

# Behavioral Risk Factor Surveillance System

2018 Summary Data Quality Report  
July 17, 2019



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## Introduction

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based, CDC-assisted health-data collection project and partnership of state health departments, CDC's Division of Population Health, 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, and Guam.

This *Summary Data Quality Report* presents detailed descriptions of the 2018 BRFSS calling outcomes and call summary information for each of the states and territories that participated. All BRFSS public-use data are collected by landline telephone and cellular telephone to produce a single data set aggregated from the 2018 BRFSS territorial- and state-level data sets. The variables and outcomes provided in this document are applicable 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. In many respects, 2011 was a year of change—both in BRFSS's approach and methodology. As the results of cellular telephone interviews were added in 2011, so were new weighting procedures that could accommodate the inclusion of new weighting variables. Data users should note that 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, should begin new trend lines with that year. Details of changes beginning with the 2011 BRFSS are provided in the *Morbidity and Mortality Weekly Report (MMWR)*, which highlights weighting and coverage effects on trend lines.<sup>1</sup> Since 2011, each yearly data set has included a larger percentage of calls from the cell phone sample. In 2018, a majority of the BRFSS interviews were conducted by cell phone. The annual codebooks provide information on the number and percentage of calls conducted by landline and cell phone by year.

The measures presented in this document are designed to summarize the quality of the 2018 BRFSS survey data. Response rates, cooperation rates, and refusal rates for BRFSS are calculated using standards set by the American Association for Public Opinion Research (AAPOR).<sup>2</sup> The BRFSS has calculated 2018 response rates using AAPOR Response Rate #4, which is in keeping with rates provided by BRFSS before 2011 using rates from the Council of American Survey Research Organizations (CASRO).<sup>3</sup>

On the basis of the AAPOR guidelines, response rate calculations include assumptions of eligibility among potential respondents or households that are not interviewed. Changes in the geographic distribution of cellular telephone numbers by telephone companies and the portability of landline telephone numbers are likely to make it more difficult than in the past to determine which telephone numbers are out-of-sample and which telephone numbers represent likely households. The BRFSS calculates likely households and eligible persons using the proportions of eligible households/persons among all phone numbers where eligibility has been determined. This eligibility factor appears in calculations of response, cooperation, resolution, and refusal rates.

## Interpretation of BRFSS Response Rates

Because this report reflects the inclusion of BRFSS cellular telephone interviews, contextual information on cellular telephone response rates is provided 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). Moreover, since the initial inclusion of cell phone respondents, the proportion of the sample that is interviewed by cell phone has increased. In many states, cell phone respondents are the majority of the sample. Since 2012, median BRFSS cell phone response rates have risen slightly. Overall, BRFSS response rates have leveled-off in the past few years, with landline rates declining and cell phone rates improving. In 2018, the screening of eligible landline phone numbers has improved, which may account for a slight improvement in the proportion of numbers identified as working phone numbers in the landline sample. This change would not necessarily increase response rates. The leveling-off of telephone survey response rates is noted for other federal surveys as well.<sup>4</sup>

**Table 1.**  
Examples of Survey Response Rates

Survey	Year(s)	Response Rates	
		Landline	Cell Phone
California Health Interview Survey (CHIS) <sup>a</sup>	2017	9.3%	6.5%
National Immunization Survey (NIS) <sup>b</sup>	2017	51.9%	25.0%
Pew Research Center Library Survey <sup>c</sup>	2013	10.3%	13.2%
Pew Research Center Internet Use Survey <sup>d</sup>	2013	8.4%	9.5%
National Adult Tobacco Survey (NATS) <sup>e</sup>	2013-2014	47.6%	17.1%
BRFSS <sup>f</sup>	2018	53.3%	43.4%

<sup>a</sup> CHIS 2017 Methodology Report Series. (2018) [https://healthpolicy.ucla.edu/chis/design/Documents/CHIS\\_2017\\_MethodologyReport4\\_ResponseRates.pdf](https://healthpolicy.ucla.edu/chis/design/Documents/CHIS_2017_MethodologyReport4_ResponseRates.pdf)

<sup>b</sup> 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 the most knowledgeable about household immunization information. <https://www.cdc.gov/vaccines/imz-managers/nis/downloads/NIS-PUF17-DUG.pdf>

<sup>c</sup> <https://www.pewinternet.org/2014/04/03/methods-28/>

<sup>d</sup> <https://www.pewinternet.org/2014/08/26/methods-29/>

<sup>e</sup> [https://www.cdc.gov/tobacco/data\\_statistics/surveys/nats/pdfs/2014-methodology-report-tag508.pdf](https://www.cdc.gov/tobacco/data_statistics/surveys/nats/pdfs/2014-methodology-report-tag508.pdf)

<sup>f</sup> 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.<sup>5</sup> Comparisons of federal surveys indicate that all surveys, including the BRFSS, have experienced declining response rates in recent years.<sup>4</sup> Generally, response rates are lower for telephone surveys than for surveys conducted in person.<sup>5</sup> Industry averages for response rates by in-person, telephone, mail and online surveys average 57%, 18%, 50% and 29%, respectively.<sup>7</sup> Despite lower response rates over time, these

research findings support previous ones<sup>6</sup> that suggest weighting to demographic characteristics of respondents ensures accurate estimates for most measures.

The following tables present landline telephone and cellular telephone calling outcomes and rates. The BRFSS cellular telephone survey was collected in a manner similar to that of 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 are based on landline telephone disposition codes.
2. Call outcome measures, including response rates, which are based on cellular telephone disposition codes.
3. A weighted response rate, based on a combination of the landline telephone response rate with the cellular telephone response rate proportional to the total sample used to collect the data for a state.

For clarity, the BRFSS recommends that authors and 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 for Public Opinion Research (AAPOR) Response Rate Formula #4 ([http://www.aapor.org/AAPOR\\_Main/media/publications/Standard-Definitions20169theditionfinal.pdf](http://www.aapor.org/AAPOR_Main/media/publications/Standard-Definitions20169theditionfinal.pdf)). The response rate is the number of respondents who completed the survey as a proportion of all eligible and likely-eligible people. The median survey response rate for all states, territories and Washington, DC, in 2018 was 49.9 and ranged from 38.8 to 67.2.<sup>a</sup> Response rates for states and territories included in this analysis had a median of [provide median] and ranged from [provide range].<sup>b</sup> For detailed information see the BRFSS Summary Data Quality Report.<sup>c</sup>

<sup>a</sup> Response rates and ranges should reflect the year(s) included in the analyses.

<sup>b</sup> Response rates for states selected for analysis should be included here. This sentence may be omitted if all states are used in the analysis.

<sup>c</sup> See the Summary Data Quality Report for the year(s) included in the analyses. The 2018 document is available at: [https://www.cdc.gov/brfss/annual\\_data/2018/pdf/2018-sdqr-508.pdf](https://www.cdc.gov/brfss/annual_data/2018/pdf/2018-sdqr-508.pdf).

## **BRFSS 2018 Call Outcome Measures and Response Rate Formulae**

The calculations of calling-outcome rates are based on final disposition codes that are assigned after all calling attempts have been exhausted. The BRFSS may make up to 15 attempts to reach a respondent before assigning a final disposition code. In 2018, the BRFSS used a single set of disposition codes for both landline and cell phones, adapted from standardized AAPOR disposition codes for telephone surveys. A few disposition codes apply only to landline telephone or to cellular telephone sample numbers. For example, answering-device messages may confirm household eligibility for landline telephone numbers but are not used 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 or respondent (3000 level codes).

Partially completed interviews are those that have collected all information needed to weight responses (about 12 minutes into the survey questionnaire, not including time for eligibility screening). The table below illustrates the codes used by the BRFSS in 2018, and it notes the instances where codes are used 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 the following:

- Respondent: A person who is contacted by an interviewer and who may be eligible for interview.
- Private residence: Persons residing in private residences or college housing are eligible. Persons living in group homes, military barracks or other living arrangements are not eligible. Persons living in vacation homes for 30 days or more are eligible. Eligibility is determined by asking each potential respondent whether they live in a private residence. If the respondent is unsure whether their residence qualifies, additional definitions of residences are provided.
- Landline telephone: A telephone that is used within a specific location, including traditional household telephones, Voice Over Internet Protocol (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 United States or territories covered by the BRFSS. 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 that is used for personal calls. Cellular telephones that are used for both personal and business calls may be categorized as personal telephones and persons contacted on these phones are eligible for interview. Persons using telephones that are exclusively for business use are not eligible for interview.

**Table 2.**

2018 Disposition Codes for Landline Telephones and Cellular Telephones

Category	Code	Description
<b>Interviewed (1000-level codes)</b>	1100	Completed interview
	1200	Partially completed interview
<b>Eligible, Non-Interview (2000 level codes)</b>	2111	Household level refusal (used for landline only)
	2112	Selected respondent refusal
	2120	Break off/termination within questionnaire
	2210	Selected respondent never available
	2320	Selected respondent physically or mentally unable to complete interview
	2330	Language barrier of selected respondent

**Table 2.**

2018 Disposition Codes for Landline Telephones and Cellular Telephones

<b>Category</b>	<b>Code</b>	<b>Description</b>
<b>Unknown Eligibility (3000 level codes)</b>	3100	Unknown if housing unit
	3130	No answer
	3140	Answering device, unknown whether eligible
	3150	Telecommunication barrier (i.e. call blocking)
	3200	Household, not known if respondent eligible
	3322	Physical or mental impairment (household level)
	3330	Language barrier (household level)
	3700	On never-call list
<b>Not Eligible (4000 level codes)</b>	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
	4460	Landline telephone number (used for cellular telephone only)
	4500	Non-residence/business
	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.**

Categories of 2018 Landline and Cellular Telephone Disposition Codes

<b>Category</b>	<b>Disposition Code Definitions</b>	<b>Formulae Abbreviation</b>
Completed Interviews	1100+1200	COIN
Eligible	1100+1200+2111+2112+2120+2210+2320+2330	ELIG
Contacted Eligible	1100+1200+2111+2112+2120+2210+2320+2330	CONEIG

**Table 3.**

Categories of 2018 Landline and Cellular Telephone Disposition Codes

<b>Category</b>	<b>Disposition Code Definitions</b>	<b>Formulae Abbreviation</b>
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

The disposition codes are categorized according to the groups illustrated in Table 3 to produce rates of resolution, cooperation, completion, refusal and response. In accordance with population surveillance standards, the proportions of people who may have been eligible for interview, but who were not able to be interviewed, are accounted for in the formulae.

### **Eligibility Factor**

$$E = ELIG / (ELIG + INELIG)$$

The Eligibility Factor is the proportion of eligible phone numbers from among all sample numbers for which eligibility has been determined. The eligibility factor, therefore, provides a measure of eligibility that can be applied 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. The eligibility factor is used in the calculations of refusal and response rates. Separate eligibility factors are calculated 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 eligibility has been determined. The total number of eligible and ineligible sample phone numbers is divided by the total number of phone numbers in the entire sample. The result is multiplied by 100 to calculate the percentage of the sample for which eligibility is determined. Separate resolution rates are calculated 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 who have been determined to be eligible and selected for interviewing. The numerator is the number of complete and partially completed interviews. This number is divided by the number of completed interviews, partially completed interviews, and all break offs, refusals, and terminations. The result is multiplied by 100 to provide the percentage of completed interviews among eligible respondents who are contacted by interviewers. Separate interview completion rates are calculated 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. Separate cooperation rates are calculated 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 to be considered 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. The proportion of numbers with unknown eligibility is determined by the eligibility factor (E as described above). The result is then multiplied by 100 to provide a percentage of refusals among all eligible and likely to be eligible numbers in the sample. Separate refusal rates are calculated 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 cell phones as the records whose eligibility or ineligibility are determined. 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. Separate eligibility factors are calculated for landline telephone and cellular telephone samples for each state and territory, and a combined Response Rate for landline telephone and cellular telephone also is calculated. The combined landline telephone and cellular telephone response rate is generated by weighting to the respective size of the two samples. The total sample equals the landline telephone sample plus cellular telephone sample. The proportion of each sample is calculated using the total sample as the denominator. The formulae for the proportions of the sample are found below:

P1 = TOTAL LANDLINE SAMPLE /  
(TOTAL LANDLINE SAMPLE + TOTAL CELL PHONE SAMPLE);

P2 = TOTAL CELL PHONE SAMPLE /  
(TOTAL LANDLINE SAMPLE + TOTAL CELL PHONE SAMPLE);

The formula for the Combined Landline Telephone and Cellular Telephone Weighted Response Rate, therefore, is described below:

COMBINED RESPONSE RATE=

(P1 \* LANDLINE RESPONSE RATE) + (P2 \* 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, cooperation rates, 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. Landline Sample.***  
***Completions, Terminations and Refusals, Contacted Eligible Households and Total Sample by State***

	COIN		TERE		CONEIG		COOP	
State	N	%	N	%	N	%	%	Total Sample
AL	2,126	2.9	1,154	1.6	3,617	5.0	58.8	72,437
AK	1,395	2.0	369	0.5	2,114	3.0	66.0	71,272
AZ	2,733	2.2	940	0.7	4,090	3.2	66.8	126,900
AR	3,377	2.7	1,252	1.0	5,160	4.1	65.4	124,620
CA	2,047	1.2	1,249	0.7	3,699	2.1	55.3	174,027
CO	3,042	3.3	720	0.8	4,380	4.7	69.5	93,390
CT	5,514	4.9	1,857	1.6	8,419	7.4	65.5	113,370
DE	1,705	1.7	360	0.4	2,608	2.6	65.4	101,010
DC	1,735	1.4	671	0.5	2,725	2.2	63.7	123,324
FL	5,128	1.3	1,051	0.3	7,698	2.0	66.6	383,700
GA	3,051	1.0	703	0.2	4,850	1.5	62.9	316,020
HI	1,793	2.3	630	0.8	3,055	3.9	58.7	79,290
ID	1,237	1.8	427	0.6	1,857	2.7	66.6	69,300
IL	1,285	2.0	439	0.7	2,091	3.2	61.5	64,440
IN	3,758	1.9	1,635	0.8	6,062	3.1	62.0	195,300
IA	2,306	3.7	839	1.3	3,507	5.6	65.8	62,460
KS	3,934	3.5	1,324	1.2	5,677	5.1	69.3	111,180
KY	3,060	1.5	517	0.3	3,672	1.8	83.3	202,320
LA	1,015	1.5	770	1.1	1,965	2.9	51.7	67,410
ME	6,397	2.8	1,844	0.8	8,579	3.8	74.6	227,972
MD	9,994	2.7	4,097	1.1	16,679	4.5	59.9	369,120
MA	2,304	1.6	728	0.5	3,220	2.2	71.6	146,507
MI	2,706	2.1	686	0.5	4,050	3.2	66.8	125,940
MN	4,550	2.7	711	0.4	6,350	3.8	71.7	168,720
MS	1,675	2.6	889	1.4	2,767	4.2	60.5	65,520
MO	3,144	3.4	866	0.9	4,554	5.0	69.0	91,534

***Table 4A. Landline Sample.***  
***Completions, Terminations and Refusals, Contacted Eligible Households and Total Sample by State***

	COIN		TERE		CONEIG		COOP	
State	N	%	N	%	N	%	%	Total Sample
MT	2,600	3.7	656	0.9	3,782	5.4	68.7	70,218
NE	5,337	4.1	2,225	1.7	8,446	6.4	63.2	131,400
NV	883	2.3	317	0.8	1,318	3.4	67.0	38,970
NH	3,268	4.3	993	1.3	4,779	6.2	68.4	76,890
NJ	1,217	1.7	403	0.6	1,946	2.7	62.5	72,808
NM	1,835	2.4	877	1.2	3,172	4.2	57.8	75,600
NY	14,483	2.1	7,724	1.1	25,457	3.6	56.9	698,280
NC	1,010	3.4	661	2.2	1,834	6.1	55.1	30,060
ND	3,090	3.7	859	1.0	4,318	5.1	71.6	83,995
OH	6,286	2.4	1,062	0.4	9,052	3.5	69.4	261,360
OK	1,812	3.1	875	1.5	3,310	5.6	54.7	59,210
OR	989	3.0	741	2.2	1,778	5.4	55.6	33,118
PA	1,338	2.4	563	1.0	2,178	4.0	61.4	54,900
RI	2,323	3.5	1,135	1.7	3,983	5.9	58.3	67,020
SC	5,630	3.8	1,744	1.2	8,808	6.0	63.9	146,698
SD	3,490	2.3	582	0.4	4,449	2.9	78.4	153,687
TN	1,482	1.9	1,181	1.5	2,881	3.8	51.4	76,290
TX	4,268	1.5	1,448	0.5	6,565	2.3	65.0	279,540
UT	1,961	3.8	449	0.9	2,849	5.4	68.8	52,290
VT	3,237	3.4	1,203	1.3	4,890	5.1	66.2	96,180
VA	4,066	2.4	749	0.4	6,191	3.7	65.7	169,560
WA	5,368	2.9	1,767	0.9	7,931	4.2	67.7	187,770
WV	2,336	7.3	725	2.3	3,362	10.4	69.5	32,220
WI	1,846	3.7	771	1.6	2,894	5.8	63.8	49,530
WY	2,285	3.1	309	0.4	3,112	4.3	73.4	72,660
GU	1,179	2.5	660	1.4	2,784	5.9	42.3	46,936

***Table 4A. Landline Sample.***  
***Completions, Terminations and Refusals, Contacted Eligible Households and Total Sample by State***

<b>State</b>	<b>COIN</b>		<b>TERE</b>		<b>CONEIG</b>		<b>COOP</b>	<b>Total Sample</b>
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>%</b>	
PR	669	2.6	95	0.4	984	3.8	68.0	26,160
Minimum	669	1.0	95	0.2	984	1.5	42.3	26,160
Maximum	14,483	7.3	7,724	2.3	25,457	10.4	83.3	698,280
Mean	3,119	2.7	1,085	1.0	4,840	4.2	64.4	130,008
Median	2,336	2.6	771	0.9	3,699	4.0	65.5	91,534

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

State	COIN		TERE		CONEIG		COOP	Total Sample
	N	%	N	%	N	%	%	
AL	4,400	4.9	898	1.0	5,379	5.9	81.8	90,600
AK	1,385	5.6	110	0.4	1,522	6.2	91.0	24,603
AZ	4,900	4.6	1,040	1.0	6,141	5.8	79.8	106,620
AR	1,903	5.7	295	0.9	2,260	6.8	84.2	33,330
CA	9,519	5.0	3,006	1.6	12,914	6.8	73.7	189,201
CO	5,807	8.0	517	0.7	6,398	8.8	90.8	72,749
CT	5,549	4.4	1,456	1.1	7,303	5.7	76.0	127,170
DE	3,785	2.2	539	0.3	4,626	2.7	81.8	173,490
DC	2,506	1.8	834	0.6	3,477	2.4	72.1	142,914
FL	9,074	3.7	1,339	0.5	11,235	4.6	80.8	245,460
GA	6,083	2.0	1,359	0.5	8,182	2.7	74.3	299,910
HI	6,023	6.0	984	1.0	7,212	7.2	83.5	99,660
ID	2,431	7.0	265	0.8	2,751	8.0	88.4	34,560
IL	3,970	4.6	578	0.7	4,647	5.4	85.4	85,740
IN	3,736	4.9	749	1.0	4,637	6.1	80.6	76,320
IA	7,018	8.4	690	0.8	7,797	9.3	90.0	83,880
KS	7,423	4.6	997	0.6	8,505	5.2	87.3	162,330
KY	5,659	3.2	650	0.4	6,420	3.6	88.1	178,980
LA	4,123	3.7	1,513	1.4	5,702	5.1	72.3	111,974
ME	4,654	3.9	776	0.6	5,467	4.6	85.1	119,781
MD	8,123	4.2	1,877	1.0	10,375	5.4	78.3	191,250
MA	4,168	2.7	734	0.5	4,990	3.2	83.5	154,852
MI	7,984	5.1	997	0.6	9,862	6.3	81.0	157,080
MN	11,994	4.9	861	0.4	13,677	5.6	87.7	242,430
MS	4,214	5.8	837	1.2	5,096	7.0	82.7	72,600
MO	2,779	6.9	327	0.8	3,180	7.9	87.4	40,019

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

State	COIN		TERE		CONEIG		COOP	Total Sample
	N	%	N	%	N	%	%	
MT	2,720	6.7	217	0.5	2,986	7.3	91.1	40,738
NE	9,816	8.0	1,380	1.1	11,450	9.3	85.7	122,610
NV	2,267	7.7	272	0.9	2,563	8.7	88.5	29,310
NH	2,614	5.7	655	1.4	3,364	7.3	77.7	45,900
NJ	1,620	2.9	323	0.6	2,086	3.7	77.7	56,038
NM	5,288	8.2	944	1.5	6,337	9.9	83.4	64,260
NY	22,409	3.9	6,435	1.1	31,263	5.4	71.7	581,460
NC	3,197	6.6	473	1.0	3,733	7.7	85.6	48,300
ND	2,862	4.6	290	0.5	3,218	5.2	88.9	61,813
OH	6,436	3.9	647	0.4	7,673	4.6	83.9	165,057
OK	3,410	4.7	658	0.9	4,132	5.6	82.5	73,134
OR	4,809	4.6	699	0.7	5,544	5.3	86.7	104,032
PA	4,642	4.8	709	0.7	5,544	5.7	83.7	97,410
RI	3,515	3.9	987	1.1	4,685	5.2	75.0	90,840
SC	5,169	6.5	856	1.1	6,148	7.7	84.1	79,830
SD	3,675	3.5	375	0.4	4,099	3.9	89.7	105,438
TN	3,518	3.7	1,391	1.5	4,981	5.3	70.6	94,290
TX	5,915	4.0	1,582	1.1	8,086	5.5	73.2	146,428
UT	8,922	10.8	563	0.7	9,916	12.0	90.0	82,738
VT	3,222	4.6	598	0.9	3,919	5.6	82.2	69,570
VA	6,144	4.4	714	0.5	7,384	5.3	83.2	138,360
WA	7,815	6.3	1,570	1.3	9,636	7.7	81.1	124,349
WV	2,621	6.1	306	0.7	2,960	6.9	88.5	42,743
WI	3,219	7.2	697	1.6	3,962	8.9	81.2	44,700
WY	2,337	3.4	177	0.3	2,622	3.8	89.1	68,610
GU	462	3.7	91	0.7	579	4.6	79.8	12,479

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

<b>State</b>	<b>COIN</b>		<b>TERE</b>		<b>CONELIG</b>		<b>COOP</b>	<b>Total Sample</b>
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>%</b>	
PR	4,367	15.4	158	0.6	4,627	16.3	94.4	28,440
Minimum	462	1.8	91	0.3	579	2.4	70.6	12,479
Maximum	22,409	15.4	6,435	1.6	31,263	16.3	94.4	581,460
Mean	5,136	5.3	906	0.8	6,288	6.3	83.0	112,007
Median	4,367	4.7	709	0.8	5,379	5.7	83.5	90,840

**Table 5A. Landline Sample.**  
**Categories of Eligibility by State (Landline Only).**

State	ELIG		INELIG		UNKELIG	
	N	%	N	%	N	%
AL	3,617	5.0	56,562	78.1	12,258	16.9
AK	2,114	3.0	63,489	89.1	5,669	8.0
AZ	4,090	3.2	106,221	83.7	16,589	13.1
AR	5,160	4.1	102,204	82.0	17,256	13.8
CA	3,699	2.1	136,635	78.5	33,693	19.4
CO	4,380	4.7	75,315	80.6	13,695	14.7
CT	8,419	7.4	82,120	72.4	22,831	20.1
DE	2,608	2.6	67,990	67.3	30,412	30.1
DC	2,725	2.2	97,746	79.3	22,853	18.5
FL	7,698	2.0	300,018	78.2	75,984	19.8
GA	4,850	1.5	245,947	77.8	65,223	20.6
HI	3,055	3.9	63,118	79.6	13,117	16.5
ID	1,857	2.7	59,621	86.0	7,822	11.3
IL	2,091	3.2	49,802	77.3	12,547	19.5
IN	6,062	3.1	155,997	79.9	33,241	17.0
IA	3,507	5.6	49,362	79.0	9,591	15.4
KS	5,677	5.1	90,339	81.3	15,164	13.6
KY	3,672	1.8	169,472	83.8	29,176	14.4
LA	1,965	2.9	54,577	81.0	10,868	16.1
ME	8,579	3.8	178,984	78.5	40,409	17.7
MD	16,679	4.5	270,230	73.2	82,211	22.3
MA	3,220	2.2	101,650	69.4	41,637	28.4
MI	4,050	3.2	101,994	81.0	19,896	15.8
MN	6,350	3.8	133,478	79.1	28,892	17.1
MS	2,767	4.2	57,259	87.4	5,494	8.4
MO	4,554	5.0	73,098	79.9	13,882	15.2
MT	3,782	5.4	57,417	81.8	9,019	12.8

**Table 5A. Landline Sample.**  
**Categories of Eligibility by State (Landline Only).**

State	ELIG		INELIG		UNKELIG	
	N	%	N	%	N	%
NE	8,446	6.4	106,183	80.8	16,771	12.8
NV	1,318	3.4	30,014	77.0	7,638	19.6
NH	4,779	6.2	56,744	73.8	15,367	20.0
NJ	1,946	2.7	52,947	72.7	17,915	24.6
NM	3,172	4.2	62,949	83.3	9,479	12.5
NY	25,457	3.6	513,725	73.6	159,098	22.8
NC	1,834	6.1	22,638	75.3	5,588	18.6
ND	4,318	5.1	68,178	81.2	11,499	13.7
OH	9,052	3.5	205,193	78.5	47,115	18.0
OK	3,310	5.6	48,337	81.6	7,563	12.8
OR	1,778	5.4	27,328	82.5	4,012	12.1
PA	2,178	4.0	40,637	74.0	12,085	22.0
RI	3,983	5.9	46,829	69.9	16,208	24.2
SC	8,808	6.0	111,781	76.2	26,109	17.8
SD	4,449	2.9	132,327	86.1	16,911	11.0
TN	2,881	3.8	60,611	79.4	12,798	16.8
TX	6,565	2.3	225,103	80.5	47,872	17.1
UT	2,849	5.4	42,825	81.9	6,616	12.7
VT	4,890	5.1	72,202	75.1	19,088	19.8
VA	6,191	3.7	126,043	74.3	37,326	22.0
WA	7,931	4.2	149,412	79.6	30,427	16.2
WV	3,362	10.4	20,999	65.2	7,859	24.4
WI	2,894	5.8	38,492	77.7	8,144	16.4
WY	3,112	4.3	59,266	81.6	10,282	14.2
GU	2,784	5.9	38,232	81.5	5,920	12.6
PR	984	3.8	21,081	80.6	4,095	15.7
Minimum	984	1.5	20,999	65.2	4,012	8.0

**Table 5A. Landline Sample.**  
**Categories of Eligibility by State (Landline Only).**

<b>State</b>	<b>ELIG</b>		<b>INELIG</b>		<b>UNKELIG</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
Maximum	25,457	10.4	513,725	89.1	159,098	30.1
Mean	4,840	4.2	101,523	78.7	23,646	17.1
Median	3,699	4.0	68,178	79.4	15,367	16.8

***Table 5B. Cell Phone Sample.  
Categories of Eligibility by State (Cell Phone Only).***

State	ELIG		INELIG		UNKELIG	
	N	%	N	%	N	%
AL	5,379	5.9	45,482	50.2	39,739	43.9
AK	1,522	6.2	16,976	69.0	6,105	24.8
AZ	6,141	5.8	58,108	54.5	42,371	39.7
AR	2,260	6.8	18,631	55.9	12,439	37.3
CA	12,914	6.8	73,005	38.6	103,282	54.6
CO	6,398	8.8	31,851	43.8	34,500	47.4
CT	7,303	5.7	54,599	42.9	65,268	51.3
DE	4,626	2.7	72,548	41.8	96,316	55.5
DC	3,477	2.4	85,134	59.6	54,303	38.0
FL	11,235	4.6	118,914	48.4	115,311	47.0
GA	8,182	2.7	141,010	47.0	150,718	50.3
HI	7,212	7.2	39,764	39.9	52,684	52.9
ID	2,751	8.0	14,217	41.1	17,592	50.9
IL	4,647	5.4	30,212	35.2	50,881	59.3
IN	4,637	6.1	36,080	47.3	35,603	46.6
IA	7,797	9.3	43,673	52.1	32,410	38.6
KS	8,505	5.2	99,453	61.3	54,372	33.5
KY	6,420	3.6	86,415	48.3	86,145	48.1
LA	5,702	5.1	50,910	45.5	55,362	49.4
ME	5,467	4.6	54,929	45.9	59,385	49.6
MD	10,375	5.4	89,933	47.0	90,942	47.6
MA	4,990	3.2	74,068	47.8	75,794	48.9
MI	9,862	6.3	80,557	51.3	66,661	42.4
MN	13,677	5.6	111,259	45.9	117,494	48.5
MS	5,096	7.0	44,836	61.8	22,668	31.2
MO	3,180	7.9	19,381	48.4	17,458	43.6
MT	2,986	7.3	21,609	53.0	16,143	39.6

***Table 5B. Cell Phone Sample.  
Categories of Eligibility by State (Cell Phone Only).***

State	ELIG		INELIG		UNKELIG	
	N	%	N	%	N	%
NE	11,450	9.3	72,230	58.9	38,930	31.8
NV	2,563	8.7	11,142	38.0	15,605	53.2
NH	3,364	7.3	21,530	46.9	21,006	45.8
NJ	2,086	3.7	24,908	44.4	29,044	51.8
NM	6,337	9.9	32,465	50.5	25,458	39.6
NY	31,263	5.4	256,472	44.1	293,725	50.5
NC	3,733	7.7	20,348	42.1	24,219	50.1
ND	3,218	5.2	34,581	55.9	24,014	38.8
OH	7,673	4.6	77,764	47.1	79,620	48.2
OK	4,132	5.6	44,315	60.6	24,687	33.8
OR	5,544	5.3	38,664	37.2	59,824	57.5
PA	5,544	5.7	43,872	45.0	47,994	49.3
RI	4,685	5.2	42,624	46.9	43,531	47.9
SC	6,148	7.7	36,723	46.0	36,959	46.3
SD	4,099	3.9	70,444	66.8	30,895	29.3
TN	4,981	5.3	42,911	45.5	46,398	49.2
TX	8,086	5.5	70,804	48.4	67,538	46.1
UT	9,916	12.0	40,739	49.2	32,083	38.8
VT	3,919	5.6	32,616	46.9	33,035	47.5
VA	7,384	5.3	60,535	43.8	70,441	50.9
WA	9,636	7.7	51,632	41.5	63,081	50.7
WV	2,960	6.9	17,454	40.8	22,329	52.2
WI	3,962	8.9	23,366	52.3	17,372	38.9
WY	2,622	3.8	47,631	69.4	18,357	26.8
GU	579	4.6	8,583	68.8	3,317	26.6
PR	4,627	16.3	9,979	35.1	13,834	48.6
Minimum	579	2.4	8,583	35.1	3,317	24.8

**Table 5B. Cell Phone Sample.**  
**Categories of Eligibility by State (Cell Phone Only).**

<b>State</b>	<b>ELIG</b>		<b>INELIG</b>		<b>UNKELIG</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
Maximum	31,263	16.3	256,472	69.4	293,725	59.3
Mean	6,288	6.3	53,734	49.0	51,986	44.7
Median	5,379	5.7	43,872	47.0	39,739	47.5

**Table 6. Response Rates for Landline and Cell Phone Samples**

State	Landline Response Rate	Cell Phone Response Rate	Combined Response Rate
AL	48.8	45.9	47.2
AK	60.7	68.4	62.7
AZ	58.1	48.1	53.5
AR	56.4	52.8	55.6
CA	44.6	33.5	38.8
CO	59.3	47.7	54.2
CT	52.3	37.0	44.2
DE	45.7	36.4	39.8
DC	51.9	44.7	48.0
FL	53.4	42.8	49.3
GA	49.9	37.0	43.6
HI	49.0	39.4	43.6
ID	59.1	43.4	53.9
IL	49.5	34.7	41.1
IN	51.4	43.0	49.1
IA	55.7	55.2	55.4
KS	59.8	58.0	58.8
KY	71.3	45.7	59.3
LA	43.3	36.6	39.1
ME	61.3	42.9	55.0
MD	46.6	41.1	44.7
MA	51.2	42.6	46.8
MI	56.3	46.6	50.9
MN	59.4	45.2	51.0
MS	55.5	56.9	56.2
MO	58.6	49.3	55.7
MT	59.9	55.0	58.1
NE	55.1	58.5	56.8

**Table 6. Response Rates for Landline and Cell Phone Samples**

State	Landline Response Rate	Cell Phone Response Rate	Combined Response Rate
NV	53.9	41.4	48.5
NH	54.7	42.1	50.0
NJ	47.2	37.4	42.9
NM	50.6	50.4	50.5
NY	43.9	35.5	40.1
NC	44.8	42.7	43.5
ND	61.8	54.4	58.6
OH	56.9	43.4	51.7
OK	47.8	54.7	51.6
OR	48.9	36.9	39.8
PA	47.9	42.5	44.4
RI	44.2	39.1	41.3
SC	52.5	45.2	49.9
SD	69.8	63.4	67.2
TN	42.8	35.9	39.0
TX	53.9	39.4	48.9
UT	60.1	55.1	57.0
VT	53.1	43.2	48.9
VA	51.2	40.8	46.6
WA	56.7	40.0	50.0
WV	52.5	42.3	46.7
WI	53.3	49.7	51.6
WY	63.0	65.3	64.1
GU	37.0	58.6	41.5
PR	57.3	48.5	52.7
Minimum	37.0	33.5	38.8
Maximum	71.3	68.4	67.2

**Table 6. Response Rates for Landline and Cell Phone Samples**

<b>State</b>	<b>Landline Response Rate</b>	<b>Cell Phone Response Rate</b>	<b>Combined Response Rate</b>
Mean	53.4	46.0	49.8
Median	53.3	43.4	49.9

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