



HINTS Puerto Rico

FINAL REPORT

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Sampling

A disproportionately stratified sample of phone numbers was purchased by the University of Puerto Rico (UPR) from the vendor Genesys and provided to Westat. The sampling strata were eight geographical regions that have also been used as sampling strata for the BRFSS program. Within each stratum the sampled phone numbers were selected with equal probability. The 6,060 sampled telephone numbers were partitioned by Westat into a main sample and a reserve sample. The main sample consisted of approximately two-thirds of these telephone numbers (3,840), while the reserve consisted of the remainder (2,220). The reserve sample was set aside to be used in case our expectations for 600 completes were not met in working the main sample. Due to a higher-than-expected non-working/non-residential rate, nearly the entire sample was needed (97%) to reach the target of completes.

Staffing, Training and Management of Data Collection

The HINTS Puerto Rico data collection was staffed with data collectors from the Puerto Rico Department of Health telephone center. The study was staffed with experienced RDD interviewers, as this telephone center conducts monthly Puerto Rico Behavioral Risk Factor Surveillance System (BRFSS) surveys for CDC, as well as other periodic data collections.

Project-specific training was developed by Westat study staff and consisted of interviewer reference materials available on CD and a specific training agenda that included lectures, interactive sessions, and dyad role plays. Specific attention was paid to contact procedures, and the training program emphasized gaining the cooperation of respondents in the first few moments of the telephone attempt.

Training was conducted on April 25 and 26, 2009. The first day of training was held at the Comprehensive Cancer Center of the University of Puerto Rico, and included lectures and interactive sessions. The second day of training was held at the Puerto Rico Department of Health telephone center, to enable hands-on training with the survey instruments via dyad role plays and individual practice. A total of 11 interviewers completed training.

Management of the data collection was a collaborative process involving staff at the Westat Telephone Research Center (TRC) as well as the Puerto Rico Department of Health telephone

center. Due to the nature of the data collection, in which Department of Health interviewers logged into the Westat interviewing system over the Internet, control of certain functions resided at Westat. The release of new sample cases, resolution of problem cases, and assignment of interviewers to work classes (e.g., refusal conversion, English language interviews, and hearing/speech problems) were performed by the Westat TRC. Management of interviewer staffing (hours worked each week) and direct supervision of the interviewers was performed by the Puerto Rico Department of Health telephone center.

Due to the nature of the telephone system at the Department of Health telephone center, voice monitoring of the interviewers was not possible for this data collection effort.

Calling Protocol

Interviewers were assigned to work on the study during the Puerto Rico Department of Health telephone center operating hours; that is, 9 a.m. to 9 p.m. on weekdays, 10 a.m. to 6 p.m. on Saturdays, and 1 p.m. to 6 p.m. on Sundays.

Interviews were conducted primarily in Spanish. If a respondent either requested to complete the interview in English or if the interviewer determined that the respondent spoke only English, the case was transferred to a bilingual interviewer with a high level of English proficiency. The bilingual interviewers conducted interviews in English or went back and forth between English and Spanish as necessary.

Screener

The household screener was administered over the telephone using CATI. The purpose of the screening interview was to select an eligible person from the household for the extended interview. The screener involved asking the respondent how many adults live in their household and discerning the number of telephones in the household. One adult in the household was sampled for the extended interview using an algorithm designed to minimize intrusiveness.

All screener refusals except for hostile refusals were contacted 3 days after their refusal to attempt refusal conversion.

Extended Interview

If the screener contact was selected for the extended interview, the interviewer began the interview immediately upon completion of the screener. If someone else in the household was selected, the interviewer asked to speak to that person to conduct the extended interview. If the extended respondent was unavailable, the telephone center tried to conduct the extended interview at a different time and/or on a different day.

All extended refusals except for hostile refusals were contacted 3 days after their refusal to attempt refusal conversion. Only one stage of refusal conversion was attempted for both screeners and extended interviews – if a second refusal occurred, conversion efforts were ceased for that case.

Findings from the CATI Operations

The field period for the RDD study was April 27 through June 28, 2009, with a total of 603 complete CATI interviews collected and an additional 36 partially complete CATI interviews collected, bringing the total number to 639 (see Table 1). Partial completes were defined as cases where the respondent completed the first section (Health Communications) of the interview, but that did not reach the end of the survey instrument. Respondents that did not complete at least the Health Communications section were coded as incompletes.

Table 1. Screener and Extended Interview Completes by Type

	Total	Percent of total
Screener completes	837	100.0%
Completes with initial cooperation	826	98.7%
Completes with initial refusal	11	1.3%
Extended Interview completes	639	100.0
Completes with initial cooperation	600	93.9%
Completes with initial refusal	3	0.5%
Partial completes	36	5.6%

Weekly Reports

To measure progress in meeting project goals, a series of production and management reports were generated on a regular basis during the field period. These reports provided information on response rates, cooperation rates, production to date in terms of total interviews, and cost as expressed by interviewer hours per completed interview. Due to the staffing arrangement for this study, under which interviewer worked directly for the Puerto Rico Department of Health, the reports contained only interviewer “air hours” reflecting time spent actively dialing and interviewing sample cases. Total interviewer hours worked on the study included additional time spent reviewing case information prior to making calls, and other administrative types of actions not involving the dialing of respondent phone numbers, and these additional hours are not reflected in the Westat reports.

Reports shared daily with the Puerto Rico Department of Health telephone center included:

- **Daily Interviewer Cooperation and Conversion Rates.** This daily report was used to track performance at the interviewer level. The report included screener and extended interview initial cooperation and refusal conversion rates, for the past 7 days and for the study to date, for every interviewer that worked on the study.
- **Daily Results Report.** This daily report provided screener and extended interview case results crossed by case work class (initial work, refusal conversion, hearing/speech problem, and English language). The report provided this crosstabulation first for all cases, and then also broken out by case release group (i.e., the order of release to the telephone center for calling).
- **Daily “Available Work” Report.** This report provided information on the volume of cases available to be called each day, broken by screener versus extended interview levels, and also by case work class.
- **Daily “Draw” Report.** In this report, a summary was provided regarding the cases drawn for calls on the previous day. The report was broken by screener versus extended interview, and by case work class.

Reports shared weekly with the HINTS-PR team included:

- **Weekly TRC Production Report.** This report showed overall screener and extended interview production for the current week and cumulatively for the entire study. The report tracked screener and extended interview completes and cooperation/conversion rates, interviewer “air hours,” and size of interviewing staff throughout the life of the study. A summary of this report is provided in Table 2. This was an internal Westat report, however elements of this report were used to complete the Weekly Report for the HINTS-PR Team (see below).

- **Weekly Report for the HINTS-PR Team** This report was sent on a weekly basis to UPR, NCI, and the Department of Health with summary information on sample status and performance for both screener and extended interviews. A sample of this report is attached.

Table 2. Weekly TRC production: Completed cases and interviewer air hours by week

Week beginning	Screener		Extended Interview		Interviewer Air Hours	
	Weekly	Cumulative	Weekly	Cumulative	Weekly	Cumulative
4/27/2009	238	238	139	139	130	130
5/4/2009	113	351	72	211	76	206
5/11/2009	135	486	89	300	81	287
5/18/2009	83	569	47	347	49	336
5/25/2009	47	616	55	402	37	373
6/1/2009	82	698	78	480	70	443
6/8/2009	69	767	61	541	38	481
6/15/2009	38	805	32	573	21	502
6/22/2009	32	837	30	603	40	542

Administration Times

The mean administration time for the extended telephone interview was 24.7 minutes, ranging from 6 to 93 minutes. The median length was 23 minutes.

Average Calls per Case

Before the start of calling, the CATI scheduler was configured with some standard call limits and study options. This allowed the project both the opportunity to standardize the flow of work and the flexibility to change the configuration to meet specific needs should that be necessary during the course of data collection.

Cases that never had any contact with the respondent were placed in each of seven non-contact time slices. These cases received at least one call attempt per time slice before being finalized.

Queue priorities were set within the scheduler. Extended interview appointments had a higher priority than screener questionnaires. Table 3 details the level of effort for the screener by result code, while Table 4 details the level of effort for the CATI extended interview.

Table 3. Total screener level of effort: Number of call attempts by result

Call attempts	Completes and ineligible		Nonresponse		Nonworking and nonresidential		Noncontact	
	N	%	N	%	N	%	N	%
0	-	0.0	-	0.0	2,499	56.3	1	0.2
1-5	615	73.5	18	12.2	1,363	30.7	97	21.3
6-10	175	20.9	44	29.7	549	12.4	126	27.7
11-15	27	3.2	25	16.9	27	0.6	202	44.4
16-20	18	2.2	43	29.1	2	0.0	28	6.2
21-25	2	0.2	11	7.4	-	0.0	1	0.2
26-30	-	0.0	7	4.7	-	0.0	-	0.0
Total	837	100.0	148	100.0	4,440	100.0	455	100.0

Table 4. Total extended interview level of effort: Number of call attempts by result

Call attempts	Completes and ineligible		Nonresponse	
	N	%	N	%
1-5	442	69.2	34	17.2
6-10	89	13.9	27	13.6
11-15	38	5.9	16	8.1
16-20	38	5.9	74	37.4
21-25	18	2.8	30	15.2
26-30	14	2.2	17	8.6
Total	639	100.0	198	100.0

Cooperation, Refusal Conversion and Response Rates

Table 5 shows the percentage of residential numbers, the screener cooperation rate, and the extended-interview cooperation rates for the HINTS Puerto Rico sample. Initial cooperation to both the screener and extended interview was very high, with 93 percent of respondents cooperating with (as opposed to refusing) the survey request.

Table 5. Residential, cooperation, refusal conversion, and response rates and yield, for screener and extended interviews

	Total
Sample used for study	5,880
Residential and undetermined numbers ¹	1,440
Residential numbers (estimated) ²	1,097
Residency rate ²	18.7
Screener cooperation	
Initial cooperation rate	93.3
Refusal conversion rate	20.0
Final cooperation rate	95.2
Screener completes	
Completes with initial cooperation	826
Completes with initial refusal	11
Total screener completes	837
Unweighted screener response rate ³	76.3
Extended interview cooperation	
Initial cooperation rate	93.2
Refusal conversion rate	6.8
Final cooperation rate	95.4
Extended interview completes	
Completes with initial cooperation	600
Completes with initial refusal	3
Partial completes	36
Total extended completes	639
Unweighted extended interview response rate	76.3

¹ Includes all the undetermined numbers due to repeated answering machine or ring-no-answer results.

² Includes only the portion of the undetermined numbers that are estimated to be residential, with estimation of “e” based on observed results.

³ AAPOR RR3, with estimation of “e” based on observed results.

Sample Weights

Once data collection was completed, weighting of the data was performed. Two types of weights were calculated: household weights and person weights. A household weight was calculated for each household completing a screener questionnaire, whereas a person weight was calculated for each sampled adult who completed an extended interview.

The calculation of both household weights and person weights consisted of several calculation steps. The first step in calculating the household weight was the determination of the base weight, which is the reciprocal of the stratum sampling rate. Next three adjustments were made to the base weights. The first adjustment was made to the base weights of the households for which no contact was made and only an answering machine (an NM case) or no answer (an NA case) was observed. For NM cases, this adjustment multiplied the base weight by an estimate of the proportion of NM cases that were residences. Similarly, for NA cases the base weight was multiplied by an estimate of the proportion of NM cases that were residences. The second adjustment adjusted for screener nonresponse. This adjustment was equal to the reciprocal of estimated screener response rate within the containing sampling stratum. The third household-level adjustment was an adjustment for multiple telephone lines.

The starting point for the calculation of the person weights was to multiply the final household weight by the number of adults in the household. This was followed by two person-level adjustments. The first adjustment adjusted for non-response to the extended questionnaire. This adjustment was equal to the reciprocal of the extended response rate within nonresponse adjustment cells defined by gender and age. The second adjustment, referred to as calibration adjustment, adjusted the person weights so that they summed to control totals calculated from the 2007 American Community Survey (ACS) for Puerto Rico. The ACS variables used to define control totals were gender, age, education, and marital status.

For both the household weights and person weights, full-sample weights and replicate weights were calculated. Because a disproportionately stratified sample design was used to select the random sample of phone numbers, the JK_n replication method was used to create the replicate weights. Six variance units were created within each of the eight sampling stratum, so the number of replicate weights was $6 * 8 = 48$. Survey-analysis routines, such as WesVar and the SAS survey procedures (e.g., SURVEYMEANS) require a file of JK_n factors to calculate replication-based variances when

replicates weights are created by the JK_n method. For the created replicate weights, the associated file of JN_n factors consists of 48 occurrences of the value $(6-1)/6 = 0.8333333$.