

Conducting Questionnaire Surveys

Note: *This guidance is designed to ensure that GAO policies on evidence and generally accepted government auditing standards are met. The guidance conforms to the generally accepted principles and practices of the appropriate disciplines. Statements that particular actions “should” be taken are practices that are expected to be followed, unless there are good reasons for not doing so. Before deviating from a practice expressed as a “should” statement, staff members must consult with an appropriate staff member in Applied Research and Methods (ARM) or a team specialist and must document the consultation.*

Abstract: This document describes the key steps and considerations in developing, conducting, reporting, and documenting surveys and other structured data collections. This document also describes types of available expertise, other resources, and some overall sound survey practices. Please note that the words “surveys” and “questionnaires” are used interchangeably in this document.

This guidance applies to all self-administered questionnaires (i.e. mail and web questionnaires) as well as most structured interviewer-administered questionnaires (i.e. when the interviewer systematically administers the survey by reading questions exactly as written with limited ad-hoc probing). This guidance is recommended when all three of these conditions are met:

1. Testimonial evidence is obtained from respondents about their organizations or on their own attitudes, opinions or views,
AND
2. The questions are asked using the same wording for each respondent,
AND
3. GAO reports a quantitative summary of the respondents’ answers (for example, percentages, counts of cases, or even findings using vague quantifiers such as “most”).

Appendix A describes the types of data collection instruments that should follow this guidance.

Some Useful Resources

A number of documents on the [ARM Guidance Web site](#) can aid in developing, conducting, pretesting, and reporting on questionnaire surveys. See “[An Expanded Index to GAO Questionnaire Survey Guidance](#).” While these resources are helpful, they do not cover all aspects of survey research methods and cannot replace judgment based on knowledge of the survey research literature and professional training and experience in this area.

ARM’s Involvement with GAO Surveys

A specialist with survey expertise such as an ARM staff member designated by management in the Center for Design, Methods, and Analysis (CDMA) within ARM should be involved in all facets of the survey process. The amount of involvement depends on the qualifications of other engagement team members, the complexity of the assignment, and the types of GAO or contractor resources needed, among other factors.

Subject Matter Expert Review

At least one expert on the subject matter contained in the survey should review a draft of the questionnaire to ensure that technical terms are used correctly, whether or not respondents are likely to have access to requested information and the authority to respond, that the questionnaire will not be overly sensitive or burdensome, that respondents will be motivated to respond, and that the questionnaire will provide a comprehensive, unbiased assessment of issues. The subject matter expert may be either a GAO employee or an external reviewer. Any suggestions from these reviewers should be carefully considered but do not need to be formally addressed.

Questionnaire Expert Review

A survey specialist not associated with the development of the survey should review a draft of the survey questionnaire from a technical standpoint. The review should occur when the survey is nearing final draft form, usually just before or after a first wave of pretests. Although, the reviewer’s suggestions are advisory, not mandatory, staff have found comments and edits to be very beneficial. While GAO surveys are not subject to review by the Office of Management and Budget (OMB) nor an Institutional Review Board (IRB), the internal questionnaire review process provides an informal way to meet some of the same professional standards set forth in those types of reviews. See “[Internal Peer Review of Questionnaires](#)” for more information.

Confidentiality Statements

A qualified ARM specialist (or another team-based qualified survey specialist), a member of the Quality and Continuous Improvement (QCI) team, and a member of the General Counsel’s Office (GC) should review any statement to respondents that pledges confidentiality or mentions any other limitations to GAO’s disclosure of respondents’ data. Most GAO questionnaires do not collect confidential data. Offering a condition of confidentiality requires concurrence with the Congressional requestor and destruction of linkages between the data and the identities of the data providers. See “Pledges of Confidentiality,” Section 150, Part B of the GAO Policy Manual for more information.

Pretesting

The survey should be tested with individuals from the targeted population to be surveyed or others who are knowledgeable about the subject area and can answer the questions and serve as proxies for those from the targeted population. The survey specialist and other engagement team members generally determine whether the pretesting program has demonstrated that the questionnaire will acquire data that are sufficiently accurate for the purposes of the engagement. Ideally, a minimum of five cognitive pretests should be conducted. While a variety of techniques may be used in cognitive pretests, the general approach is to conduct the interview with the instrument and in conditions that mirror the actual administration of the survey as closely as possible. The survey specialist makes observations and asks probing questions to determine whether the respondent understood and answered the questions appropriately. These pretests should collectively cover all major skip patterns and include each population subgroup that may understand or interpret questions substantially differently. At minimum, each question should be covered in at least one pretest. Questions that are substantially revised should be tested in subsequent rounds of pretesting. See “[Questionnaire Pretest Procedures](#)” for more information.

Consulting on Sample Designs

A statistician, such as a member of ARM’s CDMA statistics group, should be consulted about the sampling approach such as whether a probability (“random”) or non-probability sample design should be employed,. See “[Using Probability, Nonprobability, and Certainty Samples](#)” for more information.

Survey Error

The nature and magnitude of survey error are measures of survey quality. Survey error can be defined as the significant deviation of survey point estimates from the true population value of a variable. There are sampling and non-sampling errors that may occur. Non-sampling errors include nonresponse, population coverage, and measurement error as well as data entry and processing errors. The survey should be designed to minimize these errors, while balancing the need to minimize costs and project time. See “[Reporting Results from Probability Samples](#)” and “[Evaluating and Reporting Nonsampling Errors in Surveys](#)” for more information.

Response Rates

Response rates, which are associated with nonresponse error, are probably the most commonly cited indicators of survey quality. Besides the increase in variability in estimates (i.e. confidence intervals) that result when fewer responses than anticipated are received, there is the possibility that had nonrespondents answered survey items, they would have differed systematically from those who did answer, leading to nonresponse bias. However, recent research suggests low correlation between response rates and

nonresponse bias: bias may not be a problem in some low response surveys, yet may be a problem in high response surveys.

Therefore, minimum thresholds for acceptable response rates are not commonly cited. As a rule of thumb, the lower the expected response rate, the more resources should be allotted to efforts that will increase response, and the more attention should be paid to assessing and adjusting for nonresponse error and bias. See “[Calculating and Reporting Survey Response Rates](#)” and “[Addressing Nonresponse and Nonresponse Bias Issues in Surveys](#)” for more information.

Respondent Burden

Every questionnaire survey requires some work on the part of respondents. Cooperating with GAO survey requests translate into real costs (time, energy, etc) to private citizens and public and private organizations. There should be a clear justification and rationale for the survey as well as to each item contained on the survey and communicated in the data analysis plan. Only pertinent information that is necessary to answer researchable questions of the GAO engagement that cannot practicably be collected in a less burdensome way should be collected through survey means. Pretesting and other questionnaire development procedures should be used to determine that the survey request is reasonable, and to estimate the amount of time it will typically take to complete the questionnaire.

Workpaper Guidance

GAO audit documentation should be prepared with sufficient detail about the questionnaire development process, pretesting efforts, data collection procedures, and data processing procedures to:

1. provide enough information to replicate the survey,
2. support statements in the report about the survey methodology and quality of the data, and
3. determine the strengths and weaknesses in the survey that should be discussed in the GAO report.

See “[Workpaper Template for Documenting GAO Surveys](#)” for more information.

Workpapers can generally be reviewed by either Team or ARM supervisors, with the exception of technical matter that requires specialized expertise to review. Twelve areas that are typically documented, and are covered in the CDMA workpaper template cited above, are:

1. **Dataset documentation.** ARM’s requirements for dataset creation documentation should be followed for the sample and response datasets, and any other data connected with the survey.
2. **Population definition.** The study population, as well as the sampling frame from which the sample is actually drawn should be clearly defined.
3. **Sample design.** The sample design and methods followed to select sampled cases for the survey should be described for all samples (i.e., both probability and nonprobability samples).
4. **Probability sample design.** If a probability sample is used, ARM’s documentation standards for probability samples should be followed with respect to sample design documentation, sampling error calculations, nonresponse adjustments, weighting, and other relevant topics.
5. **Questionnaire development and testing.** Steps taken to review and test the instrument should be described, including the number of pretests that were conducted. The workpapers are most valuable if they identify each version of the pretest, include a blank copy of each version pretested, indicate the number of pretests for each version and the dates on which each occurred. The reasons for major changes in the content of the questionnaire or major changes in the wording of questions between versions should be documented.
6. **Copy of the questionnaire.** A blank copy of the final survey questionnaire should be included as part of an e-supplement or in an appendix as a facsimile that displays the instrument as closely as possible to how it appeared in the medium (paper or web) that the respondent or interviewer read.
7. **Description of the data collection procedures.** The procedures, such as the mode of data collection, that were followed in gathering the data should be described. Information should include dates of data collection copies of cover letters and all other communications with respondents, and details about any follow-up procedures that were conducted including dates of follow-up contacts.
8. **Description of the data editing procedures.** Procedures used to modify any values of the data originally recorded on the survey instrument should be documented (e.g., editing rules, follow-up interviews with respondents, checks against records, computer recoding procedures).
9. **The data entry instructions.** The instructions for entering the respondents’ data into an electronic database should be included.
10. **Sample disposition report.** The disposition (final outcome) of all originally selected sample elements should be tabulated and described.

11. **Response rate calculation.** A response rate should be calculated by following the method described in the ARM response rate guidance. (See [“Calculating and Reporting Survey Response Rates”](#) for more information.
12. **Nonsampling error discussion.** A description of nonsampling error - nonresponse, coverage, measurement and processing errors - should be provided.

Most, but not all of these 12 workpaper documentation areas translate into specific OSM items to report.

Reporting on Survey Methods in GAO Products

GAO products should contain sufficient information about the survey methods for readers to understand the survey’s basic characteristics. The detail needed for any particular report depends on the product type and the effect of methodological issues on the quality of survey data, as well as the survey’s prominence and support for findings, conclusions and recommendations in the GAO report. In the case of multiple reports on a single survey, the GAO product(s) using less survey data should cite the primary product that made the most prominent use of survey data. See [“Reporting on Questionnaire Surveys in GAO Reports, OSM Sections, and E-Supplements”](#) for more guidance. The following should typically be described in at least one GAO product:

1. objectives addressed by the survey,
2. population the survey is designed to represent,
3. sample frame and the sample design,
4. questionnaire development, testing and procedures,
5. questionnaire content and wording(exact question wording or reproduction of instrument)
6. key data collection steps (e.g., modes, fieldwork dates, advance contacts, nonresponse followup, editing),
7. disposition of sample (e.g., number of respondents, ineligible)
8. response rate(s) and definitions of rate(s) calculated,
9. sampling errors (if a probability sample), and
10. extent and direction (if known) of nonsampling errors (nonresponse bias, coverage, measurement, and processing error).

The primary reports on each GAO survey typically contain an extended discussion of these topics. A brief product, such as a testimony, or a report that makes minimal use of a survey could meet these requirements with a statement such as:

“On the basis of 1,203 responses to our February 2009 mail survey of a stratified probability sample, we estimate that approximately xx percent of the nurses at Veterans Administration hospitals in the contiguous United States feel they are ‘satisfied’ (‘moderately satisfied’ or ‘very satisfied’) when asked ‘How satisfied are you with the care that the local VA hospital provides to disabled outpatients’ Our survey achieved an 87 percent response rate and provides results that are accurate to within about plus or minus 4 percentage points (at the 95 percent level of confidence). Our previous report (GAO-00-000) describes the survey methodology in more detail.”

Appendix

Types of Data Collection to Which This Guidance Is Applicable

This application of this guidance is based on a number of factors: how the evidence is obtained, the types of questions that are asked, and the types of data that are collected. Although this includes most self-administered and interviewer-administered surveys at GAO, it also excludes some structured data collection efforts at GAO.

The table below lists different types of structured data collection instruments and whether or not they should be subject to this guidance.

Data Collection Instruments (DCIs) completed by GAO staff extracting information from records are excluded because the evidence is documentary, not testimonial. Many GAO interviews that only loosely follow an interview guide are also excluded. In addition, many GAO interviews are excluded because they are designed to discover basic information of an issue or program without producing quantitative information for a GAO product.

While the entire body of survey guidance may not be applicable in these cases, some principles in the guidance may still be useful. For example, complex data collection guides that collect testimonial evidence may not need cognitive pretests, but may benefit from a review from a subject matter expert or a survey methodologist.

APPENDIX

Table: Application of GAO survey guidance to six types of data collection instruments.

Type of data collection instrument	Type of evidence	Type of questions asked	Type of data collected	Does survey guidance apply?
1. Self-administered questionnaires (mail, web, e-mail, fax, etc)	Testimonial	Standardized	Quantitative summaries	YES
2. Interviewer-administered surveys – Administered by contractor	Testimonial	Standardized	Quantitative summaries	YES
3. Interviewer administered surveys – Administered by GAO	Testimonial	Standardized	Quantitative summaries	YES
4. Semi-Structured (scripted) interviews where some of the open questions are discussed in depth and some of the followup probing is at the interviewer’s discretion	Testimonial	Standardized, but variable probing and discussion	Quantitative summaries AND Interviewer synopsis of views on some topics	YES
5. Probing, adaptive interview that also includes a few scripted questions that are read verbatim to all respondents	Testimonial	Some standardized, but some adapted to circumstances.	Quantitative summaries for scripted questions AND Interview synopsis of views on some topics	OPTIONAL – Any peer review comments could be restricted to only the scripted questions
6. Interview guide: Probing, adaptive interview loosely guided by topics	Testimonial	General topical guide with GAO questions varying by interview.	Typical GAO interview write-up attributing answers to individual respondents	NO
7. A standardized form that GAO staff use to collect and record data from observations or documents.	Observational or documentary	Standardized	Tabulation of data	NO