents will be collected from each calendar quarter. This design feature will help control the influence of seasonal variation on drug use prevalence estimates and other important survey outcome measures of interest.

Third Stage of Selection: Listed Lines

Before any sample selection within selected segments can proceed, specially trained field household listers will list all dwelling units and potential dwelling units within each selected area segment. A dwelling unit is either a housing unit for a single household or one of the eligible noninstitutional group quarters listing units that are part of the defined target population. The listings will be based primarily on observations of the area segment and may include vacant dwelling units and units that appear to be dwelling units but may actually be used for nonresidential purposes. The objective of the listing is to attain as complete a listing of eligible residential addresses as possible; any false positives for residences will be eliminated during the household screening process after the sample is selected.

The sampling frame for the third stage of sample selection will be the lines of listed dwelling units and potential dwelling units. After accounting for eligibility, nonresponse, and the fourth-stage sample selection procedures, it was determined that roughly 198,370 lines will need to be selected in order to obtain a sample of 67,500 responding persons distributed by state and age-group as shown in **Table 2**.

As in previous years, during the data collection period, if an interviewer encounters any new dwelling unit in a segment or finds a dwelling unit that was missed during the original counting and listing activities, then the new/missed dwellings will be selected into the 2013 survey using

the half open interval selection technique⁴. The selection technique eliminates any frame bias that might be introduced because of errors and/or omissions in the counting and listing activities and also eliminates any bias that might be associated with using “old” segment listings.

Fourth Stage of Selection: Persons

After dwelling units are selected within each segment, an interviewer will visit each selected dwelling unit to obtain a roster of all persons residing in the dwelling unit. This roster information will be used to select 0, 1, or 2 persons for the survey. Sampling rates will be pre-set by age group and state. Roster information will be entered directly into the electronic screening instrument which will automatically implement this fourth stage of selection based on the state and age group sampling parameters.

One exciting consequence of using an electronic screening instrument in the survey is the ability to efficiently sample from all possible pairs of respondents within a dwelling unit while preserving the target sampling rates for individuals within 5 age groups (12 to 17, 18 to 25, 26 to 34, 35 to 49, and 50 or older). Using an adaptation of Brewer’s method for samples of size 2, a sample of 0, 1, or 2 persons will be selected from each dwelling unit. As a consequence, *any* two survey-eligible people within a dwelling unit will have a known chance of being selected, that is, all survey eligible pairs of people will have some nonzero chance of being selected. This feature of the design is of interest to survey researchers because for example, it will allow analysts to examine how the drug use propensity of one individual in a family will relate to the drug use propensity of another family member residing in the same dwelling unit (e.g., the relationship of drug use between a parent and child).

As illustrated in **Table 1**, at the fourth stage of selection, roughly 84,375 people will be selected from within 145,474 screened and eligible dwelling units. Assuming a 80% interview completion rate and an 89% screening completion rate, these sample sizes are sufficient to obtain the desired 67,500 person respondents.

Expected Precision of Survey Estimates

The multistage, stratified 2013 survey design has been designed to achieve specified precision for various person subpopulations of interest. Precision requirements specified by SAMHSA were that the expected relative standard error on a prevalence of 10% not exceed the following:

- 3.00% for total population statistics,
- 5.00% for statistics in three age group domains: 12-17, 18-25, and 26 plus years-old.

⁴ In summary, this technique states that if a dwelling unit is selected for the 2013 study and an interviewer observes any new or missed dwelling units between the selected dwelling unit and the dwelling unit appearing right after the selection on the counting and listing form, then all new/missed dwellings between the selection and the next one on the listing form will be selected. If a large number of new/missed dwelling units are encountered (generally greater than 10) then a sample of the missing dwelling units will be selected. If the listing is highly discrepant (50 or more missed dwelling units following any one selected dwelling unit or 150 or more total missed dwelling units), then special "bust" sampling procedures will be employed.

The allocation of 300 persons per each of the major age groups (12-17, 18-25, and 26 or older) for 43 small sample states and 1,200 persons per each of these age groups for the 8 large sample states was also taken as a requirement to support small area estimation in the small sample states and direct estimation in the large sample states.

Tables 1 and 2 reflect the sample allocation at the national and state levels. **Table 3** shows the projected relative standard errors for selected prevalence measures after standardization to reflect an estimated prevalence of 0.10. All of the initial specifications for precision levels are satisfied by the proposed allocation.

Table 1. Summary of 2013 Main Study Design

Statistic	Small States	Large States	Total
Total Sample			
State Sampling (SS) Regions	516	384	900
Segments	4,128	3,072	7,200
Selected Lines	113,732	84,638	198,370
Eligible dwelling units	93,714	69,740	163,454
Completed screening interviews	83,405	62,069	145,474
Selected persons	48,375	36,000	84,375
Completed Interviews	38,700	28,800	67,500
Total Per State			
SS Regions	12	48	
Segments	96	384	
Selected Lines	2,645	10,580	
Completed Interviews	900	3,600	
Interviews Per Segment	9.38	9.38	
Total Per SS Region/Segment by Quarter			
Segments Per SS Region	2	2	
Interviews Per SS Region	18.75	18.75	
Interviews Per Segment	9.38	9.38	
Total States	43	8	51

Note:

"Small" states refer to states where the design is expected to yield roughly 900 respondents in the 2013 survey and "Large" states refer to states where the design is expected to yield roughly 3,600 respondents.

Table 2. Sample Sizes and Projected Respondents by State and Age Group

State	SS Regions	Total Segments	Total Selected Dwelling Units	Total Selected People	Total Respondents					
					12 to 17	18 to 25	26 to 34	35 to 49	50+	Total
Total Population	900	7,200	198,370	84,375	22,500	22,500	6,000	9,000	7,500	67,500
Northeast										
Connecticut	12	96	2,645	1,125	300	300	70	127	103	900
Maine	12	96	2,645	1,125	300	300	65	121	114	900
Massachusetts	12	96	2,645	1,125	300	300	77	124	99	900
New Hampshire	12	96	2,645	1,125	300	300	67	129	104	900
New Jersey	12	96	2,645	1,125	300	300	73	128	99	900
New York	48	384	10,580	4,500	1,200	1,200	312	491	397	3,600
Pennsylvania	48	384	10,580	4,500	1,200	1,200	283	479	438	3,600
Rhode Island	12	96	2,645	1,125	300	300	74	122	104	900
Vermont	12	96	2,645	1,125	300	300	68	120	112	900
Midwest										
Illinois	48	384	10,580	4,500	1,200	1,200	332	489	379	3,600
Indiana	12	96	2,645	1,125	300	300	82	120	98	900
Iowa	12	96	2,645	1,125	300	300	76	117	107	900
Kansas	12	96	2,645	1,125	300	300	81	118	101	900
Michigan	48	384	10,580	4,500	1,200	1,200	297	487	416	3,600
Minnesota	12	96	2,645	1,125	300	300	81	122	97	900
Missouri	12	96	2,645	1,125	300	300	81	118	101	900
Nebraska	12	96	2,645	1,125	300	300	82	117	101	900
North Dakota	12	96	2,645	1,125	300	300	79	112	109	900
Ohio	48	384	10,580	4,500	1,200	1,200	307	478	415	3,600
South Dakota	12	96	2,645	1,125	300	300	79	113	108	900
Wisconsin	12	96	2,645	1,125	300	300	77	121	102	900
South										
Alabama	12	96	2,645	1,125	300	300	79	118	103	900
Arkansas	12	96	2,645	1,125	300	300	81	116	103	900
Delaware	12	96	2,645	1,125	300	300	75	121	104	900
Dist of Columbia	12	96	2,645	1,125	300	300	106	110	84	900
Florida	48	384	10,580	4,500	1,200	1,200	294	463	443	3,600
Georgia	12	96	2,645	1,125	300	300	85	128	87	900
Kentucky	12	96	2,645	1,125	300	300	81	119	100	900
Louisiana	12	96	2,645	1,125	300	300	84	117	99	900
Maryland	12	96	2,645	1,125	300	300	78	126	96	900
Mississippi	12	96	2,645	1,125	300	300	81	118	101	900
North Carolina	12	96	2,645	1,125	300	300	78	125	97	900
Oklahoma	12	96	2,645	1,125	300	300	84	114	102	900
South Carolina	12	96	2,645	1,125	300	300	76	120	104	900
Tennessee	12	96	2,645	1,125	300	300	80	120	100	900
Texas	48	384	10,580	4,500	1,200	1,200	359	496	345	3,600
Virginia	12	96	2,645	1,125	300	300	80	124	96	900
West Virginia	12	96	2,645	1,125	300	300	75	113	112	900
West										
Alaska	12	96	2,645	1,125	300	300	90	123	87	900
Arizona	12	96	2,645	1,125	300	300	87	117	96	900
California	48	384	10,580	4,500	1,200	1,200	343	500	357	3,600
Colorado	12	96	2,645	1,125	300	300	88	123	89	900
Hawaii	12	96	2,645	1,125	300	300	80	115	105	900
Idaho	12	96	2,645	1,125	300	300	87	115	98	900
Montana	12	96	2,645	1,125	300	300	76	111	113	900
Nevada	12	96	2,645	1,125	300	300	87	122	91	900
New Mexico	12	96	2,645	1,125	300	300	85	114	101	900
Oregon	12	96	2,645	1,125	300	300	83	114	103	900
Utah	12	96	2,645	1,125	300	300	108	113	79	900
Washington	12	96	2,645	1,125	300	300	83	120	97	900
Wyoming	12	96	2,645	1,125	300	300	84	112	104	900

Table 3. Expected Relative Standard Errors by Age Group Standardized for an Estimated Prevalence of 10 Percent

Outcome Measure	Total			12-17		
	Estimate	R.S.E.	S.R.S.E.	Estimate	R.S.E.	S.R.S.E.
Past Month Cigarette Use	22.97	1.34	2.20	8.34	3.09	2.79
Past Month Alcohol Use	51.79	0.75	2.34	13.59	2.43	2.89
Past Month Use of Any Illicit Drug	8.92	2.16	2.02	10.13	2.85	2.87
Past Month Use of Any Illicit Drug But Marijuana	3.56	3.32	1.91	4.50	4.31	2.81
Past Month Cocaine Use	0.58	7.34	1.68	0.25	18.52	2.77
Past Year, Dependent on Illicit Drugs	1.90	4.23	1.77	2.53	5.46	2.64
Past Year, Dependent on Alcohol	2.81	4.07	2.08	1.10	9.25	2.92
Past Year Received Treatment for Illicit Drugs	0.86	6.37	1.78	0.84	9.91	2.74
Past Year Received Treatment For Alcohol Use	0.61	8.93	2.10	0.14	23.86	2.70
Average Relative Standard Error			1.99			2.79
Target Relative Standard Error			3.00			5.00
Outcome Measure	18-25			26+		
	Estimate	R.S.E.	S.R.S.E.	Estimate	R.S.E.	S.R.S.E.
Past Month Cigarette Use	34.24	1.37	2.97	22.83	1.68	2.74
Past Month Alcohol Use	61.53	0.81	3.07	54.85	0.88	2.92
Past Month Use of Any Illicit Drug	21.51	1.85	2.90	6.57	3.44	2.74
Past Month Use of Any Illicit Drug But Marijuana	7.95	3.09	2.73	2.67	5.33	2.65
Past Month Cocaine Use	1.46	7.79	2.84	0.47	10.86	2.23
Past Year, Dependent on Illicit Drugs	5.37	4.13	2.95	1.22	7.70	2.56
Past Year, Dependent on Alcohol	5.11	4.09	2.84	2.63	5.50	2.71
Past Year Received Treatment for Illicit Drugs	1.65	6.98	2.72	0.73	9.19	2.36
Past Year Received Treatment For Alcohol Use	0.87	10.02	2.82	0.62	11.10	2.64
Average Relative Standard Error			2.87			2.62
Target Relative Standard Error			5.00			5.00

Projected relative standard errors for direct state estimates by age group are shown in **Table 4**. The precision of direct estimates for the small sample states is not considered adequate. Small area estimation procedures should be used to develop state estimates for the small sample states.

Table 4. Expected Relative Standard Errors by Age Group Standardized for an Estimated Prevalence of 10 Percent for Large Sample and Small Sample States

Outcome Measure	Large Sample States			
	12-17	18-25	26+	Total
Expected Relative Standard Errors				
Past Year Dependence on Alcohol	9.88	9.93	9.41	7.22
Past Month Alcohol Use	10.72	11.97	10.76	10.29
Past Month Cigarette Use	10.73	11.16	10.63	9.22
Past Month Cocaine Use	11.16	10.56	8.96	6.68
Past Year Received Treatment for Illicit Drug Use	10.40	11.01	9.55	7.18
Past Year Received Treatment for Alcohol Use	10.70	10.00	9.57	7.44
Past Month Use of Any Illicit Drug But Marijuana	10.34	10.99	9.87	6.79
Past Year Dependence on Illicit Drugs	9.89	9.94	8.75	5.90
Past Month Illicit Drug Use	10.48	11.02	9.49	7.14
Average Relative Standard Error	10.48	10.73	9.67	7.54
Outcome Measure	Small Sample States			
	12-17	18-25	26+	Total
Expected Relative Standard Errors				
Past Year Dependence on Alcohol	19.76	19.87	18.83	14.44
Past Month Alcohol Use	21.44	23.94	21.52	20.58
Past Month Cigarette Use	21.45	22.31	21.25	18.45
Past Month Cocaine Use	22.31	21.12	17.93	13.36
Past Year Received Treatment for Illicit Drug Use	20.81	22.02	19.09	14.36
Past Year Received Treatment for Alcohol Use	21.41	19.99	19.14	14.87
Past Month Use of Any Illicit Drug But Marijuana	20.68	21.97	19.74	13.58
Past Year Dependence on Illicit Drugs	19.77	19.88	17.50	11.81
Past Month Illicit Drug Use	20.95	22.04	18.98	14.28
Average Relative Standard Error	20.95	21.46	19.33	15.08

Attachment N

2013 Interview Incentive Receipt

Interview Incentive Receipt

United States Public Health Service

and

Research Triangle Institute

thank you for participating in the 2013 National Survey on Drug Use and Health.

In appreciation of your participation in this important study, you are eligible to receive a \$30 in cash.

Since maintaining the confidentiality of your information is important to us, your name will not be entered on this form. However, the interviewer must sign and date this form to certify you received (or declined) the cash incentive.

_____ Interviewer	_____ Date	_____ Case ID
<input type="checkbox"/> Accepted Cash Incentive		<input type="checkbox"/> Declined Cash Incentive

If you ever feel that you need to talk to someone about mental health issues, you can call the National Lifeline Network. Counselors are available to talk at any time of the day or night and they can give you information about services in your area.

1-800-273-TALK or 1-800-273-8255

1-888-628-9454 (Spanish)

<http://suicidepreventionlifeline.org/>

If you ever feel that you need to talk to someone about drug use issues, you can call the Substance Abuse and Mental Health Services Administration's Treatment Referral Helpline. This is a 24-hour service that will help you locate treatment options near you.

1-800-662-HELP or 1-800-662-4357

1-800-487-4889 (TDD)

<http://findtreatment.samhsa.gov>

Disposition: Top copy to Respondent, yellow to Field Supervisor, pink to Field Interviewer.

Interview Incentive Receipt

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Disposition: Top copy to Respondent, yellow to Field Supervisor, pink to Field Interviewer.

Attachment O

Certificate of Participation

United States
Public Health Service



Certificate of Participation

The United States Public Health Service and Research Triangle Institute would like to thank

[Participant's Signature]

for participating in the **National Survey on Drug Use and Health**

on

[Date of Interview]

Field Interviewer

FI ID #

Ilona S. Johnson

Ilona S. Johnson,
National Field Director
Research Triangle Institute
3040 Cornwallis Road
Research Triangle Park, NC 27709



This document certifies that the above named individual participated in NSDUH, a voluntary survey for the United States Public Health Service. Across the country, some participants approach their school teachers or other group leaders to ask about possible special community service credit as they completed this important national survey. The time commitment for participation in this survey is between 1 and 2 hours. A copy of the NSDUH brochure, which explains the study in more detail, should accompany this certificate. If you need further information, contact the National Field Director, Ilona Johnson, at (800) 848-4079.