



*Council of the*  
**INSPECTORS GENERAL**  
*on INTEGRITY and EFFICIENCY*

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**Good Practices for Quality  
Assurance Reviewers: Audit  
Sampling Planning,  
Documentation, and Reporting**

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June 2021

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## EXECUTIVE SUMMARY

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### Objective

The purpose of this white paper is to share good practices related to performing quality assurance reviews of audit evidence obtained from sampling.

### Approach

One of QAWG's goals is to identify and document good practices to help the OIG community improve QA functions. To implement this goal, QAWG, through FAEC, sent a survey in July 2019 to senior OIG audit leadership and managers to identify key areas of concern about the application or interpretation of performance audit standards. Sampling was identified as an area of concern. The QAWG formed a task team to identify and summarize good practices for performing a QA review of audit evidence obtained from sampling.

This white paper provides good practices for performing a QA review of audit evidence obtained from sampling, as well as good practices for documenting audit sampling. To develop the good practices, QAWG reviewed various OIGs' sampling policies and procedures; the generally accepted government auditing standards (GAGAS), also known as the Yellow Book (2018 edition); GAO's Using Statistical Sampling manual (1992); and American Institute of Certified Public Accountants AU-C Section 530 Sampling Plan Procedures.

Audit sampling is the selection and evaluation of less than 100 percent of the population, which the auditor expects to be representative of the population and will provide a reasonable basis for conclusions about the population. This process allows the audit team to gain an understanding of characteristics of the population. There are two general approaches to audit sampling: nonstatistical (targeted reviews) and statistical (probability). In selecting the approach, the audit team considers variables such as the audit budget, resources and time allocated, limitations and availability of data, and the size of sampling population.

The QA reviewer is not required to be an expert on sampling. However, the reviewer is responsible for performing a thorough review to ensure that Yellow Book requirements are met. Some audit teams use sampling plans to document audit sampling procedures. Therefore, QA reviewers may encounter this document during the QA review.

Good practices for the QA reviewer include the following:

- Verify that the sampling procedures or plan, methodology, results and conclusions derived from audit sampling are reported accurately and supported by adequate audit documentation.
- Determine if the sampling procedures or plan was approved according to the agency's policies and procedures, and whether the team followed the steps in the approved sampling procedures or plan.
- Determine whether the audit team obtained approval or consulted with a statistician or specialist to develop the sampling plan, if applicable.
- Determine whether the statistician or specialist has appropriate qualifications, if applicable.
- Consult with the audit team, statistician, or specialist if there is difficulty understanding audit sampling documentation.

The guidance in this white paper is not prescriptive; each QA reviewer should consider the agency's unique policies and procedures and use professional judgment in assessing the agency's implementation and compliance with professional standards. In addition, this white paper should not be considered a replacement or supplement to generally accepted government auditing standards, and it should not be considered as a basis for an external peer review result.

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## INTRODUCTION

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In October 2016, representatives from various Federal Offices of Inspector General (OIG) formed the Quality Assurance Working Group (QAWG) to enhance and improve the quality assurance (QA) review processes used by the Federal OIG community. In January 2019, the Council of the Inspectors General on Integrity and Efficiency (CIGIE) formally recognized QAWG as part of the Federal Audit Executive Council (FAEC).<sup>1</sup> One of QAWG's goals is to identify and document good practices to help the OIG community improve their QA functions. To implement this goal, QAWG, through FAEC, sent a survey in July 2019 to senior OIG audit leadership and managers to identify key areas of concern about the application or interpretation of performance audit standards. QAWG formed task teams to develop separate white papers that address the top five identified areas of concern.<sup>2</sup>

### Purpose

This white paper provides good practices for performing a QA review of audit evidence obtained from sampling, as well as good practices for documenting audit sampling. The guidance in this white paper is not prescriptive; each QA reviewer should consider the agency's unique and procedures and use professional judgment in assessing the agency's implementation and compliance with professional standards. In addition, this white paper should not be considered a replacement or supplement to generally accepted government auditing standards, and it should not be considered as a basis for an external peer review result.

### Background

When deciding whether to employ audit sampling techniques, the audit team considers the specific audit objective(s) to be achieved and whether sampling procedures or a combination of procedures to be applied will assist in efficiently achieving that objective(s). In planning and conducting audits, it may not be effective, efficient, or practical to examine all of the available data or entire population to achieve an audit objective. Instead, it may be useful to perform audit sampling to draw valid conclusions and generalizations about a population. Audit sampling is the selection and evaluation of less than 100 percent of the population, which the auditor expects to be representative of the population and will provide a reasonable basis for conclusions about the population. The audit team selects the appropriate sampling approach or method to evaluate the population.

There are two general approaches to audit sampling: *statistical* (probability) and *nonstatistical* (targeted reviews). Auditors may use either approach to evaluate the population. Both approaches require that the auditor use professional judgment in planning, performing, and

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<sup>1</sup> FAEC is a subgroup established by CIGIE to discuss and coordinate issues affecting the Federal audit community, with special emphasis on audit policy and operations of common interest to members.

<sup>2</sup> The survey results identified the top concerns of OIG senior leadership and management where professional standards were not being consistently interpreted: (1) audit risk, (2) data reliability, (3) sampling, (4) supervisory review, and (5) quality assurance. Another key concern identified was related to internal controls, which is being addressed by CIGIE's separate internal controls working group.

evaluating a sample and in relating the audit evidence produced by the sample to other audit evidence when forming a conclusion about the population.<sup>3</sup> In selecting the approach, the audit team considers other variables, such as the audit budget, resources and time allocated, limitations and availability of data, and the size of sampling population.

**Statistical Sampling (Probability)** Statistical sampling, also referred to as probability sampling, involves the use of techniques from which mathematically constructed conclusions regarding the population can be drawn. Statistical sample results are objective, defensible, and can be projected to the population. See Appendix B: Commonly Used Statistical Sampling Methods.

**Nonstatistical Sampling (Targeted Review)** Nonstatistical sampling, also referred to as targeted reviews, uses non-probability methods such as judgment or experience to select the sample. Recommendations are limited to the exceptions derived from the sample. The results cannot be projected to the population and should be reported with appropriate qualifying language.

There are a number of reasons why an auditor may choose a nonstatistical sample instead of a statistical sample, such as when the universe cannot be verified, the population is not easily retrieved or available, or key data is missing. In certain situations, the audit team may determine that sampling is not appropriate and decide to review 100 percent of the population. This is commonly referred to as a census.

## Criteria

The Yellow Book provides a framework for performing high-quality audit work with competence, integrity, objectivity, and independence. According to the Yellow Book, auditors must obtain sufficient, appropriate evidence to provide a reasonable basis for addressing the audit objectives and supporting their findings and conclusions.<sup>4</sup> The degree of assurance associated with a performance audit is strongly associated with the appropriateness of evidence in relation to the audit objectives. The audit objectives might focus on verifying specific quantitative results presented by the audited entity. In these situations, the audit procedures would likely focus on obtaining evidence about the accuracy of the specific amounts in question. This work may include the use of statistical sampling.<sup>5</sup> When a representative sample is needed, statistical sampling generally results in stronger evidence than nonstatistical techniques. When a representative sample is not needed, a targeted selection may be effective if the auditors have isolated risk factors or other criteria to target the selection.<sup>6</sup>

In reporting audit methodology, auditors should explain how the completed audit work supports

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<sup>3</sup> The use of sampling in financial audits differs somewhat from its use in performance audits. For more information on sampling in financial audits, see the *Financial Audit Manual* published by GAO and CIGIE.

<sup>4</sup> GAO, *Government Auditing Standards (GAS)*, 8.90.

<sup>5</sup> GAS, 8.103 and 8.103a.

<sup>6</sup> GAS, 8.107.

the audit objectives, including the evidence-gathering and evidence-analysis techniques, in sufficient detail to allow knowledgeable users of their reports to understand how the auditors addressed the audit objectives. Auditors should identify the significant assumptions made in conducting the audit; describe comparative techniques applied; describe the criteria used; and, when the results of sample testing significantly support the auditors' findings, conclusions, or recommendations, describe the sample design and state why the design was chosen, including whether the results can be projected to the intended population.<sup>7</sup>

In addition to the Yellow Book requirements, auditors should also follow their agency's internal policies and procedures for addressing audit evidence and reporting audit methodology, including specific requirements involving statistical sampling.

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## SAMPLING PLANNING

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Audit sampling can be used to collect and analyze evidence during the audit. Deciding whether to use audit sampling is a critical component to audit planning. It is considered early to ensure that sampling procedures, or a combination of procedures, will assist in efficiently achieving audit objectives. Sampling planning may include defining the objective; determining the type of testing to be performed; and determining the population, statistical methodologies and approaches, sample size, parameters, resources, data collection, and plans for analyzing and interpreting the results. Sampling approaches and methodologies should be carefully considered to ensure that results and conclusions are accurate.

Audit teams may also consider using a specialist, such as a statistician, early in the audit. The use of specialists can enhance the credibility and quality of an audit and minimize the resources and time needed to accomplish the objectives. A specialist can assist in acquiring, developing, and framing a population; designing a statistical sampling plan; and performing other statistical methods. This assistance can also include obtaining databases from outside sources, converting data files to usable formats, identifying subpopulations, comparing counts for completeness, and verifying totals for accuracy.

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## SAMPLING DOCUMENTATION

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Audit documentation is an essential element of audit quality.<sup>8</sup> Auditors should prepare audit documentation in sufficient detail to enable an experienced auditor with no previous connection to the audit to understand the following from the audit documentation:

- the nature, timing, extent, and results of audit procedures performed
- the evidence obtained and its source

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<sup>7</sup> GAS, 9.14.

<sup>8</sup> GAS, 8.137.

- the conclusions reached, including evidence that supports the auditors' significant judgments and conclusions<sup>9</sup>

Auditors document sampling procedures in the work papers. The documentation may include the following information:

- the audit objective
- the sample objectives or purpose
- the criteria applied and why appropriate
- the population, sampling unit, and sampling frame
- the sampling approach
- the selection methodology
- the sampling parameters, such as degree of reliability and confidence range (statistical samples only)
- the sample size
- treatment of missed or omitted samples
- the data collection technique to be used
- a description of results

If audit sampling is used, it should be included in the audit team's overall assessment of the collective evidence used to support findings and conclusions.<sup>10</sup> Therefore, it is important that the sampling procedures are thoroughly documented in the working papers. Some auditors may use or are required to use a sampling plan or design to document sampling procedures. See Exhibit A for an example.

## Use of Specialist and Statisticians

Some audits may necessitate the use of specialized techniques or methods that call for the skills of specialists.<sup>11</sup> Specialists and statisticians can perform various tasks during the sampling process. For example, they can assist the audit team when more advanced sampling methodologies are involved, prepare or approve sampling plans and designs, and approve sampling testing. In some cases, the statistician may perform or review the actual sampling analysis to reach conclusions and projections.

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## SAMPLING REPORTING

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When the results of sample testing significantly support the auditors' findings, conclusions, or recommendations, the report should describe the sample design and state why the design was chosen, including whether the results can be projected to the intended population.<sup>12</sup>

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<sup>9</sup> GAS, 8.132.

<sup>10</sup> GAS, 8.108.

<sup>11</sup> GAS, 4.13.

<sup>12</sup> GAS, 9.14.

Good practices for reporting sampling results include the following:

- describing whether a statistical or non-statistical sample was used
- explaining why a sampling methodology was chosen
- describing the sample size tested in relation to the total population
- stating whether the results can be projected to the entire population

When using nonstatistical sampling, audit teams should indicate how the sample was selected and include a statement that results from these samples cannot be used to make inferences about the population.

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## NON-SAMPLING TECHNIQUE (CENSUS)

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Although this White Paper focuses on sampling, there are situations when auditors may choose a census rather than sampling to achieve the audit objectives. A census is a test of 100 percent of the population, and therefore does not require a projection. Conducting a census may be appropriate when 100 percent reviews are possible due to the nature of the test, availability of reliable data, when population sizes are small, or when no sampling uncertainty can be tolerated.

Similar to sampling procedures, the audit team documents the source and scope of the population, accuracy of the data, how they tested the population data, results of their testing, and the basis for conclusions reached.

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## QUALITY ASSURANCE REVIEWER RESPONSIBILITIES

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### QA Reviewer Independence

The QA reviewer should be independent of the audit team and should apply objectivity, experience, analytical ability and knowledge of the Yellow Book to the task. Although experience with sampling is desirable, it is not necessary for the QA reviewer to be an expert in statistics or sampling.

### Review of Report

The QA reviewer determines if the report contains the required information and explanations concerning sampling. As a good practice, the QA reviewer should first gain an understanding of the audit by reading the entire report, paying close attention to the audit objectives of the review and whether sampling supports the audit's objectives, results, and conclusions. It is important that the sampling results are consistently interpreted, documented, and accurately reported. The QA reviewer confirms that sampling information in the report is supported by adequate audit documentation. The sampling results included in the report should tie back to the sampling procedures and conclusions documented in the working papers.

The report is required to explain if the results of sample testing significantly support the findings, conclusions, or recommendations. It should also describe the sample design and state whether the results can be projected to the intended population. It may be necessary for auditors to perform multiple samplings to achieve the audit objectives, and audit reports should therefore provide this information in each instance of sample testing that significantly supports the findings, conclusions, or recommendations. See Appendix C for examples of audit reports that describe audit sampling.

## Review of Audit Documentation

The audit documentation should provide the following types of information about sampling procedures: audit objectives; sample objectives or purpose, criteria applied and why appropriate; population, sampling unit, and sampling frame; sampling approach; selection methodology; sampling parameters, such as degree of reliability and confidence range (statistical samples only); sample size; treatment of missed or omitted samples; data collection technique to be used; and a description of results. It is not necessary for the QA reviewer to determine the validity of the sampling procedures. Rather, the task is to determine whether the audit team followed sampling procedures that were approved according to the reviewed agency's policies and procedures. This may be found in the use of standardized audit steps and sampling procedures provided by the agency for use in certain situations, supervisory approval, approval by a person experienced in sampling techniques, or approval by a specialist such as a statistician. The QA reviewer should also determine whether the audit team consulted with a statistician or specialist to develop the sampling procedures.

## Review of Specialists Qualifications

The QA reviewer may encounter instances where a specialist or statistician developed the sampling procedures, performed the analysis, and/or developed conclusions. This is more likely when complex sampling designs or techniques are used. The audit team should determine that specialists assisting the audit team are qualified and competent in their areas of specialization.<sup>13</sup> The QA reviewer will typically find what is required to document qualifications in an agency's policies and procedures. The audit team should document the professional certification, license, or other recognition of the competence of the specialist, as appropriate. For a comprehensive list of information to document, see GAS, 4.15. The QA reviewer confirms that the specialist or statistician had the appropriate qualifications, that the sampling procedures were approved according to the reviewed agency's policies and procedures (this would typically be someone with the appropriate qualifications such as a specialist or statistician), and that the work performed by the specialist underwent a quality review by another specialist or statistician.

## Review of Census

The QA reviewer may also encounter the results of a large and complex census. The QA reviewer reviews these results by following the same principals for reviewing audit samples. In

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<sup>13</sup>GAS, 4.12.



all cases—statistical sample, nonstatistical sample, and census—an experienced QA reviewer should avoid the temptation to recreate the entire analysis. Rather, the reviewer should focus on determining if the language in the report ties back to the audit documentation, that the audit team followed approved procedures, that complex procedures were designed and/or performed by someone with appropriate qualifications, and that the work performed was appropriately reviewed and reported.

If the QA reviewer has difficulty understanding the audit sampling or census documentation or reporting, it is a good practice to consult with the audit team, specialists, or statisticians to understand the nature, scope, and extent of the work performed, and that the approved procedures were appropriately followed, reviewed, and reported.

Please see Appendix D for available training if QA reviewers want to learn more about sampling.

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## APPENDIX A: SAMPLING PLAN TEMPLATE

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**Audit/Project Number:** \_\_\_\_\_

**Audit Objective:** \_\_\_\_\_

**Prepared by:** \_\_\_\_\_

**Approved by:** \_\_\_\_\_

**Sampling Plan Purpose:** Describe the sampling plan in accordance with the Yellow Book and OIG policies and procedures. The sampling plan explains why statistical sampling is needed to meet the audit objectives.

**Population (Universe):** Identify the audit population and specify its size, arithmetic mean, and standard deviation. Be specific about what comprises your population.

**Sampling Frame (Scope):** The database (if applicable), other collection of data, timeframe, or dollar amount, containing the totality of the sampling units from which the sample will be selected.

**Sampling Unit:** The unit of analysis, which is any of the designated elements that comprise the population of interest.

**Sample Design (Methodology):** The most common designs used are simple random, stratified, cluster, and multistage sampling.

**Measurement Characteristics (Criteria):** Describe the sample's criteria and characteristics.

**Sample Size:** The sampling plan should explain the sample size that must be sufficient to meet the audit objectives. Specify the parameters used to determine the sample size for statistical samples—for example, confidence level and margin of error.

**Source of Random Numbers and Sample Selection:** The sampling plan should describe the source of the random numbers used to select sample items—for example, Excel RAND formula.

**Estimation Methodology:** Describe the estimates to be reported, the rationale for using the estimates, and how the estimates will be calculated. Specify the parameters used to determine the estimates for statistical samples—for example, confidence interval, and confidence level.

**Treatment of Missed or Omitted Samples:** Describe how missing or omitted sampling units will be treated.

**Description of How Results Will Be Reported:** Describe how the results will be reported. The audit team should be able to envision how the results of the sample will be used and reported and should know the objectives before the sample is selected.

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## APPENDIX B: COMMONLY USED STATISTICAL SAMPLING METHOD

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### Statistical Sampling

Statistical sampling helps the auditor design an efficient sample, measure the sufficiency of the evidential matter obtained, and evaluate the sample results. Results of the sample tested can be projected to population with measurable precision. Sample size can be based on a variable (for example, dollar unit) based on error rate and precision goals. It can also be based on attributes (for example, discovery, one-step, two-step, and rate estimation) based on error rate and risk.

Statistical sampling has the following benefits:

- It employs probability theory; each item has a known probability of being selected.
- It estimates the sample size objectively.
- Sample results are objective and defensible.

### Cluster Sampling

Cluster sampling is a procedure in which groups of items, rather than individual items, are selected for testing. Each sampling unit is called a cluster. Cluster sampling tends to be a small-scale similar version of the entire population, such as business units, geographic locations, categories of school (primary, secondary, etc.), or asset categories (property, equipment, vehicles, etc.). Population is divided into clusters, and then groups of clusters are selected randomly for sampling or examined entirely.

### Estimation Sampling

The goal of this type of sampling is to estimate the actual noncompliance rate in a population with a level of precision specified by the audit team. Methodologies used under this estimation include simple random sampling, stratified random sampling, and systematic random sampling. For estimation sampling, the sample size should be discussed. It can be used for attribute and variable sampling and allows the auditor to project the error rate in the sample to the universe.

- **Sample random sampling.** This is the simplest method of drawing a statistical sample; the design is the basis of all the other sampling designs. Simple random sampling uses techniques to ensure that every item of the population has an equal chance of selection. Selection can be performed and documented using software that generates random numbers such as CaseWare IDEA, SAS (Statistical Analysis System), or Microsoft Excel.
- **Stratified random sampling.** This method divides a population into sub-populations, each of which is a group of sampling units with similar characteristics. This includes items such as monetary value, region, size, and of type of organization. Generally, a simple random sample is selected for each part (stratum).

An estimate is determined separately for each stratum, and these are combined to form an estimate for the entire population. When presenting results from a stratified sample, estimates should be calculated incorporating sampling weights used.

- **Multistage sampling.** This method divides large populations into stages to make the sampling process more practical. It requires two or more stages of sampling to achieve greater efficiency. Various sampling methods may be combined later at different stages.

### **Systematic Sampling**

Systematic sampling involves selecting items from the population at a given interval after establishing a random starting place—for example, the selection of every “nth” item following a random start. The random start is essential to ensure that each item in the population has an equal chance to be included in the sample. The population and required sample size should be estimated in order to determine the interval necessary. A random starting point between one and the interval is then obtained as a starting point, and the interval is added to it until the desired sample size is reached.

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## APPENDIX C: EXAMPLES OF AUDIT REPORTS THAT DESCRIBE AUDIT SAMPLING

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**Example 1:** The United States Department of Health and Human Services, Office of the Inspector General, Audit Report, A-07-16-03209, March 1, 2017  
<https://www.oversight.gov/sites/default/files/oig-reports/71603209.pdf>

**Example 2:** The United States Government Accountability Office, GAO Report, GAO-18-419, May 30, 2018  
<https://www.gao.gov/assets/700/692155.pdf>

**Example 3:** The United States Social Security Administration, Office of the Inspector General, Audit Report, A-02-14-31417, July 30, 2020  
<https://www.oversight.gov/sites/default/files/oig-reports/A-02-14-31417.pdf>

**Example 4:** The United States Agency for International Development, Office of the Inspector General, Audit Report, 9-000-19-006-P, September 25, 2019  
<https://www.oversight.gov/sites/default/files/oig-reports/9-000-19-006-P.pdf>

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## APPENDIX D: AVAILABLE SAMPLING TRAINING

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### **USDA Graduate School**

*Practical Statistical Sampling for Auditors*

<https://www.graduateschool.edu/content/gati>

### **Institute of Internal Auditors**

*Data Sampling*

<https://ondemand.theiia.org/learn/course/external/view/elearning/157/data-sampling>

*Data Analysis and Sampling*

<https://na.theiia.org/training/courses/Pages/Data-Analysis-and-Sampling.aspx>

*Data Analysis for Internal Auditors*

<https://na.theiia.org/training/courses/Pages/Data-Analysis-for-Internal-Auditors.aspx>

### **Management Concepts**

*Data Collection Techniques*

<https://www.managementconcepts.com/course/id/4610>

*Data Analysis and Modeling Techniques*

<https://www.managementconcepts.com/course/id/4615>

*Analytics Boot Camp: Core Analytics*

<https://www.managementconcepts.com/course/id/4607>

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## APPENDIX E: GLOSSARY

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**Audit:** Either a financial audit or performance audit conducted in accordance with generally accepted government auditing standards (GAGAS). (GAS, 1.27b)

**Audit Organization:** A government audit entity or a public accounting firm or other audit entity that conducts GAGAS engagements. (GAS, 1.27c) Audit organization and Office of Inspector General (OIG)—that either with or without an audit function performs GAGAS engagements—are used interchangeably in this white paper.

**Audit Risk:** The possibility that the auditors' findings, conclusions, recommendations, or assurance may be improper or incomplete. The assessment of audit risk involves both qualitative and quantitative considerations. (GAS, 8.16)

**Audit Sampling:** The selection and evaluation of less than 100 percent of the population, which the auditor expects to be representative of the population and will provide a reasonable basis for conclusions about the population.

**Council of Inspector General on Integrity and Efficiency (CIGIE):** An independent entity statutorily established within the executive branch by The Inspector General Reform Act of 2008, P.L. 110-409, to address integrity, economy and effectiveness issues that transcend individual Government agencies; and increase the professionalism and effectiveness of personnel by developing policies, standards, and approaches to aid in the establishment of a well-trained and highly skilled workforce in the offices of the Inspectors General. <https://ignet.gov>

**Federal Audit Executive Council (FAEC):** A subgroup, established by CIGIE, to discuss and coordinate issues affecting the Federal audit community with special emphasis on audit policy and operations of common interest to FAEC members. <https://ignet.gov/content/federal-audit-executive-council>

**GAO:** *Government Accountability Office.* Known as "the investigative arm of Congress" and "the congressional watchdog," GAO supports Congress in meeting its constitutional responsibilities and helps improve the performance and accountability of the Federal government for the benefit of the American people.

**Nonstatistical Sampling:** Also referred to as targeted reviews, this approach uses non-probability methods to select the sample, such as judgment and experience. Recommendations are limited to the exceptions derived from the sample. The results cannot be projected to the population and should be reported with appropriate qualifying language.

**Performance audits:** Engagements that provide objective analysis, findings, and conclusions to assist management and those charged with governance and oversight to, among other things, improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability. In a performance audit, the auditors measure or evaluate the subject matter of the

audit and present the resulting information as part of, or accompanying, the audit report. (GAS, 1.21 and 8.14)

**Quality Assurance (QA):** An ongoing consideration and evaluation of the audit organization’s system of quality control, including inspection of engagement documentation and reports for a selection of completed engagements to provide management with reasonable assurance that (1) the policies and procedures related to the system of quality control are suitably designed and operating effectively in practice and (2) auditors have followed professional standards and applicable legal and regulatory requirements. GAGAS also refers to this process as “monitoring of quality.” (GAS, 5.47)

**Quality Assurance (QA) Review:** The performance, documentation, and communication of monitoring procedures and results that enable the audit organization to assess compliance with professional standards and quality control policies and procedures for completed GAGAS engagements. Reviews of the work by engagement team members prior to the date of the report are not monitoring procedures. (GAS, 5.43, 5.44, 5.47, 5.53, 5.59)

**Quality Assurance (QA) Reviewer:** An individual who performs monitoring procedures and assesses the audit organization’s compliance with professional standards and quality control policies and procedures for GAGAS engagements. The individual should have sufficient expertise and authority with the audit organization and, if possible, does not have responsibility for the specific activity being reviewed. (GAS, 5.43, 5.48)

**Quality Assurance Working Group (QAWG):** A group formed by representatives from various Federal Offices of Inspector General in October 2016 to enhance and improve the quality assurance review processes within the Federal Inspector General community and that formally became a subgroup under the CIGIE FAEC in January 2019.

<https://ignet.gov/sites/default/files/files/QAWG-Charter.pdf>

**Quality Control:** The OIG’s leadership and policies and procedures designed to provide the audit organization with reasonable assurance that the organization and its personnel comply with professional standards and applicable legal and regulatory requirements. The nature, extent, and formality of an audit organization’s quality control system will vary based on the audit organization’s circumstances, such as size, number of offices and geographic dispersion, knowledge and experience of its personnel, nature and complexity of its engagement work, and cost-benefit considerations. (GAS, 5.02, 5.03)

**Statistical Sampling:** Also referred to as probability sampling, this approach uses techniques from which mathematically constructed conclusions regarding the population can be drawn. Statistical sample results are objective, defensible, and can be projected to the population. See Appendix B: Commonly Used Statistical Sampling Methods.

**U.S. Government Accountability Office’s (GAO) *Government Auditing Standards*, 2018 Revision (April 2021), GAO-21-368G:** This publication (known as the **Yellow Book** or **GAS**) prescribes professional standards that provide a framework for auditors to perform high-quality audit work with competence, integrity, objectivity, and independence to help improve government operations and services. These professional standards are often referred to as



generally accepted government auditing standards (**GAGAS**).<sup>14</sup>  
<https://www.gao.gov/assets/gao-21-368g.pdf>

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<sup>14</sup> In April 2021, GAO made technical updates to the 2018 revision of Government Auditing Standards. These technical updates to the 2018 revision of Government Auditing Standards were effective upon issuance. For additional information, please see GAO-21-368G, pp. i-ii.

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## APPENDIX F: LIST OF CONTRIBUTORS

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