Behavioral Risk Factor Surveillance System

2019 Summary Data Quality Report
July 16, 2020

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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 2019 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 2019 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.[1] Each year of data collection since 2011 has included a larger percentage of calls from the cell phone sample. In 2019, a majority of the BRFSS interviews were conducted by cell phone. The annual code books 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 2019 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).[2] The BRFSS has calculated 2019 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).[3]

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 ascertain 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 2019, 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.[4]

Table 1.
Examples of Survey Response Rates

Survey	Year(s)	Overall Response Rates
California Health Interview Survey (CHIS)[a]	2017	7.1%
National Immunization Survey (NIS) [b]	2014	42.5%
National Adult Tobacco Survey (NATS) [c]	2013-2014	36.1%
BRFSS [d]	2019	49.4%

[a] CHIS 2017 Methodology Report Series. (2018) https://healthpolicy.ucla.edu/chis/design/Documents/CHIS_2017_MethodologyReport4_ResponseRates.pdf

[b] 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/nchs/data/series/sr_01/sr01_061.pdf

[c] https://www.cdc.gov/tobacco/data_statistics/surveys/nats/pdfs/2014-methodology-report-tag508.pdf

[d] 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.[5] Comparisons of federal surveys indicate that all surveys including the BRFSS have experienced declining response rates in recent years.[4] Generally, response rates are lower for telephone surveys than for surveys conducted in person.[5] Industry averages for response rates by in-person, telephone, mail and online surveys average 57%, 18%, 50% and 29%, respectively.[6] Despite lower response rates over time, this research supports previous findings[7] that 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). 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 2019 was 49.4 and ranged from 37.3 to 73.1.[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] See the Summary Data Quality Report for the year(s) included in the analyses. The 2019 document is available at: https://www.cdc.gov/brfss/annual_data/2019/pdf/2019-sdqr-508.pdf.

BRFSS 2019 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 2019, 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 2019, 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 ascertained 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.
2019 Disposition Codes for Landline Telephones and Cellular Telephones

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
	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 known if respondent eligible
	3322	Physical or mental impairment (household level)
	3330	Language barrier (household level)
	3700	On never-call list

Table 2.
2019 Disposition Codes for Landline Telephones and Cellular Telephones

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
	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 2019 Landline and Cellular Telephone Disposition Codes

Category	Disposition Code Definitions	Formulae Abbreviation
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	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

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 sam

ple 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		CONELIG		COOP	
State	N	%	N	%	N	%	%	Total Sample
AL	2,223	2.2	1,348	1.3	3,815	3.8	58.3	100,947
AK	1,387	1.4	729	0.8	2,391	2.5	58.0	96,840
AZ	2,993	2.1	1,089	0.8	4,512	3.2	66.3	142,410
AR	2,657	2.7	816	0.8	3,740	3.7	71.0	99,749
CA	2,268	1.0	1,384	0.6	4,023	1.8	56.4	226,170
CO	3,126	2.3	640	0.5	4,681	3.4	66.8	138,630
CT	4,284	4.3	1,555	1.6	6,509	6.5	65.8	99,810
DE	1,035	1.0	281	0.3	1,870	1.7	55.3	108,090
DC	1,021	1.1	517	0.5	1,658	1.7	61.6	96,000
FL	5,739	1.0	1,843	0.3	10,485	1.8	54.7	574,560
GA	2,282	0.6	771	0.2	4,240	1.1	53.8	374,460
HI	1,831	2.0	676	0.7	3,171	3.5	57.7	91,830
ID	1,410	1.0	1,722	1.2	3,193	2.3	44.2	140,281
IL	1,064	1.7	381	0.6	1,713	2.8	62.1	62,280
IN	3,558	1.7	1,923	0.9	6,122	2.9	58.1	214,140
IA	2,505	3.7	896	1.3	3,752	5.5	66.8	67,890
KS	3,587	3.0	1,345	1.1	5,315	4.5	67.5	118,980
KY	2,637	1.7	376	0.2	3,079	2.0	85.6	152,550
LA	949	1.5	661	1.0	1,750	2.7	54.2	65,430
ME	6,957	2.3	1,283	0.4	8,561	2.8	81.3	308,289
MD	9,003	2.1	4,467	1.0	15,493	3.6	58.1	425,940
MA	2,677	1.5	544	0.3	3,409	1.9	78.5	181,422
MI	3,541	1.7	958	0.5	5,375	2.5	65.9	212,880
MN	2,958	1.8	628	0.4	4,770	2.9	62.0	165,870
MS	1,438	2.4	621	1.0	2,178	3.6	66.0	60,089
MO	2,920	3.0	865	0.9	4,406	4.5	66.3	97,443

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

	COIN		TERE		CONELIG		COOP	
State	N	%	N	%	N	%	%	Total Sample
MT	2,712	2.9	862	0.9	3,869	4.1	70.1	94,469
NE	5,875	3.2	2,079	1.1	9,250	5.0	63.5	184,499
NV	664	1.7	186	0.5	933	2.4	71.2	39,180
NH	3,051	3.3	1,183	1.3	4,666	5.0	65.4	92,850
NJ	*	*	*	*	*	*	*	*
NM	2,009	2.2	896	1.0	3,329	3.7	60.3	89,460
NY	6,436	1.6	4,381	1.1	12,365	3.1	52.1	398,310
NC	824	2.8	692	2.3	1,636	5.5	50.4	29,700
ND	3,094	2.9	888	0.8	4,356	4.1	71.0	105,267
OH	6,708	1.1	1,722	0.3	11,405	1.9	58.8	598,050
OK	1,986	2.6	853	1.1	3,290	4.3	60.4	75,716
OR	1,069	3.3	135	0.4	1,235	3.9	86.6	32,011
PA	1,518	2.2	592	0.9	2,372	3.5	64.0	68,580
RI	2,522	2.0	1,576	1.3	4,460	3.6	56.5	125,220
SC	2,667	2.5	723	0.7	3,541	3.3	75.3	107,262
SD	3,021	2.5	280	0.2	3,409	2.8	88.6	121,944
TN	1,749	1.8	984	1.0	2,924	3.0	59.8	97,079
TX	4,432	1.3	2,089	0.6	7,393	2.2	59.9	340,260
UT	2,635	3.2	707	0.8	3,976	4.8	66.3	83,520
VT	3,200	2.6	1,538	1.3	5,153	4.2	62.1	122,040
VA	3,891	1.7	875	0.4	6,599	2.9	59.0	224,460
WA	4,021	1.8	2,010	0.9	6,661	2.9	60.4	226,901
WV	2,830	6.7	901	2.1	4,087	9.7	69.2	41,940
WI	2,096	3.7	740	1.3	3,197	5.6	65.6	56,669
WY	2,770	2.7	481	0.5	4,066	3.9	68.1	103,620
GU	1,141	2.3	620	1.3	2,405	4.9	47.4	48,794

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

	COIN		TERE		CONELIG		COOP	
State	**N**	**%**	**N**	**%**	**N**	**%**	**%**	**Total Sample**
PR	971	2.3	220	0.5	1,510	3.5	64.3	43,019
Minimum	664	0.6	135	0.2	933	1.1	44.2	29,700
Maximum	9,003	6.7	4,467	2.3	15,493	9.7	88.6	598,050
Mean	2,884	2.3	1,087	0.8	4,583	3.5	63.8	153,342
Median	2,662	2.2	864	0.8	3,923	3.4	62.8	104,444

*New Jersey was unable to collect enough BRFSS data in 2019 to meet the minimum requirements for inclusion in the 2019 BRFSS public-use data set.

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

	COIN		TERE		CONELIG		COOP	
State	N	%	N	%	N	%	%	Total Sample
AL	4,747	4.2	1,115	1.0	5,901	5.2	80.4	114,301
AK	1,639	3.0	246	0.5	1,917	3.6	85.5	53,760
AZ	5,530	3.8	1,011	0.7	6,772	4.6	81.7	146,160
AR	2,674	5.0	390	0.7	3,193	5.9	83.7	53,850
CA	9,021	4.4	2,649	1.3	12,025	5.9	75.0	203,360
CO	6,236	7.1	648	0.7	6,972	8.0	89.4	87,342
CT	5,228	3.5	1,359	0.9	6,808	4.6	76.8	149,250
DE	3,005	2.3	516	0.4	3,763	2.9	79.9	128,160
DC	1,435	1.0	531	0.4	2,005	1.4	71.6	139,169
FL	10,362	2.9	2,240	0.6	13,607	3.8	76.2	360,600
GA	4,770	1.8	1,242	0.5	6,497	2.5	73.4	259,650
HI	5,755	5.1	1,019	0.9	6,958	6.1	82.7	113,189
ID	3,945	3.6	395	0.4	4,360	4.0	90.5	108,304
IL	4,430	3.8	656	0.6	5,217	4.5	84.9	116,310
IN	5,323	4.8	906	0.8	6,532	5.8	81.5	111,780
IA	7,511	7.1	782	0.7	8,380	8.0	89.6	105,357
KS	8,373	3.7	1,085	0.5	9,554	4.2	87.6	229,284
KY	5,411	3.1	593	0.3	6,041	3.5	89.6	172,050
LA	3,789	2.9	1,120	0.9	4,976	3.8	76.1	129,390
ME	4,477	2.8	448	0.3	4,948	3.1	90.5	161,208
MD	9,004	3.6	1,987	0.8	11,386	4.5	79.1	252,599
MA	4,928	2.0	481	0.2	5,476	2.2	90.0	248,418
MI	7,258	3.8	1,021	0.5	9,081	4.7	79.9	193,531
MN	12,166	3.7	1,382	0.4	14,458	4.4	84.1	326,190
MS	3,742	5.6	543	0.8	4,315	6.4	86.7	66,956
MO	4,177	6.5	329	0.5	4,603	7.2	90.7	63,827

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

	COIN		TERE		CONELIG		COOP	
State	N	%	N	%	N	%	%	Total Sample
MT	4,053	5.7	328	0.5	4,405	6.2	92.0	71,599
NE	10,515	5.9	1,284	0.7	12,016	6.8	87.5	176,910
NV	2,078	5.5	216	0.6	2,312	6.2	89.9	37,483
NH	3,012	4.9	542	0.9	3,630	5.9	83.0	61,304
NJ	*	*	*	*	*	*	*	*
NM	4,216	6.7	839	1.3	5,127	8.2	82.2	62,850
NY	7,985	3.5	2,154	0.9	10,954	4.8	72.9	227,460
NC	3,010	5.0	421	0.7	3,490	5.8	86.2	59,760
ND	2,757	3.3	273	0.3	3,086	3.7	89.3	83,215
OH	6,831	3.0	998	0.4	8,431	3.8	81.0	224,070
OK	4,348	4.9	871	1.0	5,319	6.0	81.7	88,292
OR	4,878	3.7	319	0.2	5,221	3.9	93.4	132,866
PA	4,998	4.0	752	0.6	5,848	4.7	85.5	125,580
RI	3,816	3.5	910	0.8	4,894	4.5	78.0	108,300
SC	4,427	4.4	671	0.7	5,162	5.1	85.8	100,846
SD	3,671	2.5	179	0.1	3,897	2.7	94.2	146,560
TN	4,389	2.9	1,360	0.9	5,823	3.8	75.4	153,540
TX	6,913	4.1	1,519	0.9	9,103	5.4	75.9	168,450
UT	9,494	8.2	738	0.6	10,571	9.1	89.8	115,890
VT	3,208	4.1	474	0.6	3,760	4.8	85.3	78,480
VA	5,898	3.3	791	0.4	7,246	4.0	81.4	179,910
WA	9,101	5.7	1,650	1.0	11,003	6.9	82.7	158,760
WV	2,550	5.5	384	0.8	2,965	6.4	86.0	46,500
WI	2,888	5.8	419	0.8	3,366	6.8	85.8	49,530
WY	1,958	3.6	174	0.3	2,199	4.0	89.0	54,810
GU	1,286	2.8	276	0.6	1,629	3.5	78.9	46,650

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

	COIN		TERE		CONELIG		COOP	
State	**N**	**%**	**N**	**%**	**N**	**%**	**%**	**Total Sample**
PR	5,303	14.3	273	0.7	5,737	15.4	92.4	37,170
Minimum	1,286	1.0	174	0.1	1,629	1.4	71.6	37,170
Maximum	12,166	14.3	2,649	1.3	14,458	15.4	94.2	360,600
Mean	5,164	4.4	837	0.7	6,210	5.2	83.9	132,515
Median	4,612	3.8	705	0.7	5,398	4.7	84.5	116,100

*New Jersey was unable to collect enough BRFSS data in 2019 to meet the minimum requirements for inclusion in the 2019 BRFSS public-use data set.

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

	ELIG		INELIG		UNKELIG	
State	**N**	**%**	**N**	**%**	**N**	**%**
AL	3,815	3.8	81,841	81.1	15,291	15.1
AK	2,391	2.5	87,515	90.4	6,934	7.2
AZ	4,512	3.2	119,037	83.6	18,861	13.2
AR	3,740	3.7	84,480	84.7	11,529	11.6
CA	4,023	1.8	180,695	79.9	41,452	18.3
CO	4,681	3.4	112,815	81.4	21,134	15.2
CT	6,509	6.5	74,059	74.2	19,242	19.3
DE	1,870	1.7	75,191	69.6	31,029	28.7
DC	1,658	1.7	76,201	79.4	18,141	18.9
FL	10,485	1.8	462,577	80.5	101,498	17.7
GA	4,240	1.1	303,745	81.1	66,475	17.8
HI	3,171	3.5	74,501	81.1	14,158	15.4
ID	3,193	2.3	118,735	84.6	18,353	13.1
IL	1,713	2.8	49,398	79.3	11,169	17.9
IN	6,122	2.9	173,729	81.1	34,289	16.0
IA	3,752	5.5	54,387	80.1	9,751	14.4
KS	5,315	4.5	98,647	82.9	15,018	12.6
KY	3,079	2.0	127,356	83.5	22,115	14.5
LA	1,750	2.7	53,667	82.0	10,013	15.3
ME	8,561	2.8	238,467	77.4	61,261	19.9
MD	15,493	3.6	319,543	75.0	90,904	21.3
MA	3,409	1.9	128,083	70.6	49,930	27.5
MI	5,375	2.5	174,175	81.8	33,330	15.7
MN	4,770	2.9	132,310	79.8	28,790	17.4
MS	2,178	3.6	51,494	85.7	6,417	10.7
MO	4,406	4.5	79,478	81.6	13,559	13.9
MT	3,869	4.1	74,781	79.2	15,819	16.7

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

	ELIG		INELIG		UNKELIG	
State	**N**	**%**	**N**	**%**	**N**	**%**
NE	9,250	5.0	150,532	81.6	24,717	13.4
NV	933	2.4	31,775	81.1	6,472	16.5
NH	4,666	5.0	68,731	74.0	19,453	21.0
NJ	*	*	*	*	*	*
NM	3,329	3.7	75,984	84.9	10,147	11.3
NY	12,365	3.1	289,976	72.8	95,969	24.1
NC	1,636	5.5	22,620	76.2	5,444	18.3
ND	4,356	4.1	87,660	83.3	13,251	12.6
OH	11,405	1.9	476,487	79.7	110,158	18.4
OK	3,290	4.3	64,125	84.7	8,301	11.0
OR	1,235	3.9	26,577	83.0	4,199	13.1
PA	2,372	3.5	51,140	74.6	15,068	22.0
RI	4,460	3.6	97,423	77.8	23,337	18.6
SC	3,541	3.3	88,653	82.7	15,067	14.0
SD	3,409	2.8	103,899	85.2	14,636	12.0
TN	2,924	3.0	78,304	80.7	15,851	16.3
TX	7,393	2.2	279,946	82.3	52,921	15.6
UT	3,976	4.8	69,036	82.7	10,508	12.6
VT	5,153	4.2	93,581	76.7	23,306	19.1
VA	6,599	2.9	168,660	75.1	49,201	21.9
WA	6,661	2.9	183,472	80.9	36,768	16.2
WV	4,087	9.7	29,737	70.9	8,116	19.4
WI	3,197	5.6	44,062	77.8	9,410	16.6
WY	4,066	3.9	83,493	80.6	16,061	15.5
GU	2,405	4.9	39,842	81.7	6,547	13.4
PR	1,510	3.5	35,889	83.4	5,620	13.1
Minimum	933	1.1	22,620	69.6	4,199	7.2

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

	ELIG		INELIG		UNKELIG	
State	**N**	**%**	**N**	**%**	**N**	**%**
Maximum	15,493	9.7	476,487	90.4	110,158	28.7
Mean	4,583	3.5	122,087	80.1	26,673	16.4
Median	3,923	3.4	85,998	81.1	15,956	15.8

*New Jersey was unable to collect enough BRFSS data in 2019 to meet the minimum requirements for inclusion in the 2019 BRFSS public-use data set.

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

	ELIG		INELIG		UNKELIG	
State	**N**	**%**	**N**	**%**	**N**	**%**
AL	5,901	5.2	54,758	47.9	53,642	46.9
AK	1,917	3.6	45,301	84.3	6,542	12.2
AZ	6,772	4.6	86,310	59.1	53,078	36.3
AR	3,193	5.9	30,541	56.7	20,116	37.4
CA	12,025	5.9	79,232	39.0	112,103	55.1
CO	6,972	8.0	39,040	44.7	41,330	47.3
CT	6,808	4.6	68,478	45.9	73,964	49.6
DE	3,763	2.9	55,797	43.5	68,600	53.5
DC	2,005	1.4	64,394	46.3	72,770	52.3
FL	13,607	3.8	189,774	52.6	157,219	43.6
GA	6,497	2.5	132,499	51.0	120,654	46.5
HI	6,958	6.1	44,939	39.7	61,292	54.2
ID	4,360	4.0	51,566	47.6	52,378	48.4
IL	5,217	4.5	38,477	33.1	72,616	62.4
IN	6,532	5.8	50,043	44.8	55,205	49.4
IA	8,380	8.0	61,769	58.6	35,208	33.4
KS	9,554	4.2	139,825	61.0	79,905	34.8
KY	6,041	3.5	87,936	51.1	78,073	45.4
LA	4,976	3.8	63,758	49.3	60,656	46.9
ME	4,948	3.1	84,811	52.6	71,449	44.3
MD	11,386	4.5	128,252	50.8	112,961	44.7
MA	5,476	2.2	121,247	48.8	121,695	49.0
MI	9,081	4.7	104,616	54.1	79,834	41.3
MN	14,458	4.4	163,107	50.0	148,625	45.6
MS	4,315	6.4	38,873	58.1	23,768	35.5
MO	4,603	7.2	33,997	53.3	25,227	39.5
MT	4,405	6.2	37,428	52.3	29,766	41.6

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

	ELIG		INELIG		UNKELIG	
State	**N**	**%**	**N**	**%**	**N**	**%**
NE	12,016	6.8	108,526	61.3	56,368	31.9
NV	2,312	6.2	15,994	42.7	19,177	51.2
NH	3,630	5.9	30,363	49.5	27,311	44.6
NJ	*	*	*	*	*	*
NM	5,127	8.2	33,363	53.1	24,360	38.8
NY	10,954	4.8	93,703	41.2	122,803	54.0
NC	3,490	5.8	24,652	41.3	31,618	52.9
ND	3,086	3.7	52,051	62.6	28,078	33.7
OH	8,431	3.8	108,116	48.3	107,523	48.0
OK	5,319	6.0	55,207	62.5	27,766	31.4
OR	5,221	3.9	51,012	38.4	76,633	57.7
PA	5,848	4.7	60,043	47.8	59,689	47.5
RI	4,894	4.5	51,905	47.9	51,501	47.6
SC	5,162	5.1	46,331	45.9	49,353	48.9
SD	3,897	2.7	103,408	70.6	39,255	26.8
TN	5,823	3.8	69,342	45.2	78,375	51.0
TX	9,103	5.4	74,203	44.1	85,144	50.5
UT	10,571	9.1	57,254	49.4	48,065	41.5
VT	3,760	4.8	40,343	51.4	34,377	43.8
VA	7,246	4.0	81,629	45.4	91,035	50.6
WA	11,003	6.9	69,834	44.0	77,923	49.1
WV	2,965	6.4	20,792	44.7	22,743	48.9
WI	3,366	6.8	26,549	53.6	19,615	39.6
WY	2,199	4.0	38,997	71.1	13,614	24.8
GU	1,629	3.5	31,993	68.6	13,028	27.9
PR	5,737	15.4	12,901	34.7	18,532	49.9
Minimum	1,629	1.4	12,901	33.1	6,542	12.2

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

	ELIG		INELIG		UNKELIG	
State	**N**	**%**	**N**	**%**	**N**	**%**
Maximum	14,458	15.4	189,774	84.3	157,219	62.4
Mean	6,210	5.2	66,448	50.8	59,857	44.0
Median	5,398	4.7	55,502	49.3	54,424	46.7

*New Jersey was unable to collect enough BRFSS data in 2019 to meet the minimum requirements for inclusion in the 2019 BRFSS public-use data set.

Table 6. Response Rates for Landline and Cell Phone Samples

State	Landline Response Rate	Cell Phone Response Rate	Combined Response Rate
AL	49.4	42.7	45.9
AK	53.9	75.1	61.4
AZ	57.5	52.0	54.7
AR	62.8	52.5	59.2
CA	46.0	33.7	40.2
CO	56.6	47.1	52.9
CT	53.1	38.7	44.5
DE	39.5	37.1	38.2
DC	49.9	34.1	40.6
FL	45.1	43.0	44.3
GA	44.3	39.3	42.2
HI	48.8	37.9	42.8
ID	38.4	46.7	42.0
IL	51.0	31.9	38.6
IN	48.8	41.2	46.2
IA	57.2	59.7	58.7
KS	59.0	57.1	57.7
KY	73.2	48.9	60.3
LA	45.9	40.4	42.3
ME	65.1	50.4	60.1
MD	45.7	43.7	45.0
MA	56.9	45.9	50.6
MI	55.6	47.0	51.5
MN	51.2	45.8	47.6
MS	59.0	55.9	57.4
MO	57.1	54.9	56.2
MT	58.4	53.8	56.4
NE	55.0	59.6	57.3

Table 6. Response Rates for Landline and Cell Phone Samples

State	Landline Response Rate	Cell Phone Response Rate	Combined Response Rate
NV	59.4	43.9	51.8
NH	51.7	46.0	49.4
NJ	*	*	*
NM	53.5	50.4	52.2
NY	39.5	33.5	37.3
NC	41.1	40.6	40.8
ND	62.1	59.2	60.8
OH	48.0	42.1	46.4
OK	53.7	56.0	55.0
OR	75.2	39.5	46.5
PA	49.9	44.8	46.6
RI	46.0	40.9	43.6
SC	64.7	43.8	54.6
SD	78.0	69.0	73.1
TN	50.0	36.9	42.0
TX	50.6	37.6	46.3
UT	57.9	52.6	54.8
VT	50.2	47.9	49.3
VA	46.0	40.2	43.4
WA	50.6	42.1	47.1
WV	55.8	43.9	49.6
WI	54.7	51.8	53.3
WY	57.6	66.9	60.8
GU	41.1	56.9	48.8
PR	55.9	46.3	51.5
Minimum	38.4	31.9	37.3
Maximum	78.0	75.1	73.1

Table 6. Response Rates for Landline and Cell Phone Samples

State	Landline Response Rate	Cell Phone Response Rate	Combined Response Rate
Mean	53.4	47.1	50.0
Median	53.3	45.9	49.4

*New Jersey was unable to collect enough BRFSS data in 2019 to meet the minimum requirements for inclusion in the 2019 BRFSS public-use data set.

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