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A Guide for Seeking OMB Clearance in Studies Using AmeriSpeak

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Introduction

The U.S. Office of Management and Budget published its *Standards and Guidelines for Statistical Surveys* (September 2006 release) that apply to federal censuses and surveys including the description, estimation, and or analysis of population characteristics. The document provides 20 standards documenting the professional principles and practices that federal entities are required to adhere to and the quality and effort expected in all statistical activities. Each standard is accompanied by specific guidelines that are intended to provide recommended best practices. The standards and guidelines include but are not limited to the development of methods and design, data collection, data processing and editing, development of estimates, data analysis, review procedures, and dissemination.

For some purposes, a probability-based household panel is an accepted vehicle for federal statistical surveys, when the probability panel is built using high-quality methodologies and operationalizations. This claim is based on precedent: federal statistical surveys based on the probability-based AmeriSpeak panel have been approved by OMB for research in recent years.

With research using probability panels, OMB has customarily both considered the fit for purpose of the panel itself, as well as determined whether the proposed survey to be fielded within the panel meets OMB's standards and guidelines. This NORC document provides details on the first of these two considerations: namely, by making transparent information requested by OMB's *Standards and Guidelines for Statistical Surveys*, standard by standard. This NORC document addresses only those *Standards and Guidelines* applicable to a probability-based household panel in the order of their appearance in the OMB document. By transparently documenting OMB-relevant methods and procedures relevant to the *Standards and Guidelines for Statistical Surveys*, this NORC document is intended to demonstrate AmeriSpeak's fit for purpose in use for federal statistical surveys and can be used as a resource for researchers proposing to use AmeriSpeak for federally sponsored research.

AmeriSpeak Methods and Operational Procedures Pertaining to OMB Standards and Guidelines

Survey Planning

Confidentiality and privacy documentation in response to Guideline 1.1.2; 3: *A review of the confidentiality and privacy provisions of the Privacy Act, the Confidential Information Protection and Statistical Efficiency Act of 2002, and the privacy provisions of the E-Government Act of 2002, and all other relevant laws, regulations, and guidance, when planning any surveys that will collect individually identifiable data from any survey participant.*

NORC takes participant confidentiality very seriously, and NORC's AmeriSpeak has implemented the necessary protocols to comply with legislations such as the Privacy Act, the Confidential Information Protection and Statistical Efficiency Act of 2002 (CIPSEA), and the privacy provisions of the E-Government Act of 2002.

AmeriSpeak's approach to confidentiality and security begins with project staff member and interviewer training and continues through all project activities, processes, and information management systems. All NORC employees must complete, as a condition of employment, NORC's Commitment to Confidentiality form, based on upholding the confidentiality provisions under the Privacy Act of 1974 (5 U.S.C. 522a). NORC-wide, all employees are made aware of the importance of maintaining the highest level of confidentiality and data security, with annual mandatory training. Confidentiality continues with proper securing of electronic and hardcopy respondent information and the monitoring of interviewers throughout the life of the survey. NORC also requires all research staff members to review a NORC-designed training regimen on the American Association for Public Opinion Research (AAPOR) Transparency Initiative.

NORC standard protocol dictates stringent rules of confidentiality on all client projects and access to client data. All employees must complete a Commitment to Confidentiality form as a condition of employment. During this process, the information security controls and concepts are presented, and rules for following the procedures are clearly outlined. On an annual basis, employees are required to secure their commitment to the protocols by re-signing the commitment form. At the time of hiring, staff

members also must read and sign a legally binding pledge upholding the confidentiality provisions established under the Privacy Act of 1974.

When required by a federal sponsor to comply with confidentiality legislation such as the CIPSEA (PL 107-347) and/or Section 308(d) of the Public Health Service Act (42 U.S.C. 242m), NORC implements the necessary protocols to protect the sampling frame and all data collection, handling, transmittal, and storage procedures according to CIPSEA regulations, including ensuring that no CIPSEA information is removed from the NORC office or accessed remotely.

As required in selected federal engagements, AmeriSpeak has implemented CIPSEA-compliant sample management, data collection, and data destruction requirements. AmeriSpeak project managers work with the confidentiality officer to demonstrate compliance, including ensuring that no CIPSEA information is removed from NORC offices or accessed remotely, assuring that all project staff members complete necessary confidentiality training and sign non-disclosure affidavits on a regular basis, and submitting confidentiality compliance documentation on each staff member working on the project.

In addition, NORC infrastructure maintains a highly secure internal network storage system. Partitioned network storage is provided for each project to mitigate the potential for data loss due to accidents, computer equipment malfunction, corruption, unauthorized security breaches, or human error; this also allows us to administer access rights regarding privacy issues related to both legal and contractual obligations. Wide arrays of network security precautions are undertaken to ensure proper storage of all project data. Paper records, field notes, and other physical documents are also kept secure in locked file cabinets, with access given only to designated managers.

QA protocols in response to Guideline 1.1.2; 6: *A plan for quality assurance during each phase of the survey process to permit monitoring and assessing performance during implementation. The plan should include contingencies to modify the survey procedures if design parameters appear unlikely to meet expectations (for example, if low response rates are likely). The plan should also contain general specifications for an internal project management system that identifies critical activities and key milestones of the survey that will be monitored, and the time relationships among them.*

AmeriSpeak has a standard workflow designed for assuring quality control, with a set standard of procedures and documentation for each step, which includes but is not limited to the following quality control/quality assurance (QC/QA) processes for collecting survey responses in both web and telephone modes of data collection:

- **A documented programming questionnaire and its revisions:** A programming questionnaire in a Microsoft Word file that documents all aspects of the programmed questions, introductory and other transition screens, skip and randomization logic, programmed variables based on responses, telephone phone scripts, and question wording for all modes of data collection and all languages used. A version of the questionnaire is saved in a numeric sequence containing tracked edits after each iteration of reviewing the programmed survey so that any changes in the programming are documented.

- **Programmer QC check:** Questionnaire programmers conduct their own initial internal QC to test logic and flow before sending to the Client Services team for careful QC of the programmed survey.
- **Internal quality control review of programming:** Project-assigned analysts conduct a careful visual review of the programmed survey; they re-review and confirm the accuracy of implementation of all changes after questionnaire iteration.
- **External quality control review of programming:** After internal reviews of the programmed survey, the client also is able to inspect the programmed instrument. AmeriSpeak conducts the pretest only after obtaining client sign-off for the questionnaire.
- **Simulation data review:** Prior to the fielding of the survey, AmeriSpeak analysts conduct a simulation data review of the survey in test mode, during which hundreds or thousands of computer-generated respondents take the survey to test all logic pathways. Data are then reviewed again along with the programming questionnaire document to make certain that logic is correctly programmed.
- **Additional internal quality control review of programming of the live survey:** AmeriSpeak analysts review the survey in live mode using live samples (but not actual panelists), to test key pathways, especially logic driven by survey preloads. Analysts also test incentive fulfillment to assure that panelists will receive the correct amount of AmeriPoints for completing the survey. This step of the production version of the questionnaire is referred to as “smoke testing.”
- **Survey Pretest:** After the completion of QC steps, AmeriSpeak routinely pretests surveys using actual panelists. Depending on the size and scope of the survey, a pretest is often 25-50 respondents but can be up to 200. AmeriSpeak analysts review the data to assess whether all survey logic is working as specified and to identity any anomalies in the collected data (e.g., high item non-response). The pretest also helps analysts determine whether actual respondent burden is within the expected range. For federally sponsored surveys, NORC solicits respondents’ feedback about their experience in participating in the research through an open-ended survey question at the end of the survey. AmeriSpeak analysts review the verbatim responses to identify any potential recommendations for questionnaire wording changes. Any questionnaire updates or changes after the pretest initiate another round of QC as specified above.
- **Soft launch review:** When NORC fields the main study survey sample, only a small batch of web-mode respondents are first invited (typically 10 percent or less of the planned-for invited sample). After AmeriSpeak collects the “soft-launch” completions (usually over a 3- to 4-day field period), AmeriSpeak analysts again review the data for any errors or problems. Only after AmeriSpeak analysts determine that the soft-launch completion data do not have any errors, AmeriSpeak fields the remaining sample or fields the remaining sample in replicates as specified by the survey design.
- **Field review:** During the main study data collection field period, which in federally sponsored surveys typically takes place over a 2- to 4-week field period, AmeriSpeak analysts download and inspect the survey data every two to four days to monitor the response rate, sample quota targets (when applicable), and the level of coverage from both modes (web and phone).
- **Monitoring telephone interviewers:** NORC telephone interviewers are actively monitored as they begin data collection. NORC has specific QA monitors to assure that interviewers are screening

properly, reading verbatim, fostering a positive experience with the respondents, gaining cooperation skills, probing appropriately, and entering codes and data correctly. Before monitoring any new AmeriSpeak survey, the QA monitors review training materials for the specific survey that they are monitoring, including any additional instructions from the project for added monitoring items. Monitoring is initiated generally from recorded calls, which are reviewed by the monitors. Live monitoring is also an option on selected studies. All monitoring sessions are entered in a NORC database system that captures the appropriate quality criteria used to score each session and allows for feedback that is delivered to the interviewer via email and if needed with a discussion with a leadership staff member.

Survey Design

Details of response rates, data collection methods, and commentary of effective sample size power analysis in response to Guideline 1.2.1: *Include the following in the survey design: the proposed target population, response rate goals, frequency and timing of collection, data collection methods, sample design, sample size, precision requirements, and, where applicable, an effective sample size determination based on power analyses for key variables.*

AmeriSpeak strives to attain sufficient sample sizes to support analyses having substantial statistical power for the teenager segment aged 13-17 and for adults aged 18 and over residing in the United States (50 states plus the District of Columbia). NORC designed AmeriSpeak to deliver federal sponsors a properly calculated AAPOR response rate orders of magnitude higher than any other commercially available household panel in the United States.

AmeriSpeak panel recruitment occurs annually, initially with the October-December 2014 pilot recruitment of 400 households and annually thereafter. In 2015, about 7,000 households were recruited from a sample of around 60,000 addresses. In 2016, about 128,000 addresses were sampled to expand the panel to around 20,000 recruited households. About 51,000 addresses were selected for the 2017 recruitment, which led to the expansion of the regular AmeriSpeak panel to 23,000 recruited households. The AmeriSpeak panel expanded to approximately 30,000 households in 2018 and 35,000 households in 2019 through further recruitment efforts. The panel size as of August 2022 is 54,001 panel members aged 13 and over residing in more than 43,000 households.

AmeriSpeak panel recruitment is a two-stage process: 1) initial recruitment using U.S. Postal Service (USPS) mailings, telephone contact, and modest incentives, and 2) a more elaborate non-response follow-up (hereafter “NRFU”) recruitment using FedEx mailings, enhanced incentives, and in-person (face-to-face) visits by NORC field interviewers.

For the initial recruitment, sample households are invited to join AmeriSpeak online by visiting the panel member web portal (AmeriSpeak.org) or by calling a toll-free telephone line (inbound/outbound-

supported). Both English and Spanish languages are supported for online and telephone recruitment. The initial recruitment data collection protocol features the following: an over-sized pre-notification postcard, a USPS recruitment package in a 9”x12” envelope (containing a cover letter, a summary of the privacy policy, FAQs, and a study brochure), two follow-up postcards, and contact by NORC’s telephone research center for sample units with a matched telephone number.

For the second stage of NRFU recruitment, a stratified random sample is selected from the nonrespondents of the initial recruitment. Units sampled for NRFU are sent a new recruitment package by FedEx with an enhanced incentive offer. Shortly thereafter, NORC field interviewers make personal, face-to-face visits to the pending cases to encourage participation. Once the households are located, the field interviewers administer the recruitment survey in-person using computer-assisted personal interviews (CAPI), or else they encourage the respondents to register online or by telephone.

A sample household is considered recruited if at least one adult in the household joins the panel. The weighted household response rate (AAPOR RR3) is about 6 percent for initial recruitment and 28 percent for NRFU recruitment. We report two recruitment response rates: one for all the panel recruitment years (2014-2021) and one for the recruitment years with NRFU (2014-2018 and 2021). For all recruitment years, the cumulative weighted household response rate is 21.9 percent; for recruitment years with NRFU, the cumulative weighted household response rate is 34.0 percent.

For individual client surveys using AmeriSpeak, the all-in, cumulative AAPOR RR3 response rate is between 10 and 20 percent depending on study-specific parameters such as target population, survey length, time in the field, cross-sectional versus longitudinal designs, salience of subject, incentive amount, level of effort for refusal conversion, and the like. The all-in cumulative response rate for AmeriSpeak takes into account the panel recruitment rate, panel retention rate, and survey participation rate.[1] Depending upon the design of the probability panel, other sources of nonresponse are appropriately included in the response rate calculation, such as the initial profiling of panel members. Because AmeriSpeak profiles respondents as part of the recruitment survey, AmeriSpeak does not have a nonresponse source caused by nonresponse to a separate profile survey. Key panel statistics for households recruited during the 2014-2019 and 2021 time periods are as follows: 68 percent are recruited in the initial stage, and 32 percent are recruited via NRFU; 92 percent of the active panelists prefer to do web or online surveys, while 8 percent prefer to participate in telephone surveys; 16

[1] A properly calculated cumulative AAPOR response rate for panel-based research takes into account all sources of non-response at each stage of the panel recruitment, management, and survey administration process (see https://www.aapor.org/AAPOR_Main/media/publications/Standard-Definitions20169theditionfinal.pdf, page 48-9). A common misapplication of the term “response rate” in online panel surveys is to represent the survey-specific cooperation rate as the “cumulative survey response rate.” *See* “Response Rate Calculation Methodology for Recruitment of a Two-Phase Probability-Based Panel: The Case of AmeriSpeak” authored by Robert Montgomery, J. Michael Dennis, N. Ganesh. The paper is available at https://amerispeak.norc.org/research/.

percent of the recruited households are non-internet[2]; 82 percent are cell phone only or cell phone mostly; 17 percent are African American and 18 percent Hispanic; and 29 percent have household income below $30,000 (compared to CPS benchmark of 26 percent).[3]

Details on sampling frame and its adequacy, sampling strata, probabilities of section, response rates and weighting in response to Guideline 1.2.2: *Ensure the sample design will yield the data required to meet the objectives of the survey. Include the following in the sample design: identification of the sampling frame and the adequacy of the frame; the sampling unit used (at each stage if a multistage design); sampling strata; power analyses to determine sample sizes and effective sample sizes for key variables by reporting domains (where appropriate); criteria for stratifying or clustering, sample size by stratum, and the known probabilities of selection; response rate goals (see Standard 1.3); estimation and weighting plan; variance estimation techniques appropriate to the survey design; and expected precision of estimates for key variables.*

AmeriSpeak Sampling: Designed to represent the U.S. household population aged 13 and over, AmeriSpeak is a large probability-based panel constructed and maintained by NORC at the University of Chicago. U.S. households are randomly selected with a known, non-zero probability from the NORC National Frame as well as address-based sample (ABS) frames, and then recruited by mail, telephone, and face-to-face interviews. In addition to the regular panel for general population studies, AmeriSpeak also contains sub-panels to support studies of special populations, including AmeriSpeak Latino, AmeriSpeak Teen, and AmeriSpeak Young Adult, that feature an oversample of African Americans, Hispanics, and Asians.

The primary sampling frame for AmeriSpeak is the NORC master sample or the National Frame, a multistage probability sample that represents the U.S. household population for over 90 percent of the sample segments (see below). NORC uses the USPS Delivery Sequence File (DSF) to update the addresses annually.

For the construction of the National Frame, the primary sampling units consisted of 1,917 National Frame Areas (NFAs), where each NFA is an entire metropolitan area (made up of one or more counties), a county, or a group of counties with a minimum population of 10,000. A total of 126 NFAs are selected in the first stage, including 38 certainty NFAs, 60 urban NFAs, and 28 non-urban NFAs. The largest 38 NFAs,—those with a population of at least 1,543,728 (0.5 percent of the 2010 Census U.S. population) —were selected into the National Frame with certainty. Within the 126 selected NFAs, the secondary sampling units (SSUs) are segments defined from census tracts or block groups, where each segment contains at least 300 housing units according to the 2010 U.S. Census. Within the

[2] The non-internet households are those that do not select “High-speed, broadband internet at home (such as cable or DSL)” or “Dial-up internet at home” response options when they are asked “What kind of internet access do you have? Please select all that apply” item in the recruitment survey. The non-internet households include those that only use internet on a cell connection or mobile phone.

[3] For transparency purposes, unweighted percentages are presented in this section. Hence, these results do not take into account selection probability.

certainty NFAs, a sample of 896 segments was selected using systematic PPS sampling, where the size of a segment is the number of housing units. Implicit stratification was achieved by sorting the segments by location (NFA, state, and county), principal city indicator, and ethnic and income indicators. From each urban and rural NFA, a sample of eight and five segments, respectively, was selected using systematic PPS sampling where the measure of size is the number of housing units per segment. A total of 618 segments are selected from the non-certainty NFAs.[4] Overall, a stratified probability sample of 1,514 segments was selected into the National Frame in the second stage sampling.

Within the selected segments, all housing units are listed using the DSF. In the 123 segments where the DSF coverage is deemed inadequate, the DSF address list is enhanced with in-person field listings to improve coverage. The final National Frame, consisting of all listed households in the sample segments, is estimated to provide over 97 percent coverage of the U.S. household population. It contains almost 3 million households, including over 80,000 rural households that are added through the in-person listing.

In addition to NORC's National Frame, the DSF is used as a supplemental sample frame in four states. Although nationally representative, the National Frame does not include households from Alaska, Iowa, North Dakota, and Wyoming. Since 2016, the annual panel recruitment sample has included a small address-based sample from these four states to assure AmeriSpeak presence in all U.S. states and Washington, D.C. In 2017, an enhanced DSF frame was also used to develop a new Latino panel with adequate representation of Spanish-language-dominant Hispanics. Census tracts with a high incidence (at least 30 percent) of Spanish-dominant Hispanics were targeted for this recruitment. Furthermore, within these census tracts, households that were flagged as Hispanic based on consumer vendor data (that are typically used for direct-mail marketing) were oversampled. To reduce sample clustering and improve state-level representation, the 2019 AmeriSpeak panel recruitments exclusively used the DSF as the sampling frame.

AmeriSpeak panel recruitments take place annually. Except for the 2019 recruitments when the DSF was used exclusively as the sampling frame, National Frame segments were stratified into six sampling strata based on the race/ethnicity and age composition of each segment, as below:

- Hispanic, high youth segments
- Hispanic, not high youth segments
- Non-Hispanic Black, high youth segments
- Non-Hispanic Black, not high youth segments
- Other, high youth segments
- Other, not high youth segments

[4] A sample of five segments was selected from each of the 28 non-urban NFAs. However, two sample segments were later subsampled out in Montana due to cost.

Hispanic segments are those where Hispanics make up at least a third of the population and the Hispanic share in the population is greater than that of non-Hispanic Black. Similarly, non-Hispanic Black segments are those where non-Hispanic Black make up at least a third of the population and the non-Hispanic Black share in the population is greater than that of Hispanics. Finally, high youth refers to segments in which 18–24-year-old adults are at least 12 percent of the total adult population. The above stratification is used to oversample housing units in areas with a higher concentration of young adults, Hispanics, and non-Hispanic African Americans. The resulting household sample is referred to as the initial AmeriSpeak sample or sample for initial panel recruitment.

To support the second stage of panel recruitment, initially sampled but nonresponding housing units are subsampled for NRFU.[5] At this stage, consumer vendor data are matched to the pending housing units, and housing units that are flagged as having a young adult[6] (18–34 years of age) or minority (Hispanic,[7] non-Hispanic Black[8]) are oversampled for the NRFU sample. Overall, approximately one in five initially nonresponding housing units are subsampled for NRFU, using the same six sampling strata defined above. Due to NRFU, these initially nonresponding housing units have a higher selection probability compared to the housing units that were recruited during the first stage of panel recruitment.

A two-phase state-based ABS sample design was used for the 2019 AmeriSpeak recruitment. NORC's National Frame is designed to represent the U.S. household population nationally. The primary objective of the 2019 design was to improve state-level representation by selecting the recruitment sample mostly from areas that are outside the National Frame. A stratified systematic sample was selected in the first phase, where each state constitutes a sampling stratum, and the sample was allocated to the strata proportional to the square root of the state population. In the second phase, young adults, Hispanic, non-Hispanic Black, and conservatives were oversampled based on commercial data sources to improve their representation in the panel. Because the 2019 design did not use NRFU face-to-face recruitment, the 2019 design did not involve geographic clustering.

In 2020, AmeriSpeak returned to the "standard" sampling strategy employed in 2014 through 2018, with intentions to conduct a robust in-person NRFU. However, the COVID-19 pandemic prevented NORC from using field interviewers, and the NRFU was limited to its usual first stage, a FedEx mailing to 20 percent of the total sample. After an analysis of state-level representativity after 2019 recruitment, it was determined that further statewide representativity was needed in four states: Wisconsin, Missouri,

[5] A small fraction of initially nonresponding housing units is not eligible for NRFU, including "hard refusals" and those with an appointment for a call back from NORC.

[6] A young adult flagged household refers to a household where MSG or TargetSmart indicated there was an 18–24-year-old adult in the household. In 2016 and 2017, a slightly different definition was used, and a young adult flagged household was defined as having an 18–34-year-old adult in the household by MSG or 18–30-year-old adult by TargetSmart.

[7] A Hispanic flagged household refers to a household where MSG or TargetSmart indicated the presence of a Hispanic adult in the household.

[8] A non-Hispanic Black-flagged household refers to a household where MSG or TargetSmart indicated the presence of a non-Hispanic Black adult in the household.

Washington, and Colorado. As such, statewide samples using the USPS DSF file were generated for supplemental recruitment.

At the end of 2020, a major assessment of panel representativeness was conducted to inform the 2021 sampling strategy. This analysis again explored representativity by state, but also explored a full range of demographic variables. This analysis was conducted both with the full panelist dataset, as well as by assessing "effective panelists," a measure of the likely demographic distributions that would occur among complete cases in any typical AmeriSpeak survey. This analysis found that AmeriSpeak could benefit from additional panelists in seven groups: households earning over $200,000, households with children, Hispanics, Hispanics that specifically speak Spanish, African Americans, persons aged 18 to 24, and persons with less than a high school education. As such, the sample was stratified using NORC Big Data Classifiers (Dutwin et al., 2022),[9] a technique using available consumer and other public Big Data to make predictions on a range of household attributes during survey sampling. Households predicted to have one of these seven attributes were oversampled, while households predicted only to hold persons aged 50 and older, or otherwise not predicted to hold someone with one of the seven attributes, were undersampled. This sampling method was tested in the first sampling replicate, and, given the positive results, was continued in all other 2021 replicates.

It was clear at the start of 2021 that NORC would not immediately be able to conduct in-person interviewing given the ongoing COVID-19 pandemic. However, NORC sought to test new sampling strategies (noted below) early in 2021 in the hopes of documenting their efficacy and continuing and improving on them for the rest of 2021. Additionally, it was hoped that NORC would be able to conduct in-person interviewing in the second half of 2021. As such, the 2021 recruiting sample was split into five replicates, the first of which used a DSF sample and was released early in the calendar year, while future replicates were sampled using the NORC National Frame and were held until midyear for recruiting. In 2021, NORC also recruited into AmeriSpeak a probability sample of persons aged 50 and older using a random national address file (estimated 96 percent sample coverage of all households in the United States). AmeriSpeak empaneled approximately 6,000 study participants in this initiative.

NORC's strategy of "waiting it out" was effective, as the sample replicates released midyear allowed NORC to wait for an effective "COVID window" to conduct in-person interviewing. In short, in-person interviewing commenced after the peak of the Delta variant in 2021 and concluded with the peak of the Omicron variants. NORC was able to conduct a full NRFU in-person effort during this time.

AmeriSpeak Weighting: AmeriSpeak ***panel weights***, including both household-level and person-level weights, are developed to account for probability of selection of the housing unit, adjustments for unknown eligibility of the housing unit, nonresponse associated with panel recruitment, panel attrition, and nonresponse from secondary panel members,[10] as well as to include raking ratio adjustments to

[9] Dutwin, D., P. Coyle, J. Lerner, I. Bilgen, and N. English (2022). Utilizing Big Data in Survey Research: Efficient Targeting of Hard-to-Reach and Hard-to-Recruit Populations [Manuscript submitted for publication].

[10] Primary panel member refers to the initial recruited adult from the household. Secondary panel member refers to other eligible adults in the same household.

external population benchmarks. More specifically, the weighting steps for panel weights are as follows, with further details provided below:

1. Computation of base weights
2. Adjustment for unknown eligibility
3. Adjustment for household nonresponse
4. Adjustment to household population totals; this yields the final household-level panel weight
5. Initial person-level weight
6. Adjustment for nonresponse associated with panel members
7. Raking ratio adjustment to person-level population totals; this yields the final person-level panel weight

Base weights

AmeriSpeak annual recruitments use a stratified random sample of housing units selected from the NORC National Frame, as well as ABS frames. Initial base weights are calculated as the inverse of probability of selection of the housing units for the combined samples, currently including samples selected from 2014 to 2022. In most years, nonrespondent households to panel recruitment are subsampled for NRFU. These subsampled housing units have their initial base weights adjusted to account for NRFU subsampling. NORC refers to the combined adjustments corresponding to the inverse of probability of selection and the subsampling adjustment (if the housing unit is subsampled for NRFU) as the final base weight associated with the sampled housing unit. We denote the final base weight as BW_{final}.

Adjustment for unknown eligibility

AmeriSpeak uses a weighting class approach to adjust the base weights for housing units with known eligibility to account for housing units with unknown eligibility. To create the adjustment cells under the weighting class approach, we use sample design variables such as sampling strata, recruitment year, and tract-level information of household characteristics obtained from the 5-year American Community Survey (ACS) and Tract-Level Planning Database. We use logistic regression models to identify significant variables that predict response/nonresponse.

Within each adjustment cell, base weights for housing units with known eligibility are adjusted to represent all housing units (with positive base weight). We refer to this weight as the housing unit eligibility adjusted weight, W_{2j}.

Household nonresponse adjustment

A household nonresponse adjustment is needed to compensate for eligible households that did not complete the recruitment survey. Furthermore, panel attrition could result in some household members being withdrawn from the panel. For purposes of weighting, if no other adult in the household belongs

to the panel after an adult is withdrawn from the panel, we consider the household as a nonrespondent household for purposes of weighting.

AmeriSpeak uses a weighting class approach to adjust the weights from the previous step for household nonresponse. The adjustment cells under the weighting class approach are created via the same method as described in the previous step. Again, logistic regression models are used to identify significant variables that predict response/nonresponse. Then, within each adjustment cell, weights from the previous step for eligible respondent households are adjusted to represent all eligible households. We refer to this weight as the household nonresponse adjusted weight, W_{3j}.

Adjustment to household population control totals

The final household level weight is developed by applying a ratio adjustment to W_{3j}. Separately for each census division, W_{3j} is adjusted such that the sum of W_{3j} across all respondent households is equal to the total number of households in the division based on the most recent Current Population Survey data. The final household-level panel weight is W_{4j}.

Person-level weight

All adults in the responding households are eligible to join the panel. For each eligible adult in the household, as identified by the primary panel member, the person-level weight, W_{5ij}, is defined as the final household-level weight W_{4j}, where *i* denotes eligible adults in respondent household *j*.

Person-level nonresponse adjustment

The primary panel member identifies and provides contact information for other eligible adults in the same household; subsequently, these eligible adults from the same household are contacted and asked to complete the recruitment survey. This step compensates for nonresponse due to the following:

- Eligible adults in the same household as the primary panel member for whom no contact information is available
- Eligible adults in the same household as the primary panel member who were contacted for panel recruitment but did not complete the recruitment survey
- Panel members who were withdrawn from the panel when at least one other adult in the same household continued to be an active panel member

We use a weighting class approach to adjust the weights from the previous step for eligible respondents to account for eligible nonrespondents. In addition to the household-level variables used earlier, age group and sex are also used to support this person-level nonresponse adjustment. We refer to this weight as the person-level nonresponse adjusted weight, W_{6ij}.

Raking adjustment to derive final person-level panel weights

The final step in deriving person-level weights for the panel is the raking adjustment to person-level population totals obtained from CPS, ACS, and NHIS. We use the following person-level characteristics in this raking adjustment:

- Age group (18–24, 25–29, 30–39, 40–49, 50–59, 60–64, 65+ years)
- Sex (male, female)
- Census division
- Education (less than high school, high school graduate, some college/college graduate)
- Race/ethnicity (Hispanic, non-Hispanic Black, non-Hispanic White, All Other)
- Housing tenure (owner, other)
- Household phone status (cell-phone-only, dual user, landline-only/phoneless)

The person-level nonresponse adjusted weights W_{6ij} are raked (at the marginal level) over the above dimensions. Population control totals for each dimension are obtained from CPS, although housing tenure and household phone status are obtained from ACS and NHIS, respectively. Unless weight trimming is applied, the raked weights are the final person-level panel weights W_{7ij}.

For individual client surveys that use samples selected from the AmeriSpeak panel, the ***client survey weights*** are developed in the following steps.

Base weights

Initial base weights for client surveys using the panel are defined as the final person-level panel weights. The initial base weights are adjusted to account for the sample selection probabilities from the panel to the client survey sample. For a typical client survey, the sample is selected from within 48 strata formed using a cross-classification of the following variables: race/ethnicity (Hispanic, non-Hispanic Black, All Other), age group (18–34, 35–49, 50–64, 65+), education (high school graduate/less than high school, some college/college graduate), and sex. The final base weights are computed as the final person-level panel weight divided by the probability of selection from the panel. We denote the final base weights for client surveys as CW_{1ij}.

Adjustment for screener nonresponse

For some client surveys that include a screener interview to determine study eligibility, a screener nonresponse adjustment is needed to compensate for sample members who fail to complete the screener interview. Through this adjustment, base weights for screener respondents are inflated so that they represent both respondents and nonrespondents to the screener interview.

We use a weighting class approach to adjust the base weights for screener respondents to account for screener nonrespondents. To create the adjustment cells for the weighting class approach, we use household-level and person-level information collected during panel recruitment, such as age group, sex, housing tenure, education, and race/ethnicity. The specific variables used to define the weighting cells could vary from study to study. Within each adjustment cell, base weights for screener respondents are adjusted to represent all eligible panel members for the specific profile survey. The screener nonresponse adjusted weights are denoted as CW_{2ij}.

Adjustment for interview nonresponse

Because not all eligible sampled members complete the main survey interview, an adjustment is needed to account for eligible nonrespondents. We use a weighting class approach to adjust the screener nonresponse adjusted weights for eligible respondents to account for eligible nonrespondents. To create the adjustment cells for the weighting class approach, we use household-level and person-level information collected during panel recruitment, such as age group, sex, education, and race/ethnicity. The variables used to define the weighting cells could vary across studies. Within each cell, the weights from the previous step are divided by the weighted response rate to derive the interview nonresponse adjusted weights CW_{3ij}.

Raking adjustment

The final step in client survey weighting is the raking adjustment to person-level population totals. We note that most clients prefer the sum of the raked weights be normalized to agree with the total number of panelists who completed the specific survey. The following person-level characteristics are used in the raking adjustments:

- Age: 18–24, 25–29, 20–39, 40–49, 50–59, 60–64, and 65+
- Gender: Male and Female
- Census Division: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific
- Race/Ethnicity: Non-Hispanic White, Non-Hispanic Black, Hispanic, and Non-Hispanic Other
- Education: Less than High School, High School/GED, Some College, and BA and Above
- Age x Gender: 18–34 Male, 18–34 Female, 35–49 Male, 35–49 Female, 50–64 Male, 50–64 Female, 65+ Male, and 65+ Female
- Age x Race/Ethnicity: 18–34 Non-Hispanic White, 18–34 All Other, 35–49 Non-Hispanic White, 35–49 All Other, 50–64 All Other, 50–64 All Other, 65+ Non-Hispanic White, and 65+ All Other
- Race/Ethnicity x Gender: Non-Hispanic White Male, Non-Hispanic White Female, All Other Male, and All Other Female
- Population control totals for each dimension are obtained from the March CPS supplement.

The raked weights are denoted as CW_{4ij}, which are final weights unless weight trimming is applied to reduce weight variation. We determine the amount of trimming for the raked weights based on a mean squared error criterion for each client survey, using survey-specific substantive variables. In general, panel members who live in households that were subsampled for NRFU have substantially larger weights compared to the other panel members who live households that were not subsampled for NRFU. Thus, for a given survey, for key substantive variables, if there is little difference between the NRFU panel respondents and the non-NRFU panel respondents, then we would trim the raked weights for that specific survey. After trimming the raked weights, weights are re-raked to the same population totals.

Details on NRFU in response to Guideline 1.2.5: *Include the following in the data collection plans: frequency and timing of data collections; methods of collection for achieving acceptable response rates; training of enumerators and persons coding and editing the data; and cost estimates, including the costs of pretests, and nonresponse follow-up.*

The second stage of AmeriSpeak's panel recruitment entails NRFU. To support the second stage of panel recruitment, initially sampled but nonresponding housing units are subsampled for NRFU[11] data collection. At this stage, consumer vendor data are matched to the pending housing units, and housing units that are flagged as having a young adult[12] (18–34 years of age) or minority (Hispanic,[13] non-Hispanic Black[14]) are oversampled for the NRFU sample. Overall, approximately one in five initially nonresponding housing units are subsampled for NRFU using the same six sampling strata defined above. Due to NRFU, these initially nonresponding housing units have a higher selection probability compared to the housing units that were recruited during the first stage of panel recruitment.

Units sampled for NRFU are sent a new recruitment package by two-day FedEx approximately 84 days after the initial recruitment. The 9"x12" FedEx envelope includes a cover letter, AmeriSpeak brochure, as well as $10 noncontingent cash incentive. The cover letter provides information about the AmeriSpeak panel, how to join AmeriSpeak by visiting the panel website AmeriSpeak.org or by calling a toll-free telephone line, and contingent incentive amount and delivery method. The panelists receive 50,000 AmeriPoints (worth $50) upon completion of the recruitment survey.

Three days after the FedEx letters are sent, NORC field interviewers start making personal, face-to-face visits to the pending cases to encourage participation. Once the households are located, the field interviewers administer the recruitment survey in-person using CAPI or else encourage the

[11] A small fraction of initially nonresponding housing units is not eligible for NRFU, including "hard refusals" and those with an appointment for a call back from NORC.

[12] A young adult flagged household refers to a household where MSG or TargetSmart indicated there was an 18-–24-year-old adult in the household. In 2016 and 2017, a slightly different definition was used, and a young adult flagged household was defined as having an 18–34-year-old adult in the household by MSG or 18–30-year-old adult by TargetSmart.

[13] A Hispanic flagged household refers to a household where MSG or TargetSmart indicated the presence of a Hispanic adult in the household.

[14] A non-Hispanic Black flagged household refers to a household where MSG or TargetSmart indicated the presence of a non-Hispanic Black adult in the household.

respondents to register online or by telephone. The field data collection period lasts approximately 10 weeks. Both English and Spanish languages are supported during FedEx and face-to-face recruitment.

Regarding cost estimates associated with nonresponse follow-up efforts during panel recruitment, it is 1.7 times more expensive to recruit a panelist to AmeriSpeak during the NRFU stage (which includes FedEx and face-to-face recruitment) than the initial recruitment stage. Specifically, it costs 1.4 times more to recruit a panelist to AmeriSpeak via FedEx mailings and 1.8 times more via face-to-face interviews than recruiting panelist during the initial stage (via USPS mailings, telephone contact, and modest incentives).

The cost of pretest efforts (such as focus groups, cognitive interviews, usability testing, pilot testing) is project-specific, and the cost depends on the pretest requirements and the size of the study.

Recruiting, empanelment and mean response rates for Guideline 1.3.1: *Calculate sample survey unit response rates without substitutions.*

	AAPOR RR3 Household Recruitment Rate	Household Retention Rate
AmeriSpeak	22.5%	81.8%
AmeriSpeak Federal Panel	30.1%	79.2%

The AmeriSpeak federal panel is a subset of AmeriSpeak, using a 40 percent NRFU sampling rate (compared to 20 percent in a typical AmeriSpeak panel recruitment). Consequently, AmeriSpeak's federal panel provides an even higher recruitment rate (30.1 percent) over AmeriSpeak's leading recruitment rate for the entire panel (22.5 percent). NORC is a founding member of the AAPOR Transparency Initiative, and all survey projects include an AmeriSpeak Project Methodology and Transparency Report that offers all sample performance measures as required by that initiative, including a full accounting of the AAPOR response rates for all sources of unit nonresponse (i.e., panel recruitment, household panel retention, and survey completion).

NRFU details in response to Guideline 1.3.5: *Plan for a nonresponse bias analysis if the expected item response rate is below 70 percent for any items used in a report (see Section 3.2.9).*

Because of the low item nonresponse rates observed in AmeriSpeak surveys, AmeriSpeak has not yet had the need to put together an item nonresponse bias analyses plan. In AmeriSpeak surveys, we do not usually observe high item nonresponse rates that are above 30 percent. For instance, we encounter on average 1 percent of item nonresponse during our recruitment survey. Additionally, not surprisingly, income questions consistently have the highest item nonresponse rate among all other questions (11 percent and 16 percent, respectively during 2021 and 2022 recruitment surveys). One reason for the low item nonresponse is that AmeriSpeak surveys do not require a response from the respondent to advance to the next question. Accordingly, we do not include *don't know* and *refusal* categories explicitly within the response options, which increases the item response propensity. Additionally,

AmeriSpeak takes the following steps during data processing to decrease item nonresponse in our data and analyses: 1) cleaning outlier cases that have high item nonresponse tendencies during each study (e.g., respondents who skip the majority of a survey); 2) imputing key demographics; and 3) filling in the gaps (for any missing data) using survey data collected over time from various client surveys.

Pretesting

Pretesting protocol in response to Section 1.4 in general:

- **Simulation data review:** Simulation data review of the survey in test mode, where hundreds or thousands of computer-generated respondents take the survey to test all logic pathways. Data are then reviewed again along with the programming questionnaire document to make certain that logic is correctly specified, programmed, correct, and results in the desired data format.
- **Survey pretest:** Survey is pretested using actual panelists. Depending on the size and scope of the survey, a pretest is often 25-50 respondents but can be up to 200. NORC analysts review the pretest data to make sure logic is working correctly and responses make sense and to gauge survey length. We have an open-ended question at end of the survey where respondents can inform us about their experiences or reaction to the survey. These open-ended responses are reviewed and considered for changes. Review of pretest data is conducted by NORC and the client. Any updates or changes to the survey after the pretest go back through the QC process to make sure changes are correctly programmed. Pretest cases are only for the review of programmed surveys and are not included in any final data set.
- **Soft launch review:** When launching the main survey, only a small batch of web-mode respondents are first invited. When we achieve a set of completes from that batch (around 75-200 completes depending on size, scope, and field scheduling need), data are reviewed once again for any errors or problems. Once the absence of errors have been confirmed, the rest of the sample is released. If the incidence rate is unknown, the sample is released in smaller batches over time to maximize the response rate.

Additional information about AmeriSpeak's use of pretesting is covered **in response to Guideline 1.1.2.**

Collection of Data

Sample frame discussion in response to Guideline 2.1.1: *Describe target populations and associated survey or sampling frames. Include the following items in this description: The manner in which the frame was constructed and the maintenance procedures; Any exclusions that have been applied to target and frame populations; Coverage issues such as alternative frames that were*

considered, coverage rates (an estimation of the missing units on the frame (undercoverage), and duplicates on the frame (overcoverage), and Other limitations of the frame including the timeliness and accuracy of the frame (e.g., misclassification, eligibility, etc.).

See response to Guideline 1.2.2.

Required Notifications to Potential Survey Respondents

Notifications/communications in response to Guideline 2.2.1: *Provide appropriate informational materials to respondents, addressing respondent burden as well as the scope and nature of the questions to be asked. The materials may include a pre-notification letter, brochure, set of questions and answers, or an 800 number to call that does the following: Informs potential respondents that they have been selected to participate in a survey; Informs potential respondents about the name and nature of the survey; and Provides any additional information to potential respondents that the agency is required to supply (e.g., see further requirements in the regulations implementing the Paperwork Reduction Act, 5 C.F.R. § 1320.8(b)(3)).*

Notification to join the AmeriSpeak Panel

At the start of the recruitment campaign to invite new households to join AmeriSpeak, each sample unit receives three mailings: a 6”x9” pre-notification postcard, a USPS recruitment package in a 9”x12” envelope, and one follow-up postcard. Non-responsive sample units with telephone numbers also receive outbound phone calls. Finally, a subset of non-respondents are mailed a FedEx invitation packet and receive in-person visits.

All recruitment mailings and in-person “leave behind” materials include a link to the AmeriSpeak panel member web portal, AmeriSpeak.org, and a toll-free telephone number where the sample unit can learn more about AmeriSpeak. Both the USPS recruitment packet and the FedEx recruitment packet contain a brochure that includes information about the panel and what it means to join AmeriSpeak. This information is also available on the website and included in the phone script and interviewer job aids. Among the information presented to the sample units is how they were selected to join AmeriSpeak, what is AmeriSpeak, what would they do as a panel member, and the benefits of joining AmeriSpeak.

To join AmeriSpeak, a sample unit must complete a registration process online or with NORC interviewers via phone or in-person visits. NORC obtains and documents research subjects’ informed consent for panel participation and agreement to the panel’s Privacy Policy and Terms and Conditions during this registration process.

Once a sample unit joins AmeriSpeak, AmeriSpeak mails via USPS a welcome packet having a cover letter, a member guide, and a copy of the Privacy Policy and Terms and Conditions. The Privacy Policy and Terms and Conditions are also available online via the member portal and by phone by calling the toll-free member support hotline available 7 days a week.

Notification to AmeriSpeak panelists to participate in specific AmeriSpeak survey

AmeriSpeak panel members typically participate in AmeriSpeak web-based or phone-based studies two to three times a month. Surveys are usually 10 to 20 minutes in length; however, longer surveys are permitted with the allowance for additional incentives to recognize the time spent by AmeriSpeak panelists. For the majority of surveys, AmeriSpeak panelists receive between 2,000 and 10,000 AmeriPoints (1,000 points = $1) for completing. If a survey is very long (e.g., 30 minutes or longer), or we ask a respondent to participate in other custom research such as an in-depth telephone interview, then they may receive an incentive of 10,000 points or more. Once a panelist has accumulated 10,000 points, the panelist can redeem the accrued points for reward cards or gift cards through the online member portal, AmeriSpeak app, or a toll-free member support hotline.

Panelists who prefer to complete surveys online receive survey invitations and reminders via email. Email invitations and reminders contain links to the survey and the incentive amount they will receive for survey participation. Panelists who prefer to complete surveys via phone receive a phone call from NORC interviewers. Information about study length and incentive amount are included in the outbound and answering machine scripts. AmeriSpeak also supports use of SMS texting for inviting panel members to complete the online-mode survey.

For the telephone-mode respondents, the standard protocol is for NORC telephone interviewers to make five dial attempts to gain the cooperation of the panel member. AmeriSpeak adjusts the level of effort depending upon the survey completion requirement.

Once panelists start a survey, they are presented with or read an introduction screen, which contains, at a minimum, the topic(s) covered in the survey, the time requirement for completion, and the incentive amount. Additional information or other language is included in the invitations, reminders, and introduction to the survey as appropriate or as required by the client and approved by the IRB.

Data Collection Methodology

Data collection methodology in response to: Guideline 2.3.1: *Design the data collection instrument in a manner that minimizes respondent burden, while maximizing data quality.*

AmeriSpeak is deliberate about not overusing panelists. To minimize panelist burden, we use a version of Permanent Random Number (PRN) sampling to control the assignment of surveys so that, within a

given demographic subgroup, survey assignments are distributed as equally as possible across panelists. Additionally, when panelists are selected for an AmeriSpeak survey, the selection process within each sampling stratum favors those who were not selected in the most recent previous AmeriSpeak survey. This selection process is designed to minimize the number of surveys any one panelist is exposed to and maximize the rotation of all panelists across AmeriSpeak surveys. Most importantly, AmeriSpeak recruitment has always been designed to be "ahead of the curve," meaning we have aspired to never get into the situation where we need to "over invite" panelists to meet our business needs. Rather, we have recruited robust sample sizes to ensure that panelists receive at best only a modest number of invitations. Typically, panelists are assigned to no more than four surveys a month, and they complete an average of only one to two surveys a month.

AmeriSpeak continuously communicates with its panelists to understand whether the volume of invitations we place on them is appropriate. We periodically field panelist satisfaction surveys that ask for feedback on the number of types of surveys they receive. Also, we measure respondent satisfaction with three standard questions at the end of each survey: 1) rating the survey overall from poor to excellent, 2) surveying whether the respondent experienced any technical issues, and 3) asking for any general comments or feedback. Project management staff members review the answers to these questions during and after the field period and take the necessary action if an issue is detected. We also analyze all survey satisfaction questions to evaluate and improve the panelist experience. AmeriSpeak staff members respond back to panelists, when necessary, as part of panel engagement and maintenance.

AmeriSpeak also incorporates various strategies to decrease panelist burden at the survey level. We provide parameters around questionnaire length to our clients and consider the need for each question included in surveys. We also execute a thorough testing and quality control protocol for each study before fielding. These steps include NORC internal testing, data simulation and review, and delivery of a survey link to the clients for user testing. Additionally, we field a pretest to a small sample of online respondents and review the data, making sure all systems are working correctly. Pretest interviews do not count toward the final interviewed sample total. Once we have confirmed accuracy at each step, we then field the survey to the main sample of panelists. When the budget allows, we also offer additional testing through cognitive interview and usability testing to improve questionnaires.

Additionally, none of our survey questions require (force) response for a respondent to advance to the next question. Lastly, we adhere to questionnaire and visual design guidelines and best practices, including but not limited to the following:

- Making sure the questionnaires are not grid-intensive
- Not including sensitive and/or burdensome questions at the beginning of the questionnaire (and asking them sparingly)
- Using agreement scales sparingly

- Ensuring that terminology and readability are appropriate for the targeted population
  - Avoiding unknown terms
  - If necessary, defining terms using hyperlinks or hover text
- Optimizing questions for each mode
- Taking advantage of computerized instruments (CAWI and CATI)—automated branching, navigation buttons, automated checks, informative error screens, FAQs, autocomplete/Google-like search bar functionalities, etc.
- Using inclusive designs (keeping all sample members in mind when designing questionnaires)
- Optimizing for mobile technology (for those who respond to surveys via their mobile phone)

Maximizing responses to surveys to respond to Guideline 2.3.2: *Encourage respondents to participate to maximize response rates and improve data quality.*

As a panel, there are two stages in which to maximize response rates. The first, recruitment to the panel, has been detailed elsewhere (see 1.2.1 and 2.2.1). In sum, AmeriSpeak includes multiple mailings, multiple incentives, telephone calling, and an NRFU stage that includes enhanced incentives, FedEx mailings, and in-person recruiting.

The second stage entails invitations to actual surveys. Each AmeriSpeak panelist has a likelihood of response based on prior surveys. This information allows us to invite a sample of panelists that will maximize the response rate of a representative sample for the number of days allotted for the field period. Panelists who prefer taking the survey on the Web are emailed through the field period with varying messages to encourage responses. Phone-preferred respondents are emailed if we have an email address and are called several times, with messages left when possible. These panelists are given the ability to call back and reach a live interviewer at a time convenient for them. Phone-preferred respondents can schedule a callback. We also send SMS messages during the field period with phone- or web-preferred respondents who have given us their mobile numbers and permission to send such text messages. All AmeriSpeak panelists receive an incentive in the form of AmeriPoints that can be exchanged for money or gift cards.

AmeriSpeak invests resources into panelist support with well-trained in-house interviewers and support personnel, to build rapport and trust and encourage response. In addition, we place a great deal of importance on making sure the panelists' experience is good in being invited to surveys, taking surveys, receiving incentives, and providing feedback, so that panelists stay in the panel and take the surveys they are invited to take.

When an even higher response rate is needed, the following practices can be considered:

- **Extending the field period.** The longer a survey can stay in the field, the greater the chance of reaching a respondent and the higher the ensuing response rate; a standard survey field length is two to three weeks, but when a higher response rate is desired, a survey could be in the field over a month
- **Increasing the amount of incentive** offered

- Including a **mailing** in the form of a pre-notification or post-invitation postcard or letter as an additional form of communication that the panelist has been invited to survey
- The inclusion of a **pre-incentive** in a letter
- If the survey has a tight and limited field period, the response rate can be maximized by sending a **pre-notification email,** so a panelist is more likely to be on the lookout for an invitation
- **Increased emails, SMS messages, and phone calls**, with even more **tailored messages** to make the survey stand out
- **Calling web-preferred panelists** to make them aware of the survey invitation and offer to interview them on the phone

In-project QA and internal reporting in response to Guideline 2.3.4: *Develop protocols to monitor data collection activities, with strategies to correct identified problems.*

Field progress is monitored regularly, with an eye on response rates for key subgroups. Because the invited survey sample is stratified by known historical participation rates to AmeriSpeak surveys, AmeriSpeak can deliver a representative sample of survey completions across key demographics. If response among any group is lower than expected, AmeriSpeak can make adjustments during the field period by targeting email, SMS texting, and telephone-based reminders or use other targeted methods to increase the response rate for lower-responding groups. We can also invite more targeted subsamples to generate the needed demographic balance.

Data Editing

Data editing in response to Guideline 3.1.1: *Check and edit data to mitigate errors.*

AmeriSpeak's procedures are designed to minimize data errors, gaps, or inconsistencies through survey programming, by putting in allowable ranges and inserting data when responses to a previous question provide the answer (thus allowing us to skip the question for that respondent). We document any programmatic data fills in our questionnaires. Back-end data editing might occur if a survey flow for a respondent meant administration of irrelevant questions or if an appropriate range check was not programmed into the survey. AmeriSpeak also replaces missing data if the data are available from other questions in the survey or profile data previously collected by AmeriSpeak. All such back-end data editing is documented in the Project Methods and Transparency Report that accompanies every survey.

Nonresponse and Response Rates

Provide nonresponse information for Guideline 3.2.1: *Calculate all response rates unweighted and weighted. Calculate weighted response rates based on the probability of selection or, in the case of establishment surveys, on the proportion of key characteristics that is represented by the responding units.*

The cumulative response rate for a survey that is conducted using the AmeriSpeak panel is a product of the following three rates:

1. Household recruitment rate, *HH_RECR_RATE*
2. Household retention rate, *HH_RETN_RATE*
3. Survey response rate, *SURV_RESP_RATE*

That is, the **cumulative response rate**, *CRR*, is defined as:

$$CRR = HH\_RECR\_RATE * HH\_RETN\_RATE * SURV\_RESP\_RATE$$

AmeriSpeak panel **household recruitment rate**, *HH_RECR_RATE*, is defined as the weighted AAPOR 3 response rate,

$$HH\_RECR\_RATE = \frac{(C_{BW} + W_{BW})}{(C_{BW} + W_{BW}) + (ER_{BW} + U1_{BW} + NC_{BW}) + e_{BW} * UH_{BW}}$$

where

- C_{BW} = base weighted total number of recruited and currently active households
- W_{BW} = base weighted total number of withdrawn households (this includes households where one or more panelists were recruited, then all recruited panelists were withdrawn from the panel, but other household members have pending invitations to join the panel; this type of a household would be considered as recruited because one or more persons in the household were recruited; note that, in the subcategory for the ER household disposition code, a household is designated as withdrawn if all eligible adults in the household were recruited and then withdrawn)
- ER_{BW} = base weighted total number of age-eligible but non-recruited households (at least one household member is identified as 18+ years of age)
- $U1_{BW}$ = base weighted total number of contacted and known households but with unknown age eligibility
- NC_{BW} = base weighted total number of non-contacted households
- UH_{BW} = base weighted total number of housing units with unknown eligibility
- J_{BW} = base weighted total number of age-ineligible households (all households members are less than 18 years of age)

- OOS_{BW} = base weighted total number of out-of-scope housing units (i.e., vacant, vacation home, etc.)
- e_{BW} is the observed eligibility rate, which is calculated as

$$e_{BW} = \frac{(C_{BW} + W_{BW} + ER_{BW} + U1_{BW} + NC_{BW})}{(C_{BW} + W_{BW} + ER_{BW} + U1_{BW} + NC_{BW} + J_{BW} + OOS_{BW})}$$

Note that households with disposition codes U1 and NC are assumed to have at least one 18+-year-old person in the household. This is a conservative assumption that marginally decreases the reported recruitment rate.

AmeriSpeak panel **household retention rate**, *HH_RETN_RATE*, is defined as:

$$HH\_RETN\_RATE = \frac{C_{BW}}{(C_{BW} + W_{BW})}$$

The **survey response rate**, *SURV_RESP_RATE*, is defined as:

$$SURV\_RESP\_RATE = \frac{C_S}{(C_S + ER_S) + \ e_S * UE_S}$$

where

- C_S = unweighted total number of sampled panelists with a completed interview for a given survey
- ER_S = unweighted total number of eligible sampled panelists with an incomplete interview for a given survey
- UE_S = unweighted total number of sampled panelists with unknown eligibility for a given survey
- J_S = unweighted total number of ineligible sampled panelists for a given survey
- e_S is the observed eligibility rate for the survey, which is calculated as

$$e_S = \frac{(C_S + ER_S)}{(C_S + ER_S + J_S)}$$

Note that, for a general population survey, $UE_S = 0$ and $e_S = 1$, as all sampled panelists are eligible for a general population survey.

Finally, the (conditional) **person recruitment rate**, *PRSN_RECR_RATE*, is defined as:

$$PRSN\_RECR\_RATE = \frac{C_{HW}}{(C_{HW} + ER_{HW})}$$

where

- C_{HW} = weighted (using the final household weight) total number of recruited and currently active panelists

- ER_{HW} = weighted (using the final household weight) total number of age-eligible but non-recruited panelists in recruited and currently active households

Provide nonresponse information for Guideline 3.2.2: *unweighted Calculate unweighted unit response rates (RRU) as the ratio of the number of completed cases (or sufficient partials) (C) to the number of in-scope sample cases (AAPOR, 2004).*

Provide nonresponse information for Guideline 3.2.3: *weighted Calculate weighted unit response rates (RRW) to take into account the different probabilities of selection of sample units, or for economic surveys, the different proportions of key characteristics that are represented by the responding units.*

The following tables report weighted an unweighted AmeriSpeak panel recruitment rates and panel retention rates for the full sample, initial recruitments, and NRFU recruitments. The definition of each reported rate is given below:

- Eligibility rates: the proportion of all units known to be eligible of all units whose eligibility status is known
- Cooperation rates: the proportion of all units interviewed of all eligible units ever contacted and known to be eligible
- Contact rates: the proportion of all units in which some responsible housing unit member was reached, out of all potentially eligible units
- Recruitment rates: the proportion of recruited units of all potentially eligible units in the sample
- AmeriSpeak Panel Retention Rate: the proportion of recruited units not withdrawn from the panel of all recruited units
- AmeriSpeak Panel Retention Rate with Back Outs: the proportion of recruited units who have completed at least one survey of all recruited units; computed to account for recruited panelists who have not completed a single survey since they joined the panel

The Initial rates are based on the recruitment outcomes during the initial recruitment phase; the NRFU rates are based on the recruitment outcomes during the NRFU recruitment phase; and the All rates are based on the combined results at the end of recruitments.

The Weighted rates are based on counts weighted by the recruitment sample base weights, and the Unweighted rates are based on the raw counts.

Table 1. AmeriSpeak Panel Recruitment Rate Calculation

	All		Initial		NRFU	
Housing Unit Description	**Weighted**	**Unweighted**	**Weighted**	**Unweighted**	**Weighted**	**Unweighted**
Eligibility Rate	95.3%	95.3%	95.3%	95.3%	95.3%	95.3%
Cooperation Rate (COOP1)	47.2%	59.7%	41.1%	40.0%	42.0%	43.9%
Contact Rate (CON2)	48.2%	32.7%	31.4%	32.1%	62.6%	63.5%
Recruitment Rate (RR3)	22.8%	19.5%	12.9%	12.9%	26.3%	27.9%
AmeriSpeak Panel Recruitment Rate	**22.8%**	**19.5%**	**12.9%**	**12.9%**	**26.3%**	**27.9%**

Table 2. AmeriSpeak Panel Retention Rate

HH Withdrawal Status	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted
AmeriSpeak Panel Retention Rate	**81.8%**	**83.5%**	**87.8%**	**87.8%**	**80.5%**	**79.7%**

Table 3. AmeriSpeak Panel Retention Rate with Back Outs

HH Withdrawal Status	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted
AmeriSpeak Panel Retention Rate	**66.1%**	**69.5%**	**76.4%**	**76.0%**	**63.3%**	**61.9%**

NRFU Guideline 3.2.10: *If the item response rate is less than 70 percent, conduct an item nonresponse analysis to determine if the data are missing at random at the item question, in a manner similar to that discussed in 3.2.9.*

Given the low item nonresponse, AmeriSpeak has not yet had the need to put together an item nonresponse bias analyses plan. In AmeriSpeak surveys, we do not usually observe high item nonresponse rates above 30 percent. For instance, we encounter on average 1 percent of item nonresponse during our recruitment survey. Additionally, not surprisingly, income questions consistently have the highest item nonresponse rate among all questions (11 percent and 16 percent, respectively during 2021 and 2022 recruitment surveys). One reason for the low item nonresponse is because AmeriSpeak surveys do not require a response from the respondent to advance to the next question. Accordingly, we do not include *don't know* and *refusal* categories explicitly within the response options, which increases the item response propensity. Additionally, we do the following during data processing to decrease item nonresponse in our data and analyses: 1) cleaning outlier cases with high item nonresponse tendencies during each study (e.g., respondents who skip the

majority of a survey); 2) filling in the gaps (for any missing data) using survey data collected over time from various client surveys.

Nonresponse weights in response to Guideline 3.2.12: *For data collections involving sampling, adjust weights for unit nonresponse, unless unit imputation is done. The unit nonresponse adjustment should be internally consistent, based on theoretical and empirical considerations…*

The AmeriSpeak panel is built as a secondary sampling frame where every recruited panelist carries a final panel weight.

The weighting steps for panel weights are as follows:

- Computation of base weights
- Adjustment for unknown eligibility
- Adjustment for household nonresponse
- Adjustment to household population totals; this yields the final household-level panel weight
- Initial person-level weight
- Adjustment for nonresponse associated with panel members
- Raking ratio adjustment to person-level population totals; this yields the final person-level panel weight

Panel base weights for all sampled housing units are first computed as the inverse of the probability of selection from the sampling frame (NORC National Frame and/or the USPS DSF). The sample design and recruitment protocol for the AmeriSpeak panel involves subsampling of initial non-respondent housing units for an in-person follow-up. The subsample of housing units that are selected for the NRFU have their panel base weights inflated by the inverse of the subsampling rate. The base weights are then adjusted to account for unknown eligibility and nonresponse among eligible housing units. To produce the final household panel weights, the household-level nonresponse adjusted weights are post-stratified to external counts for number of households obtained from the Current Population Survey.

In response to Guideline 3.2.12, we focus on nonresponse weighting adjustments at the household and person levels.

Household-level nonresponse adjustments

A household nonresponse adjustment is needed to account for eligible households that did not complete the recruitment survey. Recruited households that later withdraw from the panel are also considered nonresponding households. We use a weighting class approach to adjust the weights (the unknown eligibility adjusted base weights from the previous step) of responding households to account for eligible nonrespondent households. A logistic regression model is developed to identify significant variables that predict response/nonresponse.

We use sample design variables such as sampling strata, recruitment year, and tract-level information of household characteristics obtained from the 5-year ACS and Tract-Level Planning Database.

The nonresponse weighting classes are defined by crossing the following variables:

- Partisan Score: a six-category variable developed from TargetSmart data
  - 1: 80-100
  - 2: 60-79
  - 3: 40-59
  - 4: 20-39
  - 5: 0-19
  - 6: Missing
- Vendor Flag: a four-category variable developed from appended commercial vendor flags
  - 1: Households that contain young adults and minorities
  - 2: Households that contain young adults
  - 3: Households that contain minorities
  - 4: Other
  - PARTY_R (TS_PARTY_R) - TS_PARTY_R: =0/1 -vendor data ";
    If missing it set “0”

Within each adjustment cell, weights from the previous step for eligible respondent households are adjusted to represent all eligible households. We refer to the resulting weight as the household nonresponse adjusted weight.

Person-level nonresponse adjustments

For each eligible adult in the household as identified by the primary panel member, the person-level weight is defined as the final household-level weight. The primary panel member identifies and provides contact information for other eligible adults in the same household; subsequently, these eligible adults from the same household are contacted and asked to complete the recruitment survey. However, some of these eligible adults do not respond to the recruitment survey; thus, this step adjusts for nonresponse among eligible adults in the same household as the primary panel member. Note that this step also adjusts for eligible adults in the household who could not be contacted due to primary panel member not providing contact information. Furthermore, panel attrition could result in some household members being withdrawn from the panel. If at least one adult from the household remains in the panel, if any other adult is withdrawn from the panel, we account for this type of panel attrition through person-level nonresponse adjustments. Therefore, person-level nonresponse adjustments account for:

- Eligible adults in the same household as the primary panel member for whom no contact information is available

- Eligible adults in the same household as the primary panel member who were contacted for panel recruitment but did not complete the recruitment survey
- Panel members who were withdrawn (either voluntarily or being inactive) from the panel when at least one other adult in the same household continues to be an active panel member

We use a weighting class approach to adjust the weights from the previous step for eligible respondents to account for eligible nonrespondents. The weighting cells are defined by sample design variables (sampling strata, recruitment year, and tract-level information of household characteristics obtained from the 5-year ACS and Tract-Level Planning Database), age group, and sex.

Imputation for weighting in response to: Guideline 3.2.13: *Base decisions regarding whether or not to adjust or impute data for item nonresponse*

Recruited AmeriSpeak panelists are asked to complete a panel recruitment survey, referred to as Registration, Recruitment, and Core Adult Profile survey (RRCAP). Subsequently, active AmeriSpeak panelists are asked to complete a series of profile surveys including Public Affairs Survey, Health Status Survey, Health Coverage Survey, Technology Profile Survey, Financial Services Survey, and Engagement Survey. No missing data imputation is conducted for the profile surveys. Missing data are imputed if the data are needed to support weighting adjustments. Imputed variables include the following: gender, Hispanic, race, ethnicity, age, education, marital status, MSA, employment, housing, phone service, internet, home type, household size, and household income. Both random and hot deck imputation methods are used. For example, Hispanic is imputed to be Hispanic with probability equal to the proportion of the Hispanic population in the census tract; education is imputed using the hot deck method where gender, race/ethnicity are used as class variables and age as a sorting variable.

Coding

Coding procedures in responses to 3.3

Guideline 3.3.1

AmeriSpeak codes missing responses into three values: 77 = *don't know*, 99 = *refusal in phone*, and 98 = *implicit web refusal/web skip*.

Federal codings (SIC, NACIS) in response to 3.3.2

AmeriSpeak uses NAICS code frame when coding open-end responses on industry and SOC code frame when coding open-end responses on occupation. FIPS codes and federal standard statistical areas information are appended to each panelist. In addition, AmeriSpeak adopts the U.S. Census questions for categorizing race and ethnicity of each panelist.

The quality process during coding of open-end responses includes reviews of a subset of the coding to ensure that at least 90 percent of the coding is accurate.

Data Protection

PII protection in response to Guideline 3.4.1: *For surveys that include confidential data, establish procedures and mechanisms to ensure the information's protection during the production, use, storage, transmittal, and disposition of the survey data.*

NORC meticulously safeguards respondents' confidentiality and is known as a trusted manager of sensitive datasets. NORC uses an array of techniques to create data products that not only protect the privacy of data subjects, but also meet the needs of the data user. These include established statistical disclosure limitation methods such as recoding, suppression, and aggregation, as well as cutting-edge methods such as model-based synthetic data and differentially private methods that provide formal mathematical guarantees of the amount of privacy given to subjects in the data.

Prior to joining AmeriSpeak, respondents are asked to review and agree to the panel privacy policy. The privacy policy covers the type of information collected on panel members and how those data are allowed to be used. A section of the privacy policy specifically addresses any personally identifiable information (PII) that is collected, how it is used, and how and under what conditions, if any, that information can be shared with third parties.

NORC anonymizes the survey response data prior to any delivery to federal sponsors of statistical surveys.

Firewalls, etc., in response to Guideline 3.4.2: *Ensure that Individually-identifiable survey data are protected; Data systems and electronic products are protected from unauthorized intervention; and data files, network segments, servers, and desktop PCs are electronically secure from malicious software and intrusion using best available information resource security practices are periodically updated.*

NORC is responsible for the receipt and collection of sensitive data on a large number of projects for the federal government and other clients. We focus on advanced methodologies to manage vast amounts of data while maintaining high security. This work is enabled by very large and expandable Storage Area Networks (SANs), relational database management systems, internet-enabled applications, high-capacity back-up infrastructure, and the use of virtual servers.

In addition, all data collection sites have Secure Socket Layer (SSL) certificates installed to ensure secure data transmission. Sensitive data are encrypted during storage in the database. NORC's security team performs regular and ad hoc security scans of the servers and network. Security patches are applied to all our servers on a regular basis.

The NORC infrastructure framework is compliant with the Federal Information Security Management Act (FISMA) to ensure that all data, operations, and assets are protected from security threats. We follow the standards and guidelines set by the National Institute of Standards and Technology (NIST) Special Publication 800-53 Rev 4 (Recommended Security and Privacy Controls for Federal Information Systems and Organizations) at the Moderate level, and the Federal Information Processing Standards (FIPS 199). We strictly follow the policies established in the Office of Management and Budget (OMB) Circular A-130 regarding management of federal resources. All personnel maintaining the systems are trained according to the policies set by the U.S. Census Bureau. NORC's IT security team has extensive experience with federal regulations mandating compliance with data security, management, and usage of data, including PII.

Daily incremental snapshots and monthly full backups are parts of NORC's standard procedures. Any archived information is retrievable from the storage facility within a few hours. The retrieval process requires a strict identification and authorization procedure and is limited to a few specially authorized IT staff members. NORC maintains a Disaster Recovery Plan as part of its standard operating procedure; backups made for the purpose of disaster recovery have a retention period of 30 days, after which time the backup data are destroyed unless there are specific project requirements.

NORC has pioneered the use of environmental samples and biomeasures to augment interview data, and increasingly uses sensor technology to secure data of this type.

Security in response to Guideline 3.4.3: *Ensure controlled access to data sets so that only specific, named individuals working on a particular data set can have read only, or write only, or both read and write access to that data set.*

NORC's security program is compliant with federal government regulations and can be adapted easily to meet the unique requirements of any project. Compliance with NIST 800-53 revision 4 recommendations is a requirement on many of our projects, including work for the Department of Labor, the CDC, and the Department of Health and Human Services (HHS). Audits of those projects have found that our systems meet or exceed requirements. NORC has received authorization to operate (ATO) from the following government agencies:

- HHS Office of Minority Health (multiyear, 2nd ATO)
- Centers for Disease Control and Prevention
- National Institutes of Health
- USDA (multiyear, 2nd ATO)
- Bureau of Labor Statistics (multiyear, 2nd ATO)
- U.S. Department of Commerce – Bureau of the Census
- Department of Labor

NORC's security team performs regular vulnerability and web application scans on our systems, and third-party auditors perform annual penetration tests and control reviews.