Behavioral Risk Factor Surveillance System

2013 Summary Data Quality Report
August 15, 2014

Table of Contents

Introduction

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based, CDC-assisted health data collection project. The BRFSS is a partnership between state health departments, the Population Health Surveillance Branch (PHSB) of the Division of Population Health at CDC, and other CDC programs and offices. It comprises telephone surveys conducted by the health departments of all 50 states, the District of Columbia, Puerto Rico, the US Virgin Islands, and Guam. **This Summary Data Quality Report presents detailed descriptions of the 2013 BRFSS calling outcomes and call summary information for each of the states and US territories that participated in the 2013 BRFSS.** All BRFSS public-use data are collected by landline telephone and cellular telephone to produce a single public use data set comprised of the 2013 BRFSS territorial and state-level data sets. The variables and outcomes in this document apply to a combined data set of responses from participants using landline telephones and cellular telephones within each of the states and territories.

The inclusion of data from cellular telephone interviews in the BRFSS public release data set has been standard protocol since 2011. Data users should note that new weighting procedures are likely to affect trend lines when comparing BRFSS data collected before and after 2011; because of these changes, users are advised NOT to make direct comparisons with pre-2011 data, and instead, begin new trend lines with that year. Details of changes beginning with the 2011 BRFSS are available in the *Morbidity and Mortality Weekly Report* (*MMWR*), which highlights weighting and coverage effects on trend lines [1].

The measures in this document summarize the quality of the 2013 BRFSS survey data. BRFSS has calculated survey response rates, cooperation rates, and refusal rates using standards set by the American Association of Public Opinion Research (AAPOR) [2]. The BRFSS has calculated 2013 response rates using AAPOR Response Rate #4, which is in keeping with rates BRFSS provided prior to 2011 using rates from the Council of American Survey Research Organizations (CASRO) [3].

Based on the guidelines of AAPOR, response rate calculations include assumptions of eligibility among potential respondents/households that BRFSS does not interview. Changes in the geographic distribution of cellular telephone numbers and the portability of landline telephone numbers are likely to make it more difficult than in the past to ascertain which telephone numbers are out-of-sample and which telephone numbers represent “likely households.” The BRFSS calculates likely households using the proportions of eligible households among all phone numbers where it has determined participant eligibility. This “eligibility factor” appears in calculations of response-, cooperation-, resolution- and refusal rates for each state and territory.

Interpretation of BRFSS Response Rates

Because this report reflects the inclusion of BRFSS cellular and landline telephone interviews, contextual information on telephone response rates for both types of interviews is available below. Although cellular telephone response rates are generally lower than landline telephone response rates across most surveys, the BRFSS has achieved a cellular telephone response rate that compares favorably with other similar surveys (Table 1).

Table 1
Examples of Cellular Telephone and Landline Telephone Survey Response Rates

		Response Rates	
Survey	**Year(s)**	**Landline**	**Cell Phone**
California Health Interview Survey (CHIS)[1]	2011–2012	19.7%	11.1%
The Commonwealth Fund 2010 Biennial Health Insurance Survey[2]	2012	22.0%	19.0%
National Immunization Survey (NIS)[3]	2012	64.5% [a]	30.6%
Pew Internet and American Life Project[4]	2012	13.0%	11.4%
National Adult Tobacco Survey (NATS)[5]	2009–2010	40.4%	24.9%
BRFSS[6]	2013	49.6%	37.8%

[a]Unlike the BRFSS, the NIS does not include household sampling in the landline portion of the study but interviews the adult who self-identifies as "most knowledgeable" about household immunization information.

[1]http://healthpolicy.ucla.edu/chis/design/Documents/chis2011-2012-method-2_2014-02-21.pdf

[2]http://www.commonwealthfund.org/Surveys/2013/Biennial-Health-Insurance-Survey.aspx

[3] ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NIS/NISPUF12_DUG.PDF

http://www.pewinternet.org/2012/04/13/methodology-33/

[5]http://www.cdc.gov/tobacco/data_statistics/surveys/nats/

[6]BRFSS response rates are presented here as median rates for all states and territories

Research by the Pew Research Center indicates that response rates for all telephone-based surveys have declined in recent years [4]. Despite lower response rates, this research supports previous findings [5] that weighting to demographic characteristics of respondents ensures accurate estimates for most measures.

The following tables present 2013 BRFSS landline telephone and cellular telephone calling outcomes and rates. The BRFSS cellular telephone survey was collected in a manner similar to the BRFSS landline telephone survey. One important difference, however, is that interviews conducted by landline telephones include random selection among adults within households, while cellular telephone interviews are conducted with adults who are contacted on personal (nonbusiness) cellular telephones. The report presents data on three general types of measure by state:

1. Call outcome measures, including response rates, which BRFSS bases on landline telephone disposition codes.

2. Call outcome measures, including response rates, which BRFSS bases on cellular telephone disposition codes.

3. A weighted response rate, which BRFSS bases on a combination of the landline telephone response rate with the cellular telephone response rate proportional to the total sample a state used to collect the data.

The BRFSS recommends that authors/researchers referencing BRFSS data quality include the following language, below. Note the places where authors should include information specific to their projects.

Response rates for BRFSS are calculated using standards set by the American Association of Public Opinion Research (AAPOR) Response Rate Formula #4 (http://www.aapor.org/Content/NavigationMenu/ResourcesforResearchers/StandardDefinitions/StandardDefinitions2009new.pdf). The response rate is the number of respondents who completed the survey as a proportion of all eligible and likely-eligible persons. The median survey response rate for all states, territories and Washington, DC, in 2013 was 46.4, and ranged from 29.0 to 60.3.[a] Response rates for states and territories included in this analysis had a median of [provide median] and ranged from [provide range],[b] For detailed information see the BRFSS Summary Data Quality Report.[c]
[a] Response rates and ranges should reflect the year(s) included in the analyses. [b] Response rates for states selected for analysis should be included here. This sentence may be omitted if all states are used in the analysis. [c] This link is to the Summary Data Quality Report for the year(s) included in the analyses. http://www.cdc.gov/brfss/technical_infodata/quality.htm

BRFSS 2013 Call Outcome Measures and Response Rate Formulae

BRFSS bases the calculations of calling outcome rates on final disposition codes the system assigned after exhausting all calling attempts. The BRFSS may make up to 15 attempts to reach respondents prior to assigning a final disposition code. In 2013, the BRFSS used a single set of disposition codes for both landline telephone and cellular telephones, which it adapted from standardized AAPOR disposition codes for telephone surveys. A few disposition codes apply only to landline telephone or cellular telephone sample numbers. For example, answering-device messages may confirm household eligibility for landline telephone numbers but BRFSS does not use them to determine eligibility of cellular telephone numbers. Disposition codes reflect whether interviewers have completed or partially completed an interview (1000 level codes), determined that the household was eligible without completing an interview (2000 level codes), determined that a household or respondent was ineligible (4000 level codes), or was unable to determine the eligibility of a household and/or respondent (3000 level codes). The table below illustrates the codes used by the BRFSS in 2013, and it notes the instances where BRFSS used codes only for landline telephone or cellular telephone sample numbers.

The Disposition Code Table below uses a number of terms to define and categorize outcomes. These include:

- Respondent: A person whom an interviewer reaches and who may be eligible for interview.

- Landline telephone: A telephone that an owner uses within a specific location, including traditional household telephones, VOIP, and Internet phones connected to computers in a household.
- Cellular telephone: A mobile device that is not tied to a specific location for use.
- Selected respondent: A person who is eligible for interview. For the cellular telephone sample, a selected respondent is an adult associated with the phone number who lives in a private residence or college housing within the US or territories that the BRFSS covers. For the landline telephone sample, a selected respondent is the person chosen for interview during the household enumeration section of the screening questions.
- Personal cellular telephone: A cellular telephone an owner uses for personal calls. If an owner uses a cellular telephone for both personal and business calls, BRFSS may categorize that telephone as a personal telephone. Persons reached on business-only telephones are not using personal telephones and, therefore, are not eligible for interview.

Table 2
2013 Landline Telephone and Cellular Telephone BRFSS Disposition Codes

Category	Code	Description
Interviewed (1000 level codes)	1100	Completed interview
	1200	Partially completed interview
Eligible, Non-Interview (2000 level codes)	2111	Household level refusal (used for landline only)
	2112	Selected respondent refusal
	2120	Break off/termination within questionnaire
	2210	Selected respondent never available
	2220	Household (nonbusiness) answering device (used for landline only)
	2320	Selected respondent physically or mentally unable to complete interview
	2330	Language barrier of selected respondent
Unknown Eligibility	3100	Unknown if housing unit
	3130	No answer
	3140	Answering device, unknown whether eligible
	3150	Telecommunication barrier (i.e. call blocking)
	3200	Household, not know if respondent eligible
	3322	Physical or mental impairment (household level)
	3330	Language barrier (household level)
	3700	On never call list

Table 2 2013 Landline Telephone and Cellular Telephone BRFSS Disposition Codes		
Category	**Code**	**Description**
Not Eligible	4100	Out of sample
	4200	Fax/data/modem
	4300	Nonworking/disconnected number
	4400	Technological barrier (i.e. fast busy, phone circuit barriers)
	4430	Call forwarding/pager
	4450	Cellular telephone number (used for landline telephone only)
	4460	Landline telephone number (used for cellular telephone only)
	4470	Cellular telephone respondent ineligible due to percent of landline usage
	4500	Non-residence
	4510	Group home
	4700	Household, no eligible respondent (teen phone/minor child cellular telephone)
	4900	Miscellaneous, non-eligible

Factors affecting the distribution of disposition codes by state include differences in telephone systems, sample designs, surveyed populations, and data collection processes. Table 3 defines the categories of disposition codes used to calculate outcome and response rates illustrated in Tables 4A through 6.

Table 3 2013 Landline Telephone and Cellular Telephone BRFSS Disposition Codes		
Category	**Disposition Code Definitions**	**Formulae Abbreviation**
Completed interviews	1100+1200	COIN
Eligible	1100+1200+2111+2112+2120+2210+2220+2320+2330	ELIG
Contacted eligible	1100+1200+2111+2112+2120+2210+2320+2330	CONELIG
Terminations and refusals	2111+2112+2120	TERE
Ineligible phone numbers	All 4000 level disposition codes	INELIG
Unknown whether eligible	All 3000 level disposition codes	UNKELIG
Eligibility factor	ELIG/(ELIG + INELIG)	E

Eligibility Factor

E = ELIG/ (ELIG + INELIG)

The Eligibility Factor is the proportion of eligible phone numbers from among all sample numbers for which BRFSS has determined eligibility. The eligibility factor, therefore, provides a measure of eligibility that BRFSS can apply to sample numbers with unknown eligibility. The purpose of the eligibility factor is to estimate the proportion of the sample that is likely to be eligible. BRFSS uses the eligibility factor in the calculations of refusal and response rates. BRFSS calculates separate eligibility factors for landline telephones and cellular telephone samples for each state and territory.

Resolution Rate

((ELIG + INELIG) / (ELIG+INELIG+UNKELIG))*100

The Resolution Rate is the percentage of numbers in the total sample for which BRFSS has determined eligibility. BRFSS divides the total number of eligible and ineligible sample phone numbers by the total number of phone numbers in the entire sample, then multiplies the result by 100 to calculate the percentage of the sample for which BRFSS is determining eligibility. BRFSS calculates separate resolution rates for landline telephone and cellular telephone samples for each state and territory.

Interview Completion Rate

(COIN / (COIN + TERE)) * 100

The Interview Completion Rate is the rate of completed interviews among all respondents of whom BRFSS determines to be eligible and selects for interviewing. The numerator is the number of complete and partially completed interviews. BRFSS divides this number by the number of completed interviews, partially completed interviews, and all

break offs, refusals, and terminations and then multiplies the result by 100 to provide the percentage of completed interviews among eligible respondents interviews have contacted. BRFSS calculates separate interview completion rates for landline telephone and cellular telephone samples for each state and territory.

Cooperation Rate

(COIN / CONELIG) *100

The AAPOR Cooperation Rate is the number of complete and partial complete interviews divided by the number of contacted and eligible respondents. The BRFSS Cooperation Rate follows the guidelines of AAPOR Cooperation Rate #2. BRFSS calculates separate cooperation rates for landline telephone and cellular telephone samples for each state and territory.

Refusal Rate

(TERE / (ELIG + (E * UNKELIG))) * 100

The BRFSS Refusal Rate is the proportion of all eligible respondents who refused to complete an interview or terminated an interview prior to the threshold required for BRFSS to consider as being a partial interview. Refusals and terminations (TERE) are in the numerator, and the denominator includes all eligible numbers and a proportion of the numbers with unknown eligibility. BRFSS determines the proportion of numbers with unknown eligibility by the eligibility factor (E; described above). BRFSS then multiplies the result by 100, to provide a percentage of refusals among all eligible and likely to be eligible numbers in the sample. BRFSS calculates separate refusal rates for landline telephone and cellular telephone samples for each state and territory.

Response Rate

(COIN / ((ELIG + (E * UNKELIG))) * 100

A Response Rate is an outcome rate with the number of complete and partial interviews in the numerator and an estimate of the number of eligible units in the sample in the denominator. The BRFSS Response Rate calculation assumes that the unresolved numbers contain the same percentage of eligible households or eligible personal cellular telephones as the records whose eligibility or ineligibility BRFSS determines. The BRFSS Response Rate follows the guidelines for AAPOR Response Rate #4. It also is similar to the BRFSS CASRO Rates reported prior to 2011. BRFSS calculates separate eligibility factors for landline telephone and cellular telephone samples for each state and territory, and it also calculates a combined Response Rate for landline telephone and cellular telephone. BRFSS generates the combined landline telephone and cellular telephone response rate by weighting to the respective size of the two samples. The total sample equals the landline telephone sample plus cellular telephone sample. BRFSS calculates the proportion of each sample using the total sample as the denominator. The formulae for the proportions of the sample follow below:

P_1 = TOTAL LANDLINE SAMPLE /
(TOTAL LANDLINE SAMPLE + TOTAL CELL PHONE SAMPLE);

P_2 = TOTAL CELL PHONE SAMPLE /
(TOTAL LANDLINE SAMPLE + TOTAL CELL PHONE SAMPLE);

BRFSS then describes the formula for the Combined Landline Telephone and Cellular Telephone Weighted Response Rate as:

COMBINED RESPONSE RATE=
(P_1 * LANDLINE RESPONSE RATE) + (P_2 * CELL PHONE RESPONSE RATE).

Tables of Outcomes and Rates by State

The tables on the following pages illustrate calling outcomes in categories of eligibility, rates of cooperation, refusal, resolution, and response by landline telephone and cellular telephone samples.

- Tables 4A and 4B provide information on the size of the sample and the numbers and percentages of completed interviews, terminations and refusals, and contacts with eligible households by state and territory.
- Tables 5A and 5B provide information on the number and percentage of landline telephone and cellular telephone sample numbers that are eligible, ineligible, and of unknown eligibility.
- Table 6 provides response rates for landline telephone samples, cellular telephone samples, and combined samples.

Table 4A Completions, Terminations and Refusals, Contacted Eligible Households and Total Sample by State (Landline Sample)							
	COIN[1]		TERE[1]		CONELIG[1]		
State	N	%	N	%	N	%	Total Landline Sample
AL	5,034	3.9	4,300	3.3	11,359	8.8	128,697
AK	3,453	3.0	1,554	1.4	5,906	5.2	113,850
AZ	2,730	5.0	1,303	2.4	4,573	8.4	54,240
AR	4,033	5.1	2,133	2.7	7,149	9.0	79,650
CA	6,634	2.9	2,486	1.1	12,954	5.7	225,697
CO	9,847	8.9	1,710	1.5	13,259	12.0	110,550
CT	5,874	5.3	2,692	2.4	10,025	9.1	110,250
DE	3,978	5.4	1,717	2.3	6,818	9.2	73,920
DC	4,029	2.7	2,195	1.5	7,200	4.9	148,320
FL	27,763	4.5	14,013	2.3	48,639	7.9	614,630
GA	5,716	3.7	1,386	0.9	9,089	5.9	153,630
HI	4,207	5.3	1,271	1.6	7,389	9.3	79,830
ID	4,096	5.3	1,622	2.1	6,553	8.5	77,250
IL	4,067	5.9	1,246	1.8	6,239	9.1	68,580
IN	7,730	5.3	3,492	2.4	12,814	8.9	144,750
IA	6,129	6.7	2,471	2.7	9,944	10.9	91,350
KS	16,031	7.6	5,396	2.5	23,419	11.0	212,130
KY	8,550	5.2	2,352	1.4	11,689	7.1	163,620
LA	4,539	4.4	1,825	1.8	7,082	6.9	103,158
ME	6,494	8.2	1,780	2.2	9,263	11.7	79,410
MD	11,147	7.0	2,099	1.3	15,959	10.1	158,400
MA	12,160	4.4	4,234	1.5	21,023	7.7	274,290
MI	8,762	5.2	2,740	1.6	13,912	8.2	169,020
MN	10,551	6.4	1,920	1.2	14,989	9.0	165,900
MS	5,465	5.9	2,300	2.5	9,047	9.8	92,580
MO	5,332	12.5	1,499	3.5	8,013	18.7	42,763

Table 4A Completions, Terminations and Refusals, Contacted Eligible Households and Total Sample by State (Landline Sample)							
	COIN[1]		TERE[1]		CONELIG[1]		
State	N	%	N	%	N	%	Total Landline Sample
MT	6,763	6.5	2,012	1.9	10,060	9.7	103,412
NE	12,973	8.5	3,966	2.6	19,249	12.6	153,300
NV	3,438	6.3	1,042	1.9	5,098	9.3	54,899
NH	4,954	7.7	1,810	2.8	7,670	11.9	64,530
NJ	9,933	5.3	2,914	1.5	16,296	8.6	188,490
NM	5,668	6.8	2,337	2.8	9,223	11.1	83,370
NY	6,613	3.8	3,829	2.2	12,908	7.5	172,140
NC	6,667	7.6	2,809	3.2	10,813	12.3	87,779
ND	5,640	6.1	1,575	1.7	8,217	8.9	92,430
OH	8,843	5.5	1,989	1.2	13,537	8.4	160,260
OK	5,830	8.1	2,087	2.9	9,392	13.0	72,338
OR	4,078	6.1	1,888	2.8	6,111	9.1	67,257
PA	8,583	5.6	3,968	2.6	14,462	9.4	154,507
RI	5,123	7.3	2,481	3.5	8,993	12.8	70,200
SC	7,768	8.2	2,120	2.2	11,775	12.4	95,070
SD	4,480	5.5	1,025	1.3	6,303	7.7	81,720
TN	4,193	4.4	1,600	1.7	6,175	6.4	95,910
TX	7,235	5.2	2,527	1.8	11,480	8.3	137,940
UT	8,239	6.9	2,443	2.0	12,742	10.7	119,520
VT	5,069	9.3	1,341	2.5	7,163	13.1	54,630
VA	6,022	5.2	1,321	1.1	9,234	7.9	116,190
WA	8,396	5.2	4,758	2.9	15,524	9.6	162,240
WV	4,319	15.5	1,003	3.6	5,918	21.2	27,900
WI	4,623	7.0	2,001	3.0	7,301	11.0	66,240
WY	5,272	4.4	2,148	1.8	8,320	7.0	118,710
GU	1,461	5.8	443	1.8	2,847	11.3	25,110

PR	3,545	6.8	431	0.8	5,002	9.6	51,841
Minimum	1,461	2.7	431	0.8	2,847	4.9	25,110
Maximum	27,763	15.5	14,013	3.6	48,639	21.2	614,630
Mean	6,794	6.2	2,445	2.1	10,870	9.7	121,026
Median	5,668	5.6	2,087	2.1	9,234	9.1	103,158
1These abbreviations refer to the formulae for calculations of calling outcomes and rates presented in Table 3.							

Table 4B
Completions, Terminations and Refusals, Contacted Eligible Households and Total Sample by State (Cell Phone Sample)

	COIN[1]		TERE[1]		CONELIG[1]		
State	**N**	**%**	**N**	**%**	**N**	**%**	**Total Cell Phone Sample**
AL	1,372	4.1	778	2.3	2,285	6.9	33,299
AK	1,122	4.4	239	0.9	1,450	5.7	25,350
AZ	1,299	4.6	459	1.6	1,942	6.9	27,960
AR	1,195	6.8	376	2.2	1,851	10.6	17,460
CA	4,482	5.6	1,012	1.3	6,575	8.2	80,369
CO	3,786	10.8	465	1.3	4,681	13.4	34,996
CT	2,009	3.3	722	1.2	3,039	5.0	61,110
DE	1,365	5.3	241	0.9	1,929	7.5	25,740
DC	808	1.8	296	0.7	1,220	2.8	43,740
FL	6,212	5.1	3,113	2.5	9,559	7.8	122,578
GA	2,291	5.2	404	0.9	3,287	7.4	44,430
HI	4,080	9.3	1,150	2.6	5,796	13.2	44,009
ID	1,500	14.0	372	3.5	1,949	18.1	10,740
IL	1,379	6.4	282	1.3	1,753	8.2	21,458
IN	2,600	8.0	735	2.3	3,473	10.7	32,610
IA	2,012	9.2	333	1.5	2,578	11.8	21,899
KS	7,620	6.7	1,816	1.6	9,813	8.6	113,670
KY	2,567	4.7	413	0.8	3,052	5.6	54,450
LA	621	4.9	144	1.1	788	6.3	12,571
ME	1,670	7.5	373	1.7	2,118	9.6	22,138
MD	1,859	4.3	316	0.7	2,626	6.0	43,530
MA	3,022	4.3	549	0.8	4,493	6.4	70,500
MI	4,192	6.2	1,429	2.1	6,858	10.2	67,380
MN	5,150	8.4	504	0.8	6,376	10.4	61,050
MS	2,018	9.1	344	1.5	2,429	10.9	22,260
MO	1,598	8.6	261	1.4	2,084	11.2	18,633
MT	3,063	6.2	593	1.2	3,916	8.0	49,234
NE	4,396	10.5	1,007	2.4	6,127	14.6	42,060

Table 4B
Completions, Terminations and Refusals, Contacted Eligible Households and Total Sample by State (Cell Phone Sample)

	COIN[1]		TERE[1]		CONELIG[1]		
State	**N**	**%**	**N**	**%**	**N**	**%**	**Total Sample**
NV	1,667	8.0	216	1.0	1,929	9.3	20,820
NH	1,637	4.6	424	1.2	2,242	6.3	35,580
NJ	3,685	4.5	836	1.0	5,746	7.0	82,350
NM	3,881	9.7	873	2.2	4,980	12.5	39,900
NY	2,207	4.9	1,056	2.3	3,561	7.9	44,968
NC	1,951	7.4	623	2.4	2,788	10.6	26,393
ND	2,453	5.0	609	1.2	3,204	6.6	48,809
OH	3,106	4.7	495	0.7	4,385	6.6	66,240
OK	2,420	6.6	806	2.2	3,751	10.3	36,567
OR	1,781	5.7	386	1.2	2,442	7.8	31,138
PA	2,768	5.1	923	1.7	3,908	7.3	53,760
RI	1,521	4.2	596	1.6	2,377	6.6	36,150
SC	3,012	7.7	648	1.7	3,952	10.2	38,880
SD	2,534	5.9	414	1.0	3,127	7.3	43,004
TN	1,503	4.4	244	0.7	1,756	5.2	33,978
TX	3,141	7.4	1,140	2.7	4,516	10.6	42,450
UT	4,760	11.5	1,384	3.3	6,521	15.7	41,520
VT	1,277	4.6	304	1.1	1,691	6.2	27,480
VA	2,338	5.4	313	0.7	3,257	7.6	42,930
WA	2,608	4.1	1,799	2.8	5,673	8.8	64,260
WV	1,667	8.8	382	2.0	2,185	11.6	18,869
WI	1,990	8.3	460	1.9	2,618	10.9	23,970
WY	1,220	4.3	226	0.8	1,535	5.5	28,140
GU	445	3.5	179	1.4	736	5.7	12,805
PR	2,490	17.5	314	2.2	3,261	22.9	14,226
Minimum	445	1.8	144	0.7	736	2.8	10,740
Maximum	7,620	17.5	3,113	3.5	9,813	22.9	122,578

Mean	2,516	6.6	649	1.6	3,513	9.0	41,140
Median	2,291	5.7	460	1.4	3,052	8.0	36,567
1These abbreviations refer to the formulae for calculations of calling outcomes and rates presented in Table 3.							

Table 5A Categories of Eligibility by State (Landline Sample)						
	ELIG[1]		INELIG[1]		UNKELIG[1]	
State	N	%	N	%	N	%
AL	15,462	12.0	95,112	73.9	18,123	14.1
AK	6,349	5.6	97,641	85.8	9,860	8.7
AZ	5,290	9.8	40,291	74.3	8,659	16.0
AR	8,096	10.2	61,141	76.8	10,413	13.1
CA	13,965	6.2	170,941	75.7	40,791	18.1
CO	13,918	12.6	82,929	75.0	13,703	12.4
CT	11,499	10.4	77,679	70.5	21,072	19.1
DE	6,989	9.5	48,109	65.1	18,822	25.5
DC	8,989	6.1	113,672	76.6	25,659	17.3
FL	62,598	10.2	451,002	73.4	101,030	16.4
GA	9,330	6.1	114,981	74.8	29,319	19.1
HI	8,347	10.5	59,957	75.1	11,526	14.4
ID	7,217	9.3	61,807	80.0	8,226	10.6
IL	6,841	10.0	51,792	75.5	9,947	14.5
IN	15,194	10.5	109,748	75.8	19,808	13.7
IA	10,392	11.4	71,046	77.8	9,912	10.9
KS	24,773	11.7	162,626	76.7	24,731	11.7
KY	12,268	7.5	126,201	77.1	25,151	15.4
LA	9,676	9.4	78,949	76.5	14,533	14.1
ME	9,953	12.5	58,155	73.2	11,302	14.2
MD	16,596	10.5	106,473	67.2	35,331	22.3
MA	21,182	7.7	182,384	66.5	70,724	25.8
MI	15,578	9.2	129,304	76.5	24,138	14.3
MN	15,075	9.1	126,741	76.4	24,084	14.5
MS	11,563	12.5	71,226	76.9	9,791	10.6
MO	8,453	19.8	25,410	59.4	8,900	20.8
MT	10,730	10.4	82,051	79.3	10,631	10.3
NE	21,916	14.3	119,617	78.0	11,767	7.7
NV	6,019	11.0	38,662	70.4	10,218	18.6

Table 5A Categories of Eligibility by State (Landline Sample)						
	ELIG[1]		INELIG[1]		UNKELIG[1]	
NH	9,511	14.7	44,193	68.5	10,826	16.8
NJ	16,484	8.7	128,951	68.4	43,055	22.8
NM	9,626	11.5	64,758	77.7	8,986	10.8
NY	16,792	9.8	122,465	71.1	32,883	19.1
NC	14,371	16.4	62,428	71.1	10,980	12.5
ND	8,711	9.4	76,690	83.0	7,029	7.6
OH	13,646	8.5	120,267	75.0	26,347	16.4
OK	9,667	13.4	53,739	74.3	8,932	12.3
OR	8,498	12.6	45,280	67.3	13,479	20.0
PA	17,537	11.4	108,368	70.1	28,602	18.5
RI	10,939	15.6	42,624	60.7	16,637	23.7
SC	13,017	13.7	69,690	73.3	12,363	13.0
SD	7,104	8.7	68,950	84.4	5,666	6.9
TN	6,832	7.1	71,470	74.5	17,608	18.4
TX	17,310	12.5	102,478	74.3	18,152	13.2
UT	13,633	11.4	92,771	77.6	13,116	11.0
VT	8,142	14.9	38,490	70.5	7,998	14.6
VA	9,313	8.0	80,800	69.5	26,077	22.4
WA	20,170	12.4	119,675	73.8	22,395	13.8
WV	6,279	22.5	16,956	60.8	4,665	16.7
WI	7,904	11.9	49,618	74.9	8,718	13.2
WY	10,264	8.6	92,142	77.6	16,304	13.7
GU	2,922	11.6	20,397	81.2	1,791	7.1
PR	5,044	9.7	41,925	80.9	4,872	9.4
Minimum	2,922	5.6	16,956	59.4	1,791	6.9
Maximum	62,598	22.5	451,002	85.8	101,030	25.8
Mean	12,356	11.0	89,260	74.0	18,874	15.1
Median	10,264	10.5	77,679	74.9	13,479	14.3
1These abbreviations refer to the formulae for calculations of calling outcomes and rates presented in Table 3.						

Table 5B Categories of Eligibility by State (Cell Phone Sample)						
	ELIG[1]		INELIG[1]		UNKELIG[1]	
State	N	%	N	%	N	%
AL	2,285	6.9	15,917	47.8	15,097	45.3
AK	1,450	5.7	19,060	75.2	4,840	19.1
AZ	1,942	6.9	11,486	41.1	14,532	52.0
AR	1,851	10.6	9,135	52.3	6,474	37.1
CA	6,575	8.2	39,746	49.5	34,048	42.4
CO	4,681	13.4	14,983	42.8	15,332	43.8
CT	3,039	5.0	19,244	31.5	38,827	63.5
DE	1,929	7.5	10,286	40.0	13,525	52.5
DC	1,220	2.8	20,653	47.2	21,867	50.0
FL	9,559	7.8	38,792	31.6	74,227	60.6
GA	3,287	7.4	19,444	43.8	21,699	48.8
HI	5,796	13.2	15,946	36.2	22,267	50.6
ID	1,949	18.1	4,649	43.3	4,142	38.6
IL	1,753	8.2	8,948	41.7	10,757	50.1
IN	3,473	10.7	14,676	45.0	14,461	44.3
IA	2,578	11.8	11,360	51.9	7,961	36.4
KS	9,813	8.6	59,902	52.7	43,955	38.7
KY	3,052	5.6	26,635	48.9	24,763	45.5
LA	788	6.3	6,343	50.5	5,440	43.3
ME	2,118	9.6	10,277	46.4	9,743	44.0
MD	2,626	6.0	17,623	40.5	23,281	53.5
MA	4,493	6.4	26,388	37.4	39,619	56.2
MI	6,858	10.2	30,149	44.7	30,373	45.1
MN	6,376	10.4	23,247	38.1	31,427	51.5
MS	2,429	10.9	11,113	49.9	8,718	39.2
MO	2,084	11.2	7,233	38.8	9,316	50.0
MT	3,916	8.0	32,941	66.9	12,377	25.1
NE	6,127	14.6	22,692	54.0	13,241	31.5
NV	1,929	9.3	6,812	32.7	12,079	58.0

Table 5B Categories of Eligibility by State (Cell Phone Sample)						
	ELIG[1]		INELIG[1]		UNKELIG[1]	
NH	2,242	6.3	14,194	39.9	19,144	53.8
NJ	5,746	7.0	32,478	39.4	44,126	53.6
NM	4,980	12.5	21,620	54.2	13,300	33.3
NY	3,561	7.9	18,741	41.7	22,666	50.4
NC	2,788	10.6	10,980	41.6	12,625	47.8
ND	3,204	6.6	33,755	69.2	11,850	24.3
OH	4,385	6.6	27,112	40.9	34,743	52.5
OK	3,751	10.3	21,523	58.9	11,293	30.9
OR	2,442	7.8	6,679	21.4	22,017	70.7
PA	3,908	7.3	22,975	42.7	26,877	50.0
RI	2,377	6.6	12,536	34.7	21,237	58.7
SC	3,952	10.2	14,170	36.4	20,758	53.4
SD	3,127	7.3	24,786	57.6	15,091	35.1
TN	1,756	5.2	11,699	34.4	20,523	60.4
TX	4,516	10.6	20,400	48.1	17,534	41.3
UT	6,521	15.7	14,250	34.3	20,749	50.0
VT	1,691	6.2	12,067	43.9	13,722	49.9
VA	3,257	7.6	16,484	38.4	23,189	54.0
WA	5,673	8.8	21,087	32.8	37,500	58.4
WV	2,185	11.6	5,304	28.1	11,380	60.3
WI	2,618	10.9	12,589	52.5	8,763	36.6
WY	1,535	5.5	18,815	66.9	7,790	27.7
GU	736	5.7	9,327	72.8	2,742	21.4
PR	3,261	22.9	5,708	40.1	5,257	37.0
Minimum	736	2.8	4,649	21.4	2,742	19.1
Maximum	9,813	22.9	59,902	75.2	74,227	70.7
Mean	3,513	9.0	18,207	45.2	19,420	45.8
Median	3,052	8.0	15,946	42.8	15,097	48.8
1These abbreviations refer to the formulae for calculations of calling outcomes and rates presented in Table 3.						

Table 6 Response Rates for Landline and Cell Phone Samples			
State	**Landline Response Rate**	**Cell Phone Response Rate**	**Combined Response Rate**
AL	28.0	32.8	29.0
AK	49.7	62.6	52.0
AZ	43.4	32.1	39.5
AR	43.3	40.6	42.8
CA	38.9	39.3	39.0
CO	62.0	45.4	58.0
CT	41.3	24.1	35.2
DE	42.4	33.6	40.1
DC	37.1	33.1	36.2
FL	37.1	25.6	35.2
GA	49.6	35.7	46.5
HI	43.1	34.8	40.2
ID	50.7	47.3	50.3
IL	50.8	39.2	48.1
IN	43.9	41.7	43.5
IA	52.6	49.7	52.0
KS	57.2	47.6	53.8
KY	59.0	45.9	55.7
LA	40.3	44.7	40.8
ME	56.0	44.1	53.4
MD	52.2	32.9	48.0
MA	42.6	29.5	39.9
MI	48.2	33.6	44.0
MN	59.8	39.2	54.3
MS	42.3	50.5	43.9
MO	50.0	38.3	46.4
MT	56.5	58.6	57.2
NE	54.7	49.2	53.5
NV	46.5	36.3	43.7

Table 6 Response Rates for Landline and Cell Phone Samples			
State	**Landline Response Rate**	**Cell Phone Response Rate**	**Combined Response Rate**
NH	43.3	33.7	39.9
NJ	46.5	29.8	41.4
NM	52.5	52.0	52.3
NY	31.9	30.7	31.6
NC	40.6	36.5	39.6
ND	59.8	58.0	59.2
OH	54.1	33.7	48.2
OK	52.9	44.6	50.1
OR	38.4	21.4	33.0
PA	39.9	35.4	38.7
RI	35.7	26.4	32.6
SC	51.9	35.5	47.2
SD	58.7	52.6	56.6
TN	50.1	33.9	45.9
TX	36.3	40.8	37.4
UT	53.8	36.5	49.3
VT	53.1	37.8	48.0
VA	50.1	33.0	45.5
WA	35.9	19.1	31.1
WV	57.3	30.3	46.4
WI	50.8	48.2	50.1
WY	44.3	57.5	46.8
GU	46.4	47.5	46.8
PR	63.7	48.1	60.3
Minimum	28.0	19.1	29.0
Maximum	63.7	62.6	60.3
Mean	47.7	39.5	45.3
Median	49.6	37.8	46.4

References

1. Methodologic changes in the Behavioral Risk Factor Surveillance System in 2011 and potential effects on prevalence estimates. *MMWR Weekly* June 8, 2012 / 61(22); 410-3. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6122a3.htm.

2. The American Association for Public Opinion Research. 2011. *Standard Definitions: Final dispositions of case codes and outcome rates for surveys*. 7th edition. http://www.aapor.org/AM/Template.cfm?Section=Standard_Definitions2&Template=/CM/ContentDisplay.cfm&ContentID=3156

3. The Council of American Survey Research Organizations. 2013. Code of standards and ethics for market, opinion, and social research http://c.ymcdn.com/sites/www.casro.org/resource/resmgr/code/september_2013_revised_code.pdf?hhSearchTerms=%22casro+and+response+and+rate%22.

4. The Pew Research Center for People and the Press. 2012. Assessing the representativeness of public opinion surveys. http://www.people-press.org/files/legacy-pdf/Assessing%20the%20Representativeness%20of%20Public%20Opinion%20Surveys.pdf.

5. Groves, RM. Nonresponse rates and nonresponse bias in household surveys. *Public Opinion Quarterly* 70(5): Special Issue 2006, 646–75.