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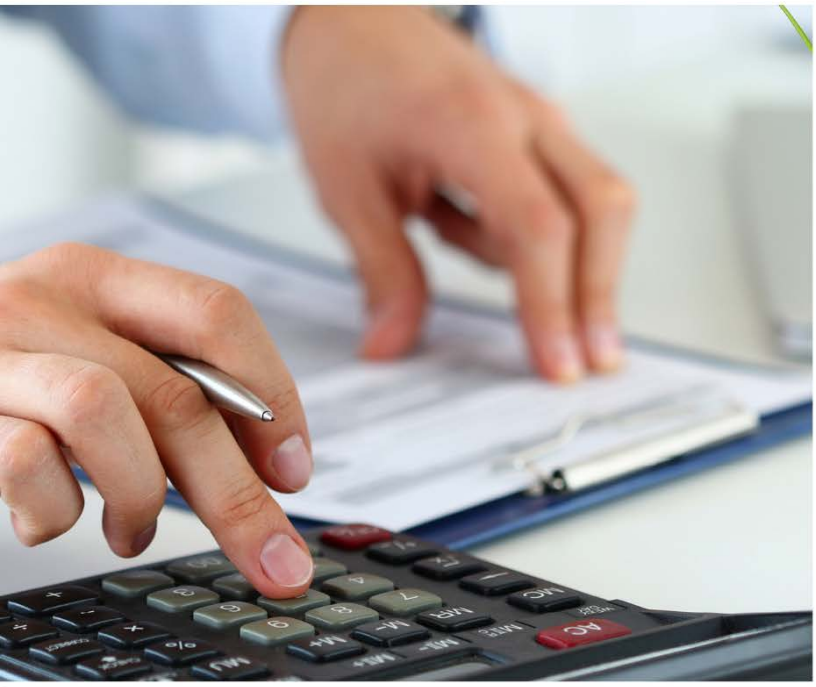
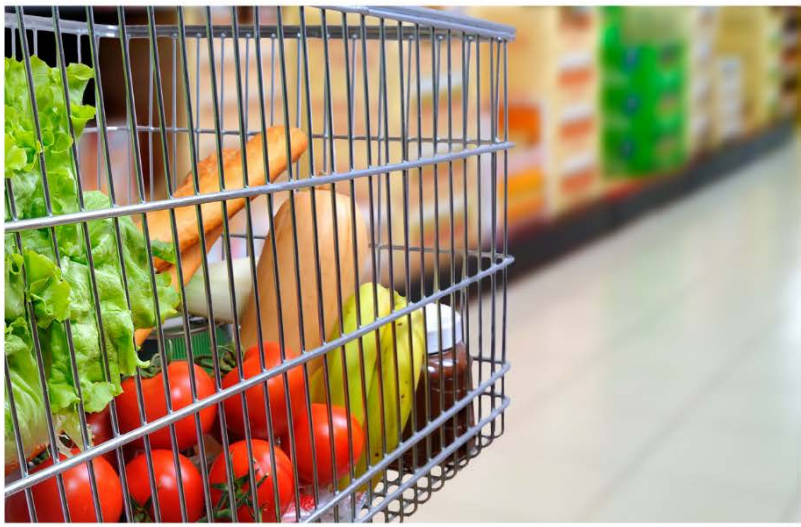
Feasibility of Revising the SNAP Quality Control Review Process





Final Report

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Feasibility of Revising the SNAP Quality Control Review Process

Final Report

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Authors

Brittany McGill
Betsy Thorn
Scott Cody
Hilary Wagner
Surekha Ramaswamy (Mathematica)
Karen Cunnyngham (Mathematica)

Submitted to

Food and Nutrition Service
U.S. Department of Agriculture
3101 Park Center Drive
Alexandria, VA 22302

Project Officer

Kathryn Law

Submitted by

Insight Policy Research, Inc.
1901 North Moore Street
Suite 1100
Arlington, VA 22209

Project Director

Brittany McGill

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Executive Summary

The Food and Nutrition Service (FNS) of the U.S. Department of Agriculture (USDA) developed the Quality Control (QC) process for the Supplemental Nutrition Assistance Program (SNAP) in 1977 to track and measure errors in eligibility and benefit determination for the program. The current two-tier SNAP QC process relies on State reviews of SNAP cases to make error determinations followed by Federal re-reviews of a subset of the cases; the final error rates combine the results of the State and Federal reviews. A September 2015 report by USDA's Office of Inspector General identified weaknesses in this two-tier system and recommended FNS assess the feasibility of implementing a one-tier Federal SNAP QC system that would rely only on Federal reviews of SNAP cases to make error determinations for all 53 SNAP agencies.[1]

In response to that recommendation, this feasibility study identifies all processes and components that would be required for a one-tier Federal SNAP QC system, including the procedural, staffing, and organizational changes and the technological and data-sharing infrastructures. FNS could consider various options for each of the changes needed for a one-tier system. However, any option selected would require significant changes in legislation, regulations, funding, staffing, and data access. For these changes to be feasible, the creation of a one-tier system would need to be a significant priority of FNS, and Congress and the Office of Management and Budget (OMB) would need to authorize both funding for the system and access to certain Federal databases.

This report describes the challenges FNS would encounter in implementing a one-tier system and the opportunities for improvement that could be leveraged, design options for a one-tier system that would address these challenges and enhance the opportunities, and a potential implementation plan. Two potential models of a one-tier Federal SNAP QC system are presented in the appendices, including a discussion of their features, the changes that would be needed to implement them, and estimates of the administrative costs.

A. Challenges and Opportunities for Creating a One-Tier SNAP QC System

This feasibility study draws on in-depth reviews of policies and regulations and interviews with an array of State SNAP staff, Federal FNS staff, and Federal staff from other agencies. These discussions highlighted several significant challenges FNS would need to overcome to implement a one-tier QC system, ranging from technical issues such as systems access to organizational challenges associated with hiring and training many additional Federal staff. These discussions also identified opportunities that could be leveraged in designing a one-tier system and benefits that would stem from it. The one-tier design options presented in this report were explicitly selected to address these challenges and make the best use of these opportunities.

1. Contextual Challenges

Before FNS could implement a one-tier QC system, certain contextual requirements would have to be met to lay the foundation. Addressing each of these challenges would involve a significant undertaking

[1] The 53 SNAP agencies represent the 50 States, the District of Columbia, Guam, and the Virgin Islands.

and would require prioritization and coordination among FNS, OMB, and Congress. Key changes include the following:

- **Statutory authority.** First, Congress would need to pass legislation for certain aspects of a one-tier QC system, including a requirement for FNS to conduct all QC reviews instead of States. Because Federal data-sharing is currently limited and involves a complex array of disclosure restrictions related to privacy and data security, legislation would likely be needed to effectively spur a data-sharing infrastructure between FNS and other Federal agencies comparable to the data-use agreements State SNAP agencies have with those agencies. In particular, FNS would need statutory authority to access data from the Social Security Administration (SSA) and the U.S. Department of Health and Human Services.
- **Regulatory changes.** Once the statutory changes were in place, regulatory changes would need to be made to provide guidance on how to implement the legislation.
- **Dedication of sufficient resources.** These initial planning processes would entail a heavy lift for FNS to plan and execute while maintaining the current two-tier QC operations. Unless sufficient resources were devoted specifically to the planning and development of a one-tier system, FNS may not have the resources needed to be able to produce error rate estimates during the planning and implementation years before a full rollout of a one-tier system.

2. Operational Challenges

FNS would also face operational challenges based on the parameters of the system design. As with contextual challenges, the solution to operational challenges would require prioritization and coordination among FNS, OMB, and Congress. Key challenges include the following:

- **Staffing a one-tier system.** FNS would need to significantly expand its workforce to conduct QC reviews without the State tier of review. In addition to hiring a large number of Federal reviewers, FNS would need to identify an organizational structure to house the review staff, an appropriate oversight structure, and sufficient supervisory positions.
- **Establishing data-use agreements for Federal databases.** FNS would need to gain access to several Federal data systems to verify household information. This would entail establishing data-use agreements with Federal agencies that house data States use in the SNAP eligibility and benefit determination process and required by FNS regulations, including the Administration for Children and Families (ACF), SSA, and the Department of Homeland Security (DHS). Legislative action would likely be needed for FNS to obtain access to some of these data systems, and it is unclear how long that process might take.
- **Accessing data from State systems and maintaining security.** FNS would need to obtain ongoing (ideally, remote) secure access to State eligibility and document imaging systems to view case file information. Security requirements for State (and Federal) systems, and in particular, privacy requirements related to integrated eligibility systems are stringent and do not currently allow this type of access in most instances.

  States also use a variety of State and local data match systems to verify eligibility information for SNAP households. Because FNS would not likely be able to establish access to all these systems, FNS reviewers in some cases would have access to less information than State reviewers in the current two-tier system. Some of this loss of information could potentially be offset by the use of commercially available data sources as described in chapter 4.

3. Opportunities

Redesigning the QC system could also present opportunities for potential improvements in the QC process and payment error estimates, such as the following:[2]

- **Improved efficiency and cost reduction.** In designing a new QC system, FNS could take the opportunity to streamline procedures, which could potentially increase efficiency and reduce costs in the following ways:
  - **Interview SNAP households by telephone or videoconference** instead of in person to reduce the time it takes to complete QC reviews, particularly in rural areas.
  - **Outsource some QC functions**, such as sampling and data collection, through performance-based contracting to reduce the magnitude of Federal hiring that would be needed.
  - **Reduce the sample size** to reduce the resources needed for a one-tier system, such as by halving the annual national sample size and reviewing States every 2 years instead of annually.
  - **Make use of commercial data sources** to offset the challenges involved in establishing access to some of the Federal databases.
- **Enhance comparability with other Federal improper payment estimation programs.** FNS could consider ways to enhance SNAP QC's comparability with improper payment estimation systems for other Federal programs. In particular, using the certification month as the reference period would be more comparable to other Federal improper payment rates than the current examination of both a sample month and certification month.
- **Improve data quality.** Restructuring the QC system could also potentially improve the quality of the QC data, such as through enhanced consistency and reduced bias in the estimates. For example, by standardizing the sampling and review processes at the Federal level, FNS could ensure consistency and eliminate differences in State error rates caused by differences in State procedures.

B. Design Options for a One-Tier SNAP QC System

Table ES.1 highlights design options for a one-tier SNAP QC system and the organizational implications for each.

Table ES.1. Components of a One-Tier Approach to QC: Design Options and Organizational Implications

Component	Design Options	Organizational Implications
QC Reference Period	▪ Retain current Comp 1/Comp 2 approach ▪ Sample month only ▪ Certification month only	▪ The current Comp 1/Comp 2 approach requires the most extensive data collection and would therefore require the most staff. Focusing on only the sample month or on certification actions in a given month would reduce the data collection—and hence staff—needed, particularly in the case of the certification month.

[2] These potential strategies for improving the QC system are not specific to a one-tier framework; several could also be pursued by redesigning aspects of the two-tier system.

Component	Design Options	Organizational Implications
Sampling	▪ Reduce the sample size ▪ Oversample high-risk households ▪ Select larger samples in States with high error rates ▪ States provide sample frames or samples ▪ Engage contractors	▪ Reducing the sample size would require fewer review and support staff. In particular, reviewing individual States in alternate years would reduce by half the national sample and dramatically reduce the review and support staff needed. ▪ Oversampling high-risk households would require additional review and support staff because these cases have more complex data collection and error determination processes than average. Determining the specifications for each year's sample would require additional statistician labor time. ▪ Selecting larger samples in States with historically higher error rates would require additional statistician labor time. ▪ Although it would reduce the independence of the reviews, FNS could consider requiring States to provide the monthly samples. This would minimize demands on Federal staff; namely, Federal statistician time. ▪ Engaging contractors to develop sampling plans, conduct sample frame collection and review, and select samples would reduce the need for Federal staff.
Data Collection	▪ Conduct household interviews via telephone ▪ Engage contractors ▪ Collect some case file data in person ▪ State workers provide data match results ▪ Take advantage of commercial data sources	▪ Conducting household interviews via telephone rather than in person would substantially decrease the amount of time needed for this task and therefore would decrease the number of data collectors needed. ▪ Outsourcing data collection to contractors would substantially decrease the number of Federal staff that would be needed in a one-tier system. ▪ Although collecting some case file data in person at State or local offices would be labor-intensive and likely require routine travel, this work is essential to an independent review. As more case file data are stored electronically and as FNS gains remote access to more systems, the need for in-person data collection would decrease. ▪ Because it would be resource-prohibitive for FNS to establish direct access to the State and local databases used for verification purposes, FNS would need to require States provide documentation of these matches (or identify alternative data sources). ▪ The organizational implications of using commercial data sources would be minimal but could result in a slight reduction in time spent on each case.
Error Determination	▪ Outsource to a contractor	▪ Outsourcing error determination to a contractor would reduce the number of Federal staff needed to operate a one-tier system.
Quality Assurance	▪ Conduct second-party reviews of all cases ▪ Conduct full, independent second-party reviews ▪ Assemble an arbitration panel; a subset of members would review each case submitted for arbitration	▪ Conducting second-party reviews for the full caseload would require more staff than if such reviews were only conducted for a subset of the cases. ▪ Conducting a full independent review (not just a desk review) would increase the amount of time these reviews take and would therefore increase the number of staff needed to conduct them. ▪ The workload of an arbitration panel would largely be driven by the number of cases appealed by the States. Having multiple panel members review each contested case would increase the need for Federal staff.

Implications for Costs. The costs of a one-tier QC system would depend greatly on the parameters of the design features selected for a one-tier system. For example, labor costs would be determined based on features such as the sample size and how long it takes to complete each review. The length of time to complete a review would in turn depend on the amount of new information to be collected for each review and how quickly those data can be collected; for example, a system in which household interviews are conducted in person would be more costly than one in which interviews are conducted via telephone.

Regardless of the design, labor costs of a one-tier system would likely be significant. A one-to-one replacement of current State reviewers with Federal reviewers would result in an estimated 500 to 600 new Federal staff. Hiring even half that number would result in a nearly 20-percent increase in the FNS workforce.

Appendix D presents two example models of a one-tier system, including a description of specific design parameters and staffing and organizational implications. Appendix E estimates the costs of these two example models compared to the current two-tier system. Estimates of the total annual costs of these two example models range from $52 million to $98 million.[3] These cost estimates are lower than the combined Federal and State costs for the current two-tier system. However, relative to Federal costs under a two-tier system, Federal costs under a one-tier system would be higher under one model and potentially higher under the other model. Actual costs of a one-tier model could be even higher, depending on decisions related to the one-tier framework's design.

C. Infrastructure to Support a One-Tier QC System

Two important types of infrastructure would be needed to support a one-tier QC system: (1) a data-sharing infrastructure for providing data to verify SNAP households' eligibility, and (2) technological infrastructure for documenting QC review findings, storing documentation, and managing cases.

1. Data-Sharing Infrastructure

Under a one-tier system, Federal QC reviewers would need to verify the same data elements to confirm a household's eligibility and benefit levels as verified by State reviewers under the current system. There are challenges associated with many of the available data sources, including out-of-date data, legal barriers to accessing certain data sources, and costs for using the data. A combination of data from several data sources would provide useful information in a one-tier system:

- **State data sources.** States use a variety of State and local resources to verify elements of eligibility during the QC review, including State departments of labor and taxation and State prison systems. Although these systems can be useful, establishing the necessary data-sharing agreements and maintaining the secure transfer of data, data storage, and user permissions for multiple databases in 53 States would not be worth the return on the investment. Instead, FNS could consider requiring States to conduct these matches internally and provide documentation from these systems in the case file after the cases are sampled for QC review.[4] Relying on States to provide these data matches, however, would reduce the independence of the Federal review.

[3] This range of cost estimates reflects low and high assumptions for cost parameters for each of two example models. Cost estimates also reflect only those costs associated with SNAP QC functions; they do not reflect broader agency costs that may be incurred in human resources, contracting, or IT departments. See appendix E for further discussion of cost assumptions and limitations.

[4] If the reference month for QC reviews is the certification month instead of the sample month, much of this documentation would likely already be in the case file without additional matches needing to be conducted by State personnel.

- **Federal data sources.** Because data sharing across Federal agencies is currently very limited, FNS would face difficulty establishing the data-sharing infrastructure in the short term for Federal reviewers to conduct all the same matches as State reviewers, and it is unclear how long it would take to establish access to some of the systems. FNS could relatively easily establish access for Federal reviewers to FNS's Electronic Disqualified Recipient System (eDRS) data on SNAP disqualification and DHS's SAVE data on immigration and citizenship status. However, FNS would likely face substantial challenges establishing access to ACF's National Directory of New Hires (NDNH) data on wages and employment and SSA's databases (e.g., Beneficiary Earnings and Data Exchange [BENDEX], State Data Exchange [SDX], Prisoner Update Processing System [PUPS]).
- **Commercial data sources.** The private sector increasingly offers products for data verification and analytics services that could be used in a one-tier system to enhance verification capacity and to offset the challenges that would be involved in establishing access to many of the State, local, and Federal resources currently used in the two-tier system. Advantages of using a commercial provider include up-to-date data, additional data quality assurance performed by the provider, and a limited number of data systems a reviewer must check. Drawbacks include incomplete coverage of the data and fees for access.

2. Technological Infrastructure

The current system's technology—SNAP QCS—could be the foundation for the IT infrastructure in a one-tier system; however, FNS would need to enhance the functionality of SNAP QCS and invest in software and storage for a viable one-tier system. In particular, the following enhancements would be needed:

- The Automated Form 380 would need to accommodate all State SNAP policies, options, and waivers, including those with nonstandard benefit determination rules like the Minnesota Family Investment Program (MFIP), which combines SNAP benefits and cash assistance.
- Varying access levels would be needed for State, Federal, and potentially contractor staff.
- Functionality would need to be added to support secure client text messaging and web uploading of client documentation.
- The system would also need to include case management functionality and the ability to store updated information on State-specific SNAP policies for reference during reviews.

D. Potential Implementation Plan for a One-Tier System

The design and implementation of a one-tier system would be a substantial undertaking requiring thoughtful planning and testing to ensure the best possible outcome. In particular, a robust pilot testing phase would be critical for testing and refining the planned procedures; identifying unanticipated barriers and unintended consequences; and generating evidence on the effectiveness, costs, and potential improvements that such a system overhaul would entail.

This report outlines a potential five-phase implementation process, including an initial phase to establish the necessary statutory authority for a one-tier system. Because this implementation would require

congressional action, the timeline for this initial part of the process is unclear and outside FNS's control. Phases 2 through 5 would span approximately 8 years.

- **Phase 1: Statutory foundation.** Congress would need to pass legislation that allows FNS to conduct QC at the Federal level and provides authority for FNS to have access to other agencies' databases for data-matching purposes. FNS would need to submit an appropriations request to Congress to obtain the funds necessary for planning and implementation. FNS would also need to initiate USDA's internal Departmental Regulation 1010 process (USDA, 2018) for making changes to organizational structures.
- **Phase 2: Stakeholder engagement.** During this phase, FNS would decide on the broad outlines of the new system, draft and publish proposed regulations, and engage stakeholders to obtain their feedback and buy-in. FNS would also need to develop specifications for needed information technology (IT) systems and requirements for contracts to be awarded in the next phase (e.g., data collection, sampling support). Finally, FNS would need to establish data-use agreements with other Federal agencies.
- **Phase 3: Initial planning.** During this phase, FNS would publish the final regulations, develop policy and procedure manuals, retain contractors, begin developing the IT systems, obtain access to commercial data, hire and train new Federal staff, and select pilot States.
- **Phase 4: Pilot testing.** This fourth phase would consist of two rounds of pilot testing and refining the one-tier system in a small number of States with the support of a rapid-learning process improvement contractor. This phase is estimated to last 2 years, but the duration could increase if additional rounds of testing are preferred.
- **Phase 5: Final preparations for national rollout.** This phase would include dissemination of plans and guidance to the States, hiring and training additional Federal staff, finalizing sampling plans, and ensuring all the components were in place for a successful launch.

E. Final Considerations

Several additional considerations should be factored into a decision as to whether to transition to a one-tier QC system. In particular, FNS should consider the effects of changes to the QC database. SNAP QC provides a valuable source of data that policymakers and the research community use to analyze policies, simulate effects of proposed changes to the program, and understand the participant population. While these uses of the data are outside the scope of the regulatory goals of QC, FNS and Congress should consider how changes to these data would reach beyond QC operations and could affect how well policymakers understand and can evaluate the program more broadly.

- **Implications of sample sizes changes.** Reductions in QC sample sizes under a one-tier system (as described in section A.3) could affect the ability to use QC data for policy analyses. Analyses involving estimates for smaller subgroups of the population would be particularly affected. Similarly, some granularity could be lost in trend analyses. If States participated every 2 years as a means to reduce the annual national sample size, this would create a greater lag in capturing effects of State policies in the QC data.

- **New data opportunities.** Depending on the design features selected for a one-tier system, the approach could offer new data currently unavailable in the SNAP QC database. For example, if FNS were to conduct the sampling for QC reviews, States would need to submit data on the entire caseload for the reference month. These census datafiles provided by States for the sample frames could provide alternative and potentially more robust data that could be used for research and policy simulation, relative to the current QC sample data (e.g., much larger numbers of records would facilitate more robust subgroup analyses).

Finally, FNS should consider the advantages and drawbacks of implementing a one-tier system as compared to making improvements to the existing two-tier system. Many of the design options considered for a one-tier approach to SNAP QC could be implemented as enhancements to the current two-tier system, without the same implementation challenges. For example, SNAP QC interviews could be conducted exclusively by phone or videoconference instead of in person. Similarly, the reference period for QC reviews could focus solely on the certification or sample month, rather than the current Comp 1/Comp 2 approach.

Chapter 1. Introduction

This report presents the results of an assessment of the feasibility of revising the Supplemental Nutrition Assistance Program (SNAP) Quality Control (QC) review system from the current two-tier review process to a one-tier review process. The current two-tier SNAP QC process relies on State reviews of SNAP cases to make error determinations followed by Federal re-reviews of a subset of the cases; the final error rates combine the results of the State and Federal reviews. A one-tier process would rely only on Federal reviews of SNAP cases to make error determinations for all 53 SNAP agencies.[5]

This study addresses a recommendation put forth by the U.S. Department of Agriculture's (USDA) Office of the Inspector General (OIG) in a September 2015 report, *FNS Quality Control Process for SNAP Error Rate* (USDA OIG, 2015). The report detailed the findings and conclusions of an audit of the Food and Nutrition Service's (FNS) and States' QC processes used to determine SNAP error rates for fiscal years (FYs) 2011 and 2012. The audit concluded that many States were using third-party contractors and review practices to mask actual errors and inappropriately reduce States' error rates. OIG's report provided 19 recommendations to address this concern, including that FNS should assess the feasibility of implementing a one-tier Federal SNAP QC system. FNS conducted its own review of the SNAP QC process in all 53 State agencies during 2015 and discovered significant data quality issues in 42 States. Some of these issues stemmed from States not following appropriate QC procedures, while others occurred when State agencies deliberately covered up errors and committed fraudulent actions. As a result of these data quality issues, FNS did not release a national error rate for FY 2015 or FY 2016, although in 2015, State-level error rates were calculated for the nine States and two U.S. territories that were found to have no data quality issues (USDA FNS, 2015).

The purpose of the feasibility assessment described in this report is to identify all processes and components that would be required for a one-tier Federal SNAP QC process, including the procedural, staffing, and organizational changes; the technological infrastructure requirements; and the access to State and Federal databases. This report does not make a recommendation about whether to implement a one-tier SNAP QC system, but rather describes the challenges and opportunities such a transition would present and the various design options FNS could consider for a one-tier system. Ultimately, for a one-tier process to be feasible, its implementation would need to be a significant priority of FNS, and Congress and the Office of Management and Budget (OMB) would need to authorize both funding for the system and access to certain Federal databases.

The remainder of this chapter provides an overview of the SNAP QC system and its purpose (section A), weaknesses identified in the current two-tier system (section B), and recent efforts to address those weaknesses (section C). Sections D and E provide background to the feasibility of a national one-tier QC system (section D) and describe the current feasibility study's methodology (section E). Section F provides a discussion of study limitations.

A. Overview of the SNAP QC System

The SNAP QC system measures the proportion of SNAP benefits that are issued above or below the amounts individual households should have received given SNAP's eligibility and benefit determination rules. This includes improper payments made to households not eligible for benefits or when the benefit

[5] The 53 SNAP agencies represent the 50 States, the District of Columbia, Guam, and the Virgin Islands.

amount is calculated incorrectly, which could result in overpayments or underpayments. Historically, SNAP referred to improper payments as payment errors, prior to the introduction of Federal legislation on "improper payments" (see appendix A for an overview of Federal improper payments legislation), but these terms are interchangeable. This section provides an overview of SNAP eligibility requirements, the purpose and goals of SNAP QC, QC review procedures, and how error rates are determined.

1. SNAP Eligibility Requirements

SNAP serves as a critical safety net for the Nation's low-income families, providing $60.6 billion in benefits during FY 2018 and reaching an average of more than 40.3 million participants each month (USDA FNS, 2018f). SNAP is broadly regulated by Federal legislation, especially the Food and Nutrition Act of 2008 (Pub. L. 110-246), which established general eligibility parameters and benefit levels. To be eligible, applicants must have a gross household income of less than or equal to 130 percent of the Federal Poverty Guidelines (for most households), a net income of less than or equal to 100 percent of those guidelines, and financial assets that do not exceed $2,250 (for most households). SNAP regulations contain exceptions that expand eligibility for certain categories of participants, especially those who are elderly or disabled. Able-bodied adults without dependents are also expected to meet certain work requirements. SNAP benefits are equal to the value of a thrifty food budget for a given household size, after subtracting 30 percent of the household's net income.

SNAP is administered by 53 State agencies. States vary in the extent to which SNAP administration is centralized within the State; 10 States administer SNAP at the county level. States may also exercise certain policy options and may receive administrative waivers to simplify certain eligibility rules. For example, States may waive recertification interviews for individuals without earnings who are elderly or have disabilities, set requirements for reporting changes in household circumstances, and determine penalties for failing to comply with work requirements. These policies offer States greater flexibility to adapt to the needs of their eligible populations and improve State administration.

The variations in SNAP eligibility requirements for certain types of participants, combined with the options and waivers implemented by States, mean the process of determining eligibility and benefits for SNAP often varies by State and by applicant within each State. For each applicant, an eligibility worker must collect certain data as dictated by State SNAP policy. These data are entered into the State's eligibility system, which produces an eligibility determination, calculates benefit levels, and tracks the case over time. Each State has a unique eligibility system customized to its policies and procedures; some States have more than one system. For example, California uses three different systems and is in the process of consolidating to two, and New York uses two systems (County Welfare Directors Association of California, n.d.). Most States' eligibility systems are integrated systems that also manage other programs, such as Temporary Assistance for Needy Families (TANF) and Medicaid.

2. Purpose of SNAP QC

FNS developed the SNAP QC process in 1977 to track and measure errors in eligibility and benefit determinations. Given the volume of SNAP cases, complexities of eligibility policies, and variations by State and for certain participant categories, a rigorous quality control system is necessary to ensure benefits are being issued to those who meet the eligibility criteria and benefits are correctly calculated.

SNAP QC has four goals as specified in Federal regulations (7 C.F.R. § 275.10, 2016). The SNAP QC process is intended to provide—

- A systematic method of measuring the validity of the SNAP caseload
- A basis for determining error rates
- A timely, continuous flow of information on which to base corrective action at all levels of administration
- A basis for establishing State agency liability for errors that exceed the national performance measure

States conduct monthly reviews of a statistically representative sample of participating households (active cases) and households for whom participation was denied, terminated, or suspended (negative cases). These reviews measure the validity of SNAP cases and ultimately serve as the basis for the SNAP payment error rate (for active cases) and Case and Procedural Error Rate (CAPER) for negative cases. The results of these reviews provide States with a feedback loop of information on how well policy options and waivers exercised by the State are working. The resulting State error rates were also historically used to issue financial bonuses and penalties based on performance (more details below), although the Agricultural Improvement Act of 2018 (Pub. L. 115-334), referred to here as the Farm Bill, eliminated bonuses effective upon enactment. Finally, although not a stated goal of SNAP QC, the process generates data from a large, nationally representative sample of SNAP households, and these data support research on the SNAP population.

3. Current Two-Tier SNAP QC Process

The current SNAP QC system has two tiers, a State tier and a Federal tier (figure 1.1). At the State level, a statistician develops a sampling plan consistent with Federal regulations and approved by FNS. Each month, States select a sample of active and negative cases. The cases are distributed among State QC reviewers (SQCRs), with active case assignments typically based on geography and negative case assignments typically based on workload availability. SQCRs schedule and conduct face-to-face interviews with households for most active cases selected for review but do not contact households for negative case reviews. SQCRs use the information gathered during interviews along with information in the case files, various databases, and documentation from collateral contacts such as neighbors, banks, and employers. SQCRs enter these data into either a paper or automated version of the FNS Form 380—or a State-designed form approved by the FNS Regional Office (RO)—to document the information needed to make a determination about the accuracy of the case. A more senior QC staff member typically provides a second-party review of the case by conducting a desk review without a household interview. States then manually code the results of the reviews for all active cases in Form FNS-380-1 and submit them through the electronic SNAP Quality Control System (SNAP QCS) for transmission to FNS. For the negative cases within the sample, States must complete a Form FNS-245.

Federal QC reviewers (FQCRs) in Regional Offices (ROs) review a subsample of the active cases the States completed, all active cases the States were unable to complete, all active cases the States deemed not subject to review,[6] and a subsample of negative cases. After the cases to be reviewed have been identified, the FQCRs request the relevant QC case files from the States. States then send case files as

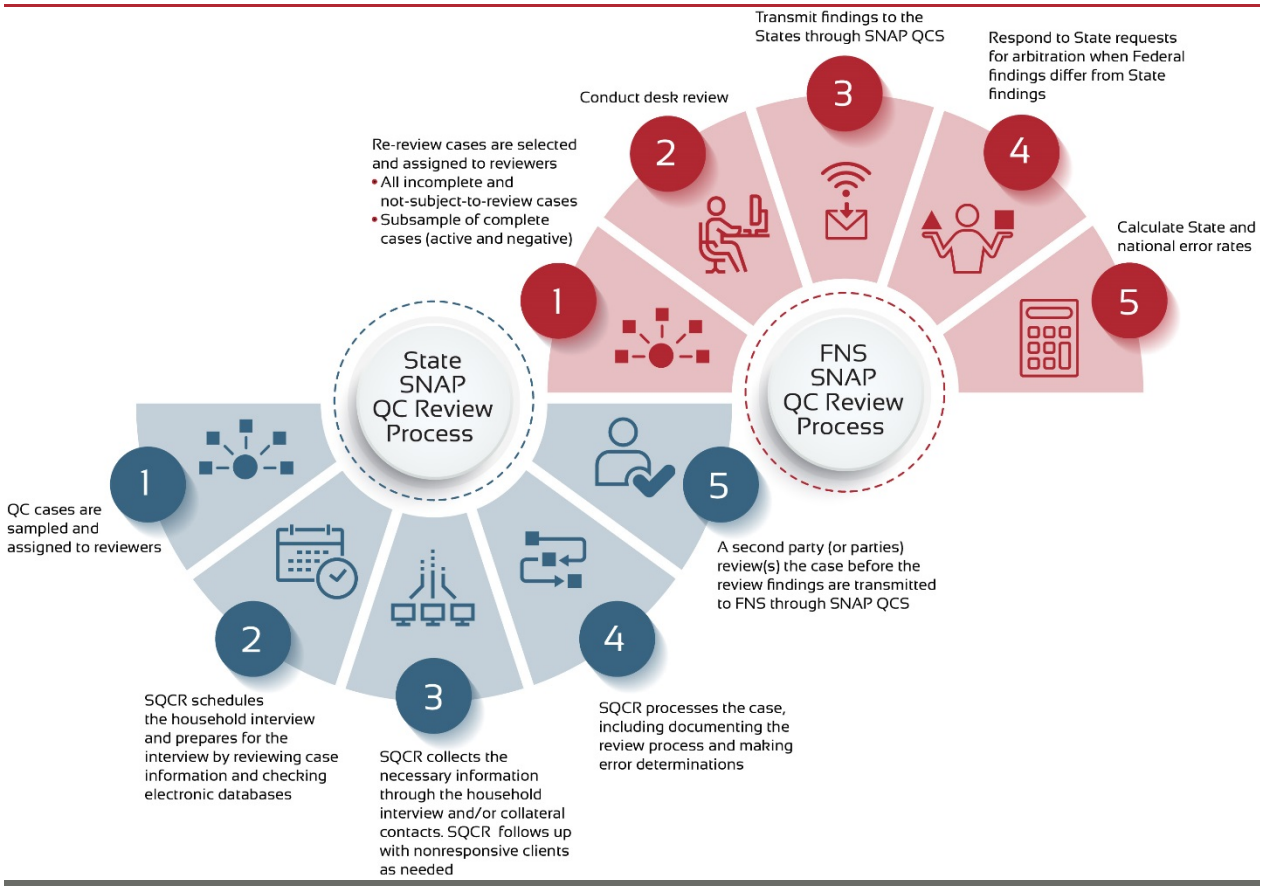
[6] A disposition of "not subject to review," or NSTR, is made when the case should not be included in the QC sample. Examples include oversampled cases, disaster cases, cases pending a hearing or under investigation for intentional program violation, and cases in which all household members have died, are institutionalized, or have moved out of the State.

PDF (portable document format) files to ROs. Upon receiving the complete case files, FQCRs are expected to conduct a comprehensive, independent review of each case and document their findings in the Form 380.

Similar to the 2015 OIG findings, McGill and colleagues (2016) found that in practice, FQCRs conducted only a desk review of the States' work without a comprehensive, independent review of the cases. Unlike SQCRs, FQCRs did not regularly contact households or collateral contacts or check databases; they performed the vast majority of their reviews based on the materials in the QC case files provided to them by the States. More recently, however, FNS has taken steps to improve the Federal rereview process, including expanding it to include collateral contacts and more independent evaluation of the cases. See section C for further discussion of recent improvements.

FQCRs may agree or disagree with a State's findings. When they disagree, the State is given the opportunity to make a response to the Federal finding. If the State office and RO cannot agree on the outcome of a case, the State may appeal to the national arbitrator, whose decisions are final.

Figure 1.1. Overview of the Current Two-Tier SNAP QC Review Process



4. Error Rate Determination

After all cases have been reviewed and a final determination has been made, FNS calculates the following error rates:

- **Payment error rate.** The payment error rate is based on the difference between the amount of benefits issued to households and the amount those households should have received had their cases been processed correctly. The overall payment error rate includes both under- and overpayments (i.e., not a net rate of overpayments minus underpayments). This error rate is also broken down into separate under- and overpayment error rates. For FY 2014, the national payment error rate was 3.7 percent (USDA FNS, 2015). Because of concerns about data quality, FNS did not release error rates for FY 2015 and 2016. Following improvements to the review process, including updated guidance and procedures and extensive retraining of State and Federal staff, a national payment error rate was released again in FY 2017: 6.3 percent (USDA FNS, 2018e). While this rate is notably higher than that of previous years, it is believed to be more accurate, based on the improvements made to the QC review process to reduce bias.
- **Case and procedural error rate (CAPER).** This rate considers procedural aspects of case processing for negative cases in addition to whether the correct determination was made. Components of the calculation include eligibility, timeliness, notification, and other errors. For FY 2017, the national CAPER was 25.6 percent (USDA FNS, 2018d).

Until recently, FNS used payment error rates and CAPERs to assign bonuses and payment liabilities to States. However, performance bonuses were eliminated as part of the 2018 Farm Bill. Until 2018, FNS awarded bonuses to States with the best or the most improved error rates. States with high error rates may receive payment liabilities after performing poorly for 2 consecutive years; six States were sanctioned in FY 2014. In FY 2015, FNS awarded performance bonuses to 10 of the 11 States with calculable error rates; no liabilities were reported. No bonuses or liabilities were issued in FY 2016. In FY 2017, FNS awarded bonuses to 10 States for best payment accuracy (USDA FNS, 2018c).

B. Weaknesses in the Current SNAP QC System

Recent inquiries have identified several potential weaknesses in the QC system, including an internal review process FNS conducted in 2015 that resulted in similar findings to those of two external studies. First, a study FNS contracted to examine SNAP QC completion rates found States had strong financial incentives to lower their error rates (McGill, Thorn, Trippe, & Tucker, 2016). States used error review committees to examine individual cases initially found to be in error in hopes of finding ways to reduce or eliminate the errors before submission to FNS. Because only cases in error received this additional layer of review prior to submission, this process could have resulted in underestimated error rates. Evidence also suggested some cases thought to have errors may have been more likely to be disposed of as incomplete cases, a practice that also led to underestimated error rates.

The USDA's OIG audit (2015) of the SNAP QC process came to similar conclusions. The OIG audit found States weakened the QC process by using third-party consultants and error review committees to mitigate individual QC-identified errors and the QC results were unreliable. The OIG audit also found the two-tier process is potentially vulnerable to States' conflicting interests: accurately reporting errors and incurring payment liabilities versus mitigating errors and receiving bonuses. In addition to recommending the current one-tier feasibility study, OIG recommended FNS clarify QC review policies and issue additional guidance.

Some respondents interviewed for this feasibility study identified related weaknesses in the current SNAP QC system, asserting that QC does not adequately achieve its four goals as specified in the Federal regulations. They noted that current QC procedures do not provide as much information for corrective action as they could. For example, QC reviews examine household circumstances during the sample month (Comparison 1, or "Comp 1") and if a variance[7] is found, also at the certification month ("Comp 2"). If no variance is found in Comp 1, Comp 2 is not completed, so any potential mistake during the certification month would not be identified.[8] These respondents also noted that time spent conducting reviews of cases with low likelihood of error (e.g., households on fixed income) results in less information for corrective action than if that time were spent on cases with more likelihood of error (e.g., households with earned income or larger household sizes). These respondents contended that an alternative approach to SNAP QC should separate the various purposes of QC and target processes to more effectively and efficiently address the individual purpose rather than try to address many purposes in a single system.

C. Recent Efforts to Address Weaknesses

In response to OIG findings and the subsequent review of SNAP QC processes in all 53 State agencies, FNS undertook several efforts to address the data quality issues, including the following:

- **Updates to the *FNS 310 Handbook*.** The *FNS 310 Handbook* provides guidance to States about QC process requirements. FNS updated some sections of this handbook to clarify certain requirements and procedures, such as requirements for documentation[9] and the appropriate use of "likely conclusion" for completing cases.[10]
- **Policy memoranda.** FNS issued guidance to States and ROs in recent years to clarify existing regulations and policies via several policy memoranda issued to SNAP State agencies and regional SNAP directors (USDA FNS 2016a, 2016b, 2016c, 2016d, 2017a, 2018b, 2018g, and 2018h). These memoranda clarified issues such as policies for avoiding bias in the QC review process, requirements for Federal access to State SNAP systems, and the proper use of second-party reviews and consultations with State policy units.
- **Training and expanded staff.** FNS also conducted trainings for Federal and State staff on procedures for conducting SNAP QC reviews and hired 32 new staff dedicated solely to QC work in ROs. These new staff members were primarily from State agencies and were trained in May 2017.
- **Enhanced oversight of State QC processes.** To help prevent recurrence of practices resulting in biases in the QC system, FNS established enhanced oversight procedures to more closely monitor the integrity of State QC procedures. For example, FNS ROs now conduct QC integrity reviews as part of a regular management evaluation. FNS conducts this review in each State at least once every 5 years.

[7] A variance is defined as an "incorrect application of policy and/or a deviation between the information that was used and the information that should have been used to authorize the sample month's issuance" (USDA FNS, 2018b, pp. 1–7).
[8] The 2015 OIG audit also disagreed with the current protocols for Comp 1 and Comp 2.
[9] Documentation is defined in the *FNS 310 Handbook* as "a written or printed statement on paper, or recorded electronically," which includes the "process of the reviewer recording information and explaining case circumstances related to each element under review as a part of the overall QC process" and "a written or printed statement on paper, or recorded electronically, that is used as verification of an element" (USDA FNS, 2018d, p. 1-5).
[10] "Likely conclusion" refers to the "use of information, other than standard verifications, that is used in conjunction with verified case record information, and that supports a reasonable judgement for a particular element(s)" (USDA FNS, 2018d, p. 1-7). It may be used under certain circumstances when verification of a certain piece of information is not available, enabling the reviewer to conclude what the likely circumstances were for that particular element.

D. Feasibility of a One-Tier SNAP QC System

In addition to making improvements in the current QC process, FNS also agreed to OIG's recommendation to examine the feasibility of implementing a one-tier system at the Federal level. FNS previously examined the feasibility of a one-tier QC process in 1989 (Bawden, Holcomn, Jeffries, Vroman, & Wissoker, 1989), evaluating pilot projects in Missouri and North Carolina, where data-sharing agreements between FNS and the States allowed FNS access to the State verification systems. Study findings indicated that overall, a one-tier system would be feasible and the resultant error rates would be comparable to those of a two-tier system; however, the one-tier system would cost approximately 16 percent more than the two-tier system.

Since that initial study, the landscape of technology, policies, and procedures related to SNAP QC reviews has changed dramatically. SNAP policies have become more complex, such as through increased policy options and waivers to increase flexibility to States administering the program. Technological advances provide new ways to contact households (e.g., text, email) and new ways for households to provide documentation. Technological advances have also enhanced the ability of State systems to store and access data, verify information, and integrate systems across programs for improved efficiency and accuracy. Regulations and policies regarding the protections of those data have also become more complex. Other Federal agencies have expanded their use of automated verification techniques that might also be useful for SNAP QC.

Other Federal one-tier improper payment estimation systems. A one-tier system for assessing improper payments in a Federal assistance program is not without precedent. Federal programs such as the Centers for Medicare & Medicaid Services' (CMS) Medicaid and Children's Health Insurance Program (CHIP); the U.S. Department of Labor's (DOL) Unemployment Insurance (UI); and SSA's Retirement, Survivor, and Disability Insurance (RSDI) and Supplemental Security Income (SSI) programs each use a one-tier approach to estimate improper payments. These assistance programs vary in complexity and in degree of similarity to SNAP (e.g., requiring a binary eligibility decision versus an eligibility decision plus the determination of a monthly benefit amount), which limits the extent to which their improper payment estimation approaches are comparable. Nevertheless, these programs may offer insights into possible alternative approaches to QC and factors to consider in a potential redesign of SNAP QC. Brief overviews of these one-tier systems follow; additional details about these programs appear in appendix B.

- CMS administers the **Payment Error Rate Measurement (PERM)** program, which measures improper payments in Medicaid and CHIP. PERM reviews three components of the Medicaid and CHIP programs: fee-for-service (FFS), managed care, and eligibility reviews. A statistical contractor (SC) collects the universe of claims data from the States and conducts the sampling; a review contractor (RC) conducts the reviews; and an eligibility review contractor (ERC) conducts the eligibility reviews and helps States develop corrective action plans for addressing review findings. Contractors upload the findings to an internal site accessible to CMS, and CMS calculates four national PERM improper payment rates each for the Medicaid program and for the CHIP program: FFS, managed care, eligibility, and overall.

- DOL administers the **Benefit Accuracy Measurement (BAM)** program to identify payment errors in three areas of its UI program: State UI, Unemployment Compensation for Federal Employees, and Unemployment Compensation for Ex-Service Members. A dedicated BAM unit within each State draws a representative, random sample of paid and denied UI claims each week. State investigators then review sampled claims using DOL-developed data collection methods, including interviews with claimants, and upload findings into a State database that rolls up into a DOL database. Using the BAM data, DOL calculates national and State-level UI improper payment rates.
- SSA's Office of Quality Review (OQR) conducts **stewardship reviews** of the nonmedical aspects of the RSDI and SSI programs to determine payment accuracy rates. OQR reviewers are Federal staff independent from the operational staff of SSA and may conduct many types of SSA reviews. For both the RSDI and SSI programs, reviewers conduct stewardship reviews on selected cases by reviewing the primarily electronic claim materials and other related documents, conducting a telephone interview with the beneficiary or representative payee, and contacting third-party collateral sources of information as needed.

Compliance with improper payment legislation. One critical component of assessing the feasibility of a one-tier SNAP QC system is compliance with the Improper Payments Elimination and Recovery Improvement Act (IPERIA), legislation passed by Congress in 2012, which further expanded the system put in place in previous years regarding improper payments (Hatch, 2016). IPERIA has three central components: (1) requirements for OMB related to improper payments and recovery audits, (2) requirements for a set of agencies and Inspectors General related to improper payments, and (3) requirements for agencies and OMB related to the Do Not Pay Initiative. Appendix A provides additional details about IPERIA.

E. Study Methodology

This feasibility study sought to address six study objectives using data obtained from a comprehensive environmental scan, interviews, and site visits with SNAP QC officials in three States, interviews with Federal staff from FNS and other agencies, and interviews with subject matter experts (table 1.1).

Table 1.1. Summary of Data Collection Sources and Methods by Study Objective

Study Objective	Data Source				
	Environmental scan	Site visits to three States	Interviews with Federal staff from FNS and other agencies	Consultative discussions with subject matter experts	Administrative cost collection
Document how the QC review process would change if it became a one-tier rather than two-tier system.		●	●		
Determine the changes needed to the Federal QC staff size and organizational structure for a one-tier QC system.		●	●		

Study Objective	Data Source				
	Environmental scan	Site visits to three States	Interviews with Federal staff from FNS and other agencies	Consultative discussions with subject matter experts	Administrative cost collection
Determine the necessary technological infrastructure for a one-tier QC system.		●	●	●	
Determine which Federal and State databases the Federal QC staff would need to access to conduct verifications.	●	●	●	●	
Explore other alternatives to the current QC review process.	●	●	●	●	
Estimate the costs and timeline of changing from a two-tier to a one-tier SNAP QC review process.		●	●		●

Information collected from these data sources included the following:

- Details on the current process used to conduct SNAP QC reviews, including information about reviewer activities, data sources, and supporting technology
- Details on the costs of the current process for conducting SNAP QC reviews
- Identification of barriers to a one-tier SNAP QC process
- Identification of opportunities for a one-tier SNAP QC process
- Perspectives on the feasibility of one-tier design options

The three study States consulted were selected intentionally to represent a variety of experiences with SNAP QC. In selecting States, the study team and FNS sought to include the following:

- States known to have good QC processes or that have made recent improvements to their QC systems
- At least one State with a significant rural population
- Geographic/regional variation
- States with varying data systems, including varying degrees of sophistication (i.e., newer or more integrated versus a legacy system)

Based on the information collected through these various data sources, this report discusses the feasibility of creating a one-tier QC system. Appendix C provides additional details about the study methodology. Two example models of a one-tier SNAP QC system are presented in appendix D. One model seeks to make use of all opportunities to improve QC accuracy and reduce QC costs. The second model seeks to minimize the number of changes needed to construct a one-tier system, using the existing two-tier infrastructure as much as possible.

F. Study Limitations and Considerations

All studies have limitations and considerations. This study was limited to three State agencies, which restricts the generalizability of conclusions about implementation of a Federal one-tier QC review system for all 53 SNAP State agencies. Given the small number of States to visit for in-depth data collection, Insight and FNS selected the three States carefully to ensure the study captured some diversity of elements related to the feasibility of a one-tier QC system. The study team augmented its understanding of State variation in QC processes, policies, systems, and perspectives by conducting teleconferences with FNS RO staff; these discussions provided contextual information about States not included in the site visits.

The original study plan included interviews with representatives of various Federal agencies about the databases maintained by their agencies and what would be needed to establish data-sharing agreements for FNS to use those databases in a one-tier SNAP QC system. However, Insight's and FNS's attempts to identify, and elicit responses from, some representatives were unsuccessful. As a result, information is limited on the time, costs, and challenges and facilitators to establishing the necessary data-sharing agreements with Federal data systems. If FNS and Congress decide to implement a one-tier system, this area warrants further inquiry and would likely require legislative intervention to ensure interagency data sharing. See chapter 4 for further details.

G. Organization of the Report

This report provides a comprehensive overview of the changes that would be needed to transition from the current two-tier SNAP QC system to a one-tier system. Chapter 2 describes the major challenges FNS would encounter in implementing a one-tier system and the opportunities such a transition would present. Chapter 3 describes the various design options FNS could consider for such a system and the organizational implications of those options. Chapters 4 and 5 summarize the data-sharing and technological infrastructures, respectively, that would be needed to support a one-tier system. Chapter 6 provides an overview of a potential implementation process to transition to a one-tier system, and chapter 7 concludes with final considerations for a decision about whether and how to implement a one-tier SNAP QC system.

The report contains several supporting appendices. Appendix A summarizes Federal improper payments legislation, including IPERIA, and appendix B provides an overview of other Federal quality control programs and potential considerations from these programs for SNAP QC. Appendix C provides additional details on the methodology for this study. Appendix D presents two example models of a one-tier QC system, referred to as Model A and Model B. Appendix E presents the detailed administrative cost models used to estimate the costs of the current two-tier system and Models A and B. Appendix F presents the sampling simulation results to support the sampling changes proposed in the example models.

Chapter 2. Challenges and Opportunities for Creating a One-Tier SNAP QC System

Creating a one-tier QC system would be a substantial undertaking, requiring significant investment of resources. Several challenges could impede the creation of a viable one-tier QC system, ranging from the statutory and regulatory changes that would need to be implemented to establish the authority and guidance for a Federal QC system, to the need to hire a significantly larger Federal QC workforce. For these changes to be feasible, the creation of a one-tier system would need to be a significant priority of FNS, OMB, and Congress. Without such prioritization, a one-tier system would not be feasible.

However, revamping the SNAP QC system also presents opportunities for making improvements to the system. A thoughtfully redesigned system could have the potential to improve the accuracy and consistency of improper payment estimation efforts, reduce the costs of QC, and minimize States' ability to influence their own error rate estimates. These improvements in turn could help FNS achieve the mission of the QC program more effectively and efficiently.

Challenges	Opportunities
▪ Implementing the statutory and regulatory changes needed ▪ Hiring a large number of new personnel needed ▪ Conducting QC interviews nationwide ▪ Accessing State and Federal data systems ▪ Maintaining two-tier operations during implementation phase	▪ Improving QC efficiency ▪ Enhancing comparability with other Federal improper payment systems ▪ Improving information available for program improvement

This chapter details the key challenges (section A) and opportunities (section B) facing a one-tier QC system. Subsequent chapters discuss one-tier system design options intended to address these challenges and leverage these opportunities.

A. Challenges

FNS would face two broad types of challenges in implementing a one-tier QC system: contextual and operational challenges. Contextual challenges are those related to changes to provide the necessary context for the system overhaul, such as the statutory changes that Congress would need to pass (section 1). Operational challenges are those stemming from the specific parameters of the new system's operations, such as State- and Federal-level data access restrictions and the need for a larger Federal workforce (section 2).

1. Contextual Challenges

Before FNS could implement a one-tier QC system, certain contextual requirements would have to be met to lay the foundation. As described above, addressing each of these challenges would involve significant effort and require prioritization and coordination among FNS, OMB, and Congress.

- **Statutory authority.** First, Congress would need to pass legislation for aspects of a one-tier QC system. Fundamentally, for a Federal-only QC system, Congress would need to amend the Food and Nutrition Act of 2008 (Pub. L. 110-246) to allow FNS to conduct all QC reviews instead of States. Because Federal data sharing is currently limited and involves a complex array of

disclosure restrictions related to privacy and data security, legislation would likely be needed to effectively spur a data-sharing infrastructure between Federal agencies—comparable to the data-use agreements States share with those agencies. In particular, FNS would likely need statutory authority to access data from SSA and the U.S Department of Health and Human Services. The roadmap and timeline for securing the requisite statutory authority needed for a one-tier QC system would be outside FNS's control and up to Congress.

- **Regulatory changes.** Once the statutory changes were in place, regulatory changes would be needed to provide guidance on how to implement the new system. FNS would be responsible for developing the regulations. The process would also require substantial time to vet stakeholder concerns, including those from States, and to craft well thought-out draft and final regulatory rules.
- **Dedication of sufficient resources.** These initial planning processes would entail a heavy lift for FNS to plan and execute while maintaining the current two-tier QC operations. Without sufficient resources devoted specifically to the planning effort, FNS may not be able to produce error rate estimates during the planning and implementation years before a full rollout of one-tier system. These resources would have to be requested from Congress through the budget appropriations process and therefore would be subject to congressional approval.

2. Operational Challenges

In addition to the contextual challenges to laying the foundation for a one-tier system, FNS would face operational challenges based on the parameters of the system design. Four operational challenges, discussed below, would need to be overcome. FNS would need to—

- Staff a one-tier system
- Conduct QC interviews nationwide
- Access data from State systems
- Establish data-use agreements for Federal databases

As with contextual challenges, the solutions to operational challenges would require prioritization and coordination among FNS, OMB, and Congress.

a. Staffing a one-tier system

Replacing the existing State QC infrastructure with a set of national reviewers would be a massive Federal staffing effort, though the number of personnel FNS would need to hire would depend on various factors, including the number of cases sampled for review, the type of procedures needed to conduct a review, and the extent to which travel was needed to collect the requisite information. If a one-tier system led to a one-for-one replacement of State reviewers with Federal reviewers, this could lead to between 500 and 600 new Federal staff.

The logistics of rapidly hiring and training this many reviewers would be complicated and expensive. Departmental Regulation 2010 requires clearance through numerous organizations within USDA, negotiation with the union, and congressional notification before organizational changes such as this could be implemented. Such a large staff increase may be challenging given Federal budget constraints and workforce reduction initiatives. To illustrate the magnitude of this hiring lift, hiring even half of that number—say, 250 to 300 new staff—would reflect a nearly 20-percent increase in the entire FNS

workforce across the National Office and ROs.[11] In contrast, FNS hired only 18 new staff in 2018 agency-wide and 80 in 2017.

Hiring of this magnitude would also require FNS to rethink the organizational structure of the agency with respect to QC functions. Currently, QC functions are housed within the QC Branch of Program Accountability and Administration Division (PAAD) within SNAP and Regional Operations and Support outside of SNAP. FNS would need to identify an organizational structure to encompass a large number of Federal reviewers, including identifying an appropriate oversight structure and sufficient supervisory positions.

To be feasible, any one-tier system would need to be designed so as to minimize the necessary increase in the FNS workforce. Chapter 3 discusses options for a one-tier QC system that would help create a more realistic and manageable staffing plan, such as by using sample reductions and outsourcing through performance-based contracts to achieve SNAP QC goals with a relatively streamlined staff.

b. Conducting QC interviews nationwide

Current QC regulations require in-person interviews of sampled households.[12] The only way to comply with this regulation in a one-tier QC system would be for FNS to have large teams of reviewers in each State (or, at a minimum, each region) that would travel to sampled households each month. Such a process would be logistically complex and cost-prohibitive, rendering a one-tier system impractical, if not infeasible. Instead, households would likely need to be interviewed by telephone or videoconference, which would require a regulatory change to remove the in-person interview requirement. Some State and Federal QC staff advised against eliminating the in-person interview, asserting that in-person interviews facilitate better rapport with clients, enhance reviewers' abilities to identify potentially suspicious or fraudulent behavior, and facilitate collection of documentation. Others, however, believed QC reviews could be successfully conducted with telephone interviews, particularly with additional training on best practices for using this mode. Telephone interviews have been found to be an effective and efficient means of collecting information for other Federal improper payment estimation systems, such as UI's BAM program[13] and SSA's stewardship reviews. See appendix B for more details on these programs.

c. Accessing data from State systems

State SNAP QC reviewers use data from various State systems to conduct QC reviews, including case file information from SNAP eligibility systems and document imaging systems and verification data from various other State systems. Accessing these systems would present a challenge for FNS.

State SNAP systems. A one-tier QC system would require FNS reviewers to have ongoing access to case information from State SNAP eligibility systems and document imaging systems. These State systems would form the basis for creating QC samples, provide eligibility data for sampled cases, and provide reviewers with clients' original documentation verifying those data. In some county-administered States, FNS would also need to access local systems.

[11] As of the beginning of FY 2019, FNS had a total of 1,447 FTEs, not including contractors.
[12] FNS has granted most States a waiver that allows telephone interviews for households receiving benefit amounts of less than $100 per month.
[13] DOL conducted a pilot test in 1993 to compare telephone and in-person interviewing modes before ultimately moving to telephone as the primary method. The study found that allowing investigators to collect data via telephone (or mail) did not significantly affect overall accuracy rate estimates, even though somewhat less information was collected than through in-person contacts (U.S. DOL, 1992). See appendix B2 for details.

The ideal scenario for a one-tier system would be for FNS staff to have direct, remote access to State systems. Remote access would streamline the review process, minimize FNS costs, and minimize opportunities for States to influence or alter error rates. However, FNS does not currently have remote access to many State systems, despite requiring in 2016 that States provide this access (USDA FNS, 2016a). FNS is unlikely to obtain remote access into most State systems in the near term largely because of data-security requirements. Many State systems contain information on more than just SNAP eligibility, such as details on Medicaid enrollment and verifications. FNS staff would not be authorized to access most non-SNAP data. As a result, States would either need to construct "firewalled" views for FNS reviewers or provide FNS with extracts from their data systems.

Even when FNS could obtain remote access into State systems, the wide variety of State systems would require tailored data-access protocols for each State. State systems have different architectures and track and store client information in different ways. Many States still maintain dated legacy mainframe eligibility systems. Some States have created well-functioning data warehouses for access to eligibility data. Other States are moving to Software as a Service (known as SaaS) eligibility systems, in which data are stored in the cloud. This challenge may subside over time as States improve their technology infrastructure.

State verification systems. Some of the data currently used for verification of household information come from State systems other than the internal SNAP eligibility system. These include data from State employment and tax systems and data from other income support programs such as TANF. Because FNS does not have authority over these programs, FNS staff or their contractors would not be granted direct access to these systems for SNAP QC verification. Although it would reduce the independence of the Federal review, FNS could consider requiring State SNAP agencies to supply verification information contained in these other State systems, but they may face restrictions in what they are permitted to share. As a result, Federal reviewers may have less verification data to use than State reviewers, unless alternate data match resources could be identified.

d. Establishing data-use agreements for Federal databases

Once SNAP records are accessed, QC reviewers need to verify household information with other sources, including Federal databases from the Administration for Children and Families (ACF), the U.S. Department of Homeland Security (DHS), and SSA. Currently, each State has individual data-use agreements with these Federal agencies to obtain access to these data. Sharing of Federal data is subject to complex rules and regulations about what data can be used for what purposes and with whom. For example, in some cases, even though States can access data from these Federal systems, they must secure secondary verification for use in SNAP.

To establish access to the same data resources as State QC reviewers, FNS would need to replicate the State agreements at the Federal level. Because data sharing across Federal agencies is currently limited, it is unclear what would be involved in successfully implementing data sharing across Federal agencies and how long that process might take. Stakeholders interviewed for this feasibility study indicated this would likely require legislation and substantial political will.

Without access to the Federal data systems currently used by States for QC reviews, FNS might need to rely more heavily on other sources (such as households and employers) and could potentially face more difficulty completing reviews if information could not be verified. Some regulatory or statutory requirements may need to be adjusted in the absence of access to some systems, such as ACF's National Directory of New Hires (NDNH), which States are currently required to check for SNAP certification purposes. However, commercial databases increasingly offer data that could supplement or replace

Federal databases in a one-tier system (e.g., The Work Number database used by both State and Federal QC reviewers). See chapter 4 for further discussion of data-sharing infrastructure needed for a one-tier system.

B. Opportunities

Although creating a one-tier system would present challenges, overhauling the QC system would also present the opportunity to rethink QC procedures in ways that could potentially offer further benefits such as the following:

- Improve efficiency and reduce costs (section 1)
- Enhance comparability with other Federal improper payment estimation programs (section 2)
- Improve data quality and utility (section 3)

This section describes these opportunities.

1. Improve Efficiency and Reduce Costs

In designing a new QC system, FNS could take the opportunity to streamline procedures to increase efficiency and potentially reduce costs; for example:

- **Interview SNAP households by telephone instead of in person.** Eliminating travel to and from interviews could reduce the time it takes to complete QC reviews, particularly in rural areas.
- **Outsource some QC functions.** FNS could use performance-based contracting to support some components of the QC process, such as sampling and collection of case file and interview data. This would also reduce the magnitude of the Federal hiring that would be needed to staff the system.
- **Reorient the reference period for QC reviews.** Currently, QC reviews focus on a given sample month (Comp 1), and in some cases the certification month as well (Comp 2). Focusing QC reviews on a single time period could streamline the review process and reduce the amount of data that would need to be collected for a given case. Focusing on the certification month in particular could mean much of the documentation needed to verify household information may already be included in the case file, further reducing the amount of additional information that would need to be collected from the household, collateral contacts, or other sources. Focusing only on the certification month would also make the error rate more intuitive to policymakers and other audiences.
- **Reduce the sample sizes.** The resources needed to conduct QC reviews are largely driven by the number of QC reviews. If sample sizes could be reduced while still generating sufficiently robust improper payment rates, FNS could minimize the resources needed for a one-tier system. For example, FNS could realize substantial cost savings by cutting the annual national sample size in half and reviewing States every other year. The benefits and drawbacks of this approach are discussed further in chapter 3.

- **Make use of commercial data sources.** By leveraging the large scale of a one-tier effort, FNS could potentially obtain more efficient pricing on verification data and other direct costs. These sources may provide a valuable source of timely verification data in a one-tier data-sharing infrastructure, particularly given the challenges involved in establishing access to some of the Federal databases. Access to commercial data-matching resources could likely be established more quickly than to Federal resources as well. The benefits and drawbacks of commercial data sources are discussed in greater detail in chapter 4.

2. Enhance Comparability With Other Federal Improper Payment Measurement Programs

FNS could consider ways to enhance SNAP QC's comparability with improper payment estimation systems for other Federal programs. In particular, a focus on the certification month, as described above, would be more comparable to other Federal improper payment rates than the current examination of both a sample month and (in some cases) certification month. For example, CMS PERM's eligibility reviews examine eligibility determination actions for Medicaid and CHIP cases. Similarly, DOL reviews paid and denied UI claims to verify eligibility and the accuracy of the benefit amount. See appendix B for more information on examples of other Federal improper payment systems.

3. Improve Data Quality and Utility

Restructuring the QC two-tier system into a one-tier system would also provide an opportunity to make improvements to the quality and utility of QC data. For example, by standardizing the sampling and review processes at the Federal level, FNS could ensure consistency and eliminate differences in State error rates caused by differences in State QC procedures. As a result, State error rates would be more comparable. Similarly, a one-tier Federal system would limit the opportunity for States to influence their own error rate estimates, ensuring the independence of the Federal review.

Chapter 3. Procedural and Organizational Changes for a One-Tier SNAP QC System

There are several design options FNS could consider for a one-tier system, each with its own advantages and tradeoffs. This chapter discusses the general procedures needed for a one-tier system, some of the available design options and how those options affect feasibility, and the implications of the design options for the organization of a one-tier system. Any move to a one-tier system would require substantial changes at the Federal level, including significant expansion of the Federal workforce. This chapter discusses the effects of options on staffing needs relative to other options, not to current staffing levels.

This chapter walks through the QC process, focusing on the following six major components: the reference period (section A), sampling procedures (section B), data collection (section C), error determination (section D), quality assurance (section E), and postreview procedures (section F).[14,15] Each section describes potential procedures and design options for these components within a one-tier system, and where applicable, the organizational implications of the various options. Most of these changes would require revisions to regulations and some would require statutory changes.

The administrative costs for a one-tier system depend on the specific options chosen. Appendix D provides two possible examples of a one-tier model, each designed to combine sets of options that would complement one another and form a cohesive system. Appendix E provides a detailed discussion of administrative costs of these models.[16]

A. QC Reference Period

The first decision FNS would need to make in designing a one-tier QC system would be to establish the reference period for the reviews. The reference period is the time period for which the sampled households' issued benefits are compared to their actual circumstances.

1. Design Options

FNS could continue to use the two reference months, the sample month and the certification month, of the current system. Alternatively, FNS could focus on the sample month for a random sample of households within the entire caseload, or on a sample of households that had a certification action

[14] This chapter focuses on procedures for active case reviews. The current two-tier system also includes review of negative cases (CAPER) and an analysis of application processing timeliness. Negative cases could be included in a one-tier system in two ways. If the current CAPER estimate remains in substantially the same format, FNS would need to obtain two sample frames, select two samples each month, dedicate additional staff to obtaining negative case files and determining whether those cases were processed correctly, and produce estimates for both payment errors and CAPERs. Alternately, negative cases could be incorporated into the overall payment error rate in a system that uses the certification month as the reference period; in such a system, the universe for analysis would include all cases with a certification decision (approval, denial, or termination) in a given month, and a single payment error rate would be produced that reflects improper payments to both active and negative cases.

[15] The current two-tier system uses SNAP QCS/Regional Office Quality Control Tracking System (ROQCTS) software to compile review findings and to facilitate communication about those findings between the States and FNS. Many States also use an automated version of the FNS Form 380, which is used in the error determination process. This chapter assumes that these or substantively similar software solutions would be used in a one-tier system. See chapter 5 for a detailed discussion of these systems.

[16] In appendix E, data from the three study States are used to estimate total SNAP QC costs under the two-tier model. Costs of two potential one-tier models are then estimated, each combining different options discussed in this chapter. The two examples of one-tier models are described in detail in appendix D.

(either certification or recertification) during the sample month. Each of these three approaches offers benefits but also certain challenges as highlighted below:

- FNS could maintain the current methodology, in which States select households for review from the entire caseload and errors are determined through two computations, referred to as **Comp 1 and Comp 2**. Comp 1 compares the benefit amount issued during the sample month to the benefit amount that should have been issued based on household's actual circumstances during that month. If the variance in Comp 1 exceeds the tolerance threshold, the State compares the benefits issued to the household's circumstances during the certification month (Comp 2).[17] One of the primary benefits of this strategy is that it provides data on accuracy by both the household and the State at multiple points in time and allows the reviewer to assess compliance with reporting requirements. However, this approach also requires substantial data collection from households, gathering complete information on the households' circumstances during the sample month, several months preceding the sample month, and at the time of certification. A further challenge of the Comp 1/Comp2 approach is that it is not intuitive to policymakers and other audiences as a reference period based on a single point in time.
- One alternate approach would be to focus only on the **sample month**, similar to using just Comp 1. This would provide the advantage of reducing data collection from households and increasing consistency across cases in how they are reviewed. However, because reviewers would still need data on the households' circumstances in the sample month and several preceding months for consideration of reporting requirements, this approach would still require substantial data collection.
- Another approach would be to focus only on the **certification month**. In some ways, this would be similar to Comp 2, with one slight difference. In the current approach, the sample is drawn from all households active during the sample month and this method would require the sample to be drawn from all households that had a certification action during the sample month. For example, for April QC reviews, the universe for sampling would consist only of households that were certified or recertified during the month of April.

  This approach would substantially simplify data collection as it would only require gathering data related to the certification month, some of which would already be in the case file. States are likely to have current contact information available for households that have had a very recent certification action, and households who have recently made a decision to certify or recertify may be more likely to cooperate with the QC process. Using the certification month as the reference period would be more consistent with other Federal QC systems, which tend to focus on accuracy as of the time of certification, and more intuitive for policymakers and other audiences. Focusing on the certification month would also provide clear information to the States about the extent to which State policy affects the accuracy of benefit determinations. The primary drawback to using the certification month as the reference period would be the loss of information on the effectiveness of State reporting policies; these policies specify what information and under what circumstances households must report to the SNAP agency between certification actions.[18]

[17] The inconsistency of reviewing different cases based on different reference periods was identified as a concern by the OIG (USDA OIG, 2015).
[18] State options for reporting have substantially reduced the amount of required reporting between certification actions in recent years. For example, as of FY 2018, 26 States had implemented the simplified reporting option, which requires households to report changes when total countable income rises above 130 percent of the Federal poverty guidelines (USDA FNS, 2018i).

2. Organizational Implications

The reference period design option would primarily affect the QC organization in two ways. First, the complexity of the required data collection would affect the amount of time needed to gather the necessary pieces of documentation. Focusing only on the certification month would require the least amount of data collection, and therefore the smallest number of staff hours of the three options. Using the current Comp 1/Comp 2 approach would be the most labor-intensive option.

Second, the complexity of the required data collection would also affect the extent to which contractors could be used to do the work (see section C of this chapter). The documentation that would be required for a QC process that focuses only on the certification month would be the most straightforward, which might be easier to outsource to a contractor. Contractors would be able to do more of the work and work more independently. Using the current Comp 1/Comp 2 approach or focusing strictly on the sample month would have more complex data collection requirements and could be more difficult to outsource because State reporting policies would affect the amount of documentation that would need to be collected and the specific timeframes for which the documentation would be needed; more extensive training and oversight may be needed to outsource that level of data collection to contractors. Sample month or Comp 1/Comp 2 approaches would also require the collection of older data, which is more challenging for participants to provide. Contractors could be employed, but more substantial training might be required to ensure the data collectors could identify how much and which data to collect for each case. The organizational implications of each option are summarized in table 3.1.

Table 3.1. Organizational Implications of Reference Period Design Options

Option	Organizational Implications
Comp 1/Comp 2 (current method)	▪ This option requires the most extensive data collection and would therefore necessitate the most staff.
Sample month	▪ Focusing on the sample month would reduce required data collection and reduce the needed staff size.
Certification month	▪ Focusing on the certification action in the most recent month would require the least amount of data collection and could increase cooperation rates from the households through more recent contact information.

B. Sampling

FNS would need to develop procedures for routinely sampling cases for review in a one-tier system.[19] These procedures would depend on the reference period selected.

1. Procedures

The three main stages of the sampling process are (1) develop a sampling plan, (2) produce a sample frame, and (3) select the sample. The sampling plan would be developed initially and then updated annually. Producing a sample frame and selecting the sample would occur monthly.

- The **sampling plan** would identify the universe of cases to be sampled, the annual and monthly sample size for each State, and the sampling technique for selecting cases. In the current

[19] In the current two-tier system, FNS provides oversight of the States' QC sampling procedures and conducts sampling for the Federal rereviews.

system, the universe includes all cases that were active during the sample month. The sample size for each State is approximately 1,000 active cases per month, with an adjustment factor for States with smaller caseloads; the States' samples total to approximately 55,000 cases each year across the Nation. States have some options for how they select their sample, but all States use an unstratified approach where every case has an equal probability of selection in the current system.

- The **sample frame** would consist of a datafile with one record for each active eligible case in the State each month. The sample frame would include sufficient data to identify households and for any stratification specified in the sampling plan. Sample frames would be extracted from the State agencies' management information system (MIS).
- **Sample selection** would occur each month for each State according to the parameters of the sampling plan.

2. Design Options

A variety of sampling options could be implemented to address the challenges associated with implementing a one-tier system. Sampling options could offer the opportunity to reduce statistical uncertainty in error rate estimates and mitigate some of the challenges as described below.

a. Reduce the sample size

Reducing the sample size is one way to address the need to increase the Federal workforce under a one-tier system. One sample design option is to reduce the monthly sample size in each State. This would require fewer review and support staff but would increase statistical uncertainty around error rate estimates, particularly at the State level. The study team examined the implications of reducing State QC sample sizes to reduce the overall volume of reviews. Using 2016 QC data, the team simulated a 15-percent reduction in the QC sample of active cases. For each State, the team ran 200 simulated error rate calculations, with each simulated rate based on a different random subsample of the State's 2016 QC sample. Each subsample was 85 percent of the State's actual sample. At the national level, this sample size reduction would result in about 7,000 fewer households, or about 600 fewer households per month. While a 15-percent reduction in the national sample of active cases was estimated to have negligible effects on national estimates, the variability of the State error rates and estimates of characteristics of subpopulations (e.g., households with nonelderly disabled persons) would increase. See appendix F for more details on the sample size reduction simulation analysis.

Alternately, instead of simply reducing the number of cases uniformly, FNS could sample States in alternate years and construct the national payment error rate from a rolling 2-year average. This approach is similar to the one used by CMS's PERM, which samples States every 3 years (see appendix B1 for more detail). If current State-level sample sizes are maintained, this approach would reduce by half the annual national sample size without increasing statistical uncertainty for State-level estimates. This reduction in the total number of cases reviewed annually would require many fewer Federal QC workers. However, this approach would mean payment error rates would not be available for a given State every year and would also result in less QC data for other research purposes. This approach would also require legislative updates as the current law requires annual estimates of payment error at the State level.

b. Oversample high-risk households

FNS could reduce statistical uncertainty of error rate estimates by stratifying and oversampling households with characteristics known to be associated with payment errors. Such characteristics might include households with earnings, large households, or households with frequent changes in circumstance.[20] This approach could be accomplished by assigning a risk score to each household based on the household's characteristics, assigning strata, and oversampling cases in a stratum with risk scores above a predetermined threshold. The degree of risk associated with various household characteristics would need to be estimated routinely, ideally annually.

Oversampling high-risk households would reduce the statistical uncertainty of error rate estimates. Estimates of error rates come with a measure of statistical uncertainty—a confidence interval. The uncertainty reflects the fact that differences in improper payment rate estimates over time and across States may be explained, in part, by differences in which households are sampled. Because high-risk households are uncommon, the number of high-risk households included or excluded in the sample creates uncertainty, which can result in a large confidence interval. By oversampling these households, FNS would reduce the random variation, shrinking confidence intervals and improving the comparability of improper payment rates over time and across States. This approach would also facilitate FNS and the States' diagnostic use of QC data to better understand errors and develop policies and procedures to reduce those errors. However, oversampling would require additional work to modify sampling plans and would require more complex statistical weights.[21] Oversampling and the resultant weighting would also be more challenging for nontechnical decisionmakers and other stakeholders to understand than the current system, in which all cases within a State have an equal probability of selection.[22]

If FNS chooses to use the certification month as the reference period, the benefits of oversampling high-risk households would be minimal. In most States, households with relatively unchanging circumstances (e.g., elderly-only households with fixed incomes) have longer certification periods than households with more complex circumstances (e.g., households with earnings). Therefore, likely high-risk households will already be in the sample frame more frequently than low-risk households with longer certification periods, as they must recertify more frequently.

c. Select larger samples in States with high error rates

In addition to oversampling high-risk households, FNS could select larger samples in States that have historically had higher error rates because higher error rates are associated with larger sampling errors. Increasing the sample for those States would minimize the sampling errors and reduce statistical uncertainty in national payment error rate estimates.[23]

d. Receive sample frame or samples from States

FNS does not have the degree of access to States' MIS that would make it feasible for a one-tier system to directly pull sample frames from those systems at the Federal level. Two options could be feasible: States could submit monthly samples to FNS, or States could submit monthly sampling frames to FNS to allow FNS to conduct the sampling. The latter option would ensure sampling is conducted consistently

[20] A robust statistical analysis would need be conducted to determine the characteristics most frequently associated with payment error.
[21] Weighting is a statistical technique that adjust results based on the sampling design so that final estimates represent the underlying population rather than the sampled respondents.
[22] QC cases have an equal probability of selection within States but not across States. Because States have largely similar QC sample sizes despite variation in overall caseload sizes, households in smaller States have a higher probability of selection for QC than those in larger States.
[23] CMS's PERM employs a similar approach of drawing larger samples from States with higher improper payment rates in the previous cycle.

across the Nation and allow FNS to maintain more control over the sampling process, which would help ensure the independence of the review. It would also provide FNS with a monthly census of all SNAP households, which could be a valuable resource. Drawbacks include the initial technological challenges associated with developing a system for securely transferring and storing large quantities of data each month.

e. Engage contractors

FNS could engage contractors to support sampling. Contractors could develop the annual sampling plan, collect and review sampling frames submitted by the States, select the monthly samples, and develop statistical weights as needed.

3. Organizational Implications

The decisions related to sampling have significant organizational implications for the number and type of staff needed for a one-tier QC system. The number of cases sampled each year would have the largest effect on FNS because caseload directly drives the number of data collectors, reviewers, and support staff necessary. Several of the options—selecting the sample at the Federal level, oversampling high-risk households, and selecting larger samples from States with historically higher levels of error—would require additional work from statisticians. However, much of the statistical work could be outsourced to contractors to minimize the number of Federal staff needed. The organizational implications of each option are summarized in table 3.2.

Table 3.2. Organizational Implications of Sampling Design Options

Option	Organizational Implications
Decrease sample size	▪ A smaller sample size would require fewer review and support staff. In particular, reviewing individual States in alternate years would reduce by half the national sample and dramatically reduce the review and support staff needed.
Oversample high-risk cases and/or States with higher historical error rates	▪ High-risk cases have more complex data collection and error determination processes than average, so a high-risk oversample would require additional review and support staff. ▪ Determining the specifications for each year's sample would require additional statistician labor time.
Select the sample	▪ Requiring States to select the monthly samples would minimize demands on Federal staff. ▪ If Federal staff select the samples, additional Federal statistician time would be required.
Engage contractors	▪ Outsourcing sampling plan development, sample frame collection and review, and sample selection to contractors would reduce the need for Federal staff.

C. Data Collection

Once cases have been selected for review, the next step would be to gather several types of data to support the error determination process. The amount of data collected would vary significantly based on the reference period selected.

1. Procedures

After cases have been sampled, four types of data would need to be collected before an error determination could be made:

- **Case file** data are generally stored within State systems. Often States store different components of the case file in different systems. For example, States may maintain case record information in their MIS and keep copies of documentation in document imaging systems. Some States also maintain paper case files for at least a portion of their caseload. The first step in data collection in a one-tier system would be to collect all of the case file information for each selected case. Some of these data could be obtained through remote access to States' MIS or document imaging systems, but when remote access is not available, some data would need to be gathered in person at State or local offices.
- In the current two-tier system, State QC reviewers conduct a range of data matches with various **local, State, Federal, and commercial databases** to obtain or verify information on the households' circumstances and to identify additional methods for contacting households. See chapter 4 for more details on the data-sharing infrastructure needed for a one-tier system.
- QC reviews require a **household interview** to gather information on the household's circumstances during the reference period. In the current two-tier system, most of these interviews are conducted in person, with QC staff meeting the client at a local office, the client's home, or another mutually agreed-upon location; interviews with households that receive less than $100 per month in benefits are usually conducted via telephone. During QC interviews, regardless of whether in person or by phone, clients are asked to provide various documents to verify their circumstances. Households must provide documentation of income and expenses for the reference period, even for those elements for which documentation is not required when applying to participate, and they must provide contact information for a collateral contact who could confirm household composition.
- Information from **collateral contacts**, such as landlords or employers, typically confirm the composition of the household and in some cases provide verification for household circumstances the client could not document.

2. Design Options

The data collection needed for a one-tier QC system would pose a series of significant challenges, including obtaining access to State systems and State, local, and Federal verification databases and expanding the Federal workforce to conduct reviews for all 53 States. This section describes several design options that could be used to address these challenges and opportunities to introduce efficiencies and reduce costs.

a. Collect case file data in person as needed

Currently, FNS has remote access to relatively few States' MIS; this remote access may not include document imaging systems and does not include paper case files. Data collection would begin by obtaining as many case files as possible remotely, but at least some case file data would need to be collected in person.[24] In-person data collection could vary based on the type of system and the

[24] Alternately, FNS could require that States provide complete case files for sampled cases, but this option would jeopardize the independence of the review process.

documents required. In some cases, the data collector might be able to log into a workstation located at the State office, extract the needed records, and upload them directly to SNAP QCS. In other cases, this task may need to be accomplished through screen shots rather than a direct download. Some information in State systems may be subject to restricted use and may not be available for download or screen shots; in those cases, data collectors may need to record the relevant information as notes in SNAP QCS. Finally, in States with paper case files or offline document imaging systems, data collectors would need to travel to local offices to scan the files or download the relevant documents.

b. Require States to provide match results from State and local databases

Obtaining and maintaining data-use agreements with States and smaller jurisdictions for access to other databases presents a substantial challenge to the feasibility of implementing a one-tier system, given the number of State and local databases used by SNAP State agencies (see chapter 4 for additional information on accessing State and local databases). To address this challenge, FNS could require States to provide updated match results for State and local databases routinely checked during the eligibility determination process as part of the case file; this approach is used in CMS's PERM system (see appendix B.1).

FNS could also require States to provide assistance in checking databases for alternate contact information for households that prove difficult to reach. In the event FNS was unable to establish access to other Federal databases, even with congressional authority to do so, FNS could also require States to provide matches to the Federal databases they use, to the extent States are permitted by the terms of the data-use agreements. The States would need to provide documentation of any database match, such as a screenshot, not just an indication the match was conducted. In the case of data sources with data-use agreements that do not allow sharing of such documentation, the match would not be required. However, a drawback of relying on States to provide data matches is that it would reduce the independence of the review. FNS could consider relying exclusively on more easily accessible data sources.

c. Conduct household interviews via telephone

Extensive travel would be required for data collectors to conduct household interviews in person as required under current regulations. To increase the number of interviews each data collector could conduct in the month—and minimize need for new staff—FNS could conduct interviews via telephone or videoconference, consistent with other Federal programs that conduct household interviews (e.g., DOL's UI, SSA's RSDI and SSI; see appendix B).[25] Households would be able to submit documentation by texting or emailing a picture of the required items or by mailing hardcopies. Telephone interviews would have some drawbacks. In particular, it may be more challenging to establish rapport with households during a telephone interview, and it may be easier for households to conceal information.

d. Engage contractor for data collection

Other Federal QC programs, such as CMS's PERM (see appendix B1), engage contractors to collect data. For SNAP, this could include all types of data collection: retrieving case file data from States, conducting data matches with Federal and commercial databases, obtaining State and local data match results from State workers, interviewing households, and gathering information from collateral contacts. Because at least some case file data would need to be collected in person at State or local offices, having contractor

[25] Conducting QC all interviews by phone or videoconference instead of in-person would require a regulatory change. Telephone interviews are currently permitted for households that receive less than $100 per month in benefits.

staff on the ground throughout the country would reduce travel costs and staff time. Data collection contractors would be responsible for providing FNS with completed case files for sampled households. Outsourcing data collection to contractors would be significantly easier if FNS were to choose the certification month as the reference period because this would require less knowledge of State policies than the Comp 1/Comp 2 or sample month reference periods.

While employing a contractor to collect data for SNAP QC reviews in all 53 States would require a significant oversight role for FNS, FNS has experience managing a large data collection contract of similar scope. Currently FNS employs contractors to inspect approximately 42,000 stores each year as part of the retailer authorization process and on behalf of investigations. Contractors are located throughout the country to minimize travel time, and they use innovative approaches and technological tools to conduct the work efficiently.

e. Make use of commercial data sources

Currently most States and FNS use Equifax's The Work Number for income and employment information. Other vendors of commercial data could be used productively in the QC process, both to verify households' circumstances and to identify alternate means of contacting household members. These sources have several advantages, primarily that there are fewer barriers to FNS obtaining access and the data are typically more current than data in Federal databases. However, these sources do not offer complete coverage and they charge fees for access. See chapter 4 for a more comprehensive discussion of available commercial data.

3. Organizational Implications

Data collection design options could significantly affect the organization of a one-tier system. The use of a contractor would have the largest effect, as this would enable FNS to outsource a substantial amount of the work. Conducting household interviews via telephone, rather than in person, would greatly reduce the amount of time needed to collect the necessary data and therefore the number of staff needed to do the work. The organizational implications of each option are summarized in table 3.3.

Table 3.3. Organizational Implications of Data Collection Design Options

Option	Organizational Implications
Collect some case file data in person	▪ Although collecting some case file data in person at State or local offices would be labor-intensive and likely require routine travel, this work is essential to an independent review. As more case file data are stored electronically and as FNS gains remote access to more systems, the need for in-person data collection would decrease.
State workers provide data match results	▪ Because it would be resource-prohibitive for FNS to establish direct access to the State and local databases used for verification purposes, FNS could consider requiring States provide documentation of these matches (or identify alternative data sources; see chapter 4).
Conduct household interviews via telephone	▪ Conducting household interviews via telephone rather than in person would substantially decrease the amount of time needed for this task and therefore would decrease the number of data collectors needed.
Engage contractors	▪ Outsourcing data collection would substantially decrease the number of Federal staff that would be needed in a one-tier system.
Take advantage of commercial data sources	▪ The organizational implications of using commercial data sources would be minimal but could result in a slight reduction in time spent on each case.

D. Error Determination

After data collection is complete, reviewers would then review the case file to determine whether any errors were made.

1. Procedures

The review process itself would be substantially similar to the process State reviewers use in the current two-tier system, although the exact calculations would vary depending on the selected reference period.

- Reviewers would complete the Automated Form 380 in SNAP QCS with the case record data (the information originally used to determine benefit allotment for the reference period) and the new data collected for the reference period, using this information to identify elements with variance between the two sets of data. The reviewers would also calculate a benefit allotment for the household based on the data collected for the reference period and compare this to the amount of the actual issuance. As in the current two-tier system, an **error determination** would be made if the calculated benefits for the reference period exceeded the absolute value of the difference between the tolerance threshold and the issued benefit. The Comp 1/Comp 2 reference period would require up to two comparisons of circumstances and actual benefit allotments, but using either the sample month or certification month reference period would require only one comparison.
- In some cases, reviewers may find the case files compiled by the data collectors to be incomplete. When this happens, the reviewer would send a request to the data collectors to obtain the missing documentation. In instances where not all pieces of documentation could be obtained, reviewers would evaluate the case to determine whether an imputed conclusion could be deemed likely using the "**likely conclusion**" approach, as described in the *FNS 310 Handbook*. If so, the reviewer would complete the case with incomplete documentation.
- As in the current two-tier system, reviewers would not be able to complete all active case reviews. Some cases would be disposed of as **incomplete** because of missing documentation or noncooperative households. Other cases, in which the household had moved out of State, all members were deceased or institutionalized, or members had been referred for investigation into possible intentional program violations, would be disposed of as **not subject to review**.

2. Design Option

The error determination process would not necessarily change substantially in a one-tier system but could be outsourced to a contractor. The Food and Nutrition Act of 2008 (Pub. L. 110-246 § 11(eX6) as amended through Pub. L. 113-79 2014) requires that merit system personnel make eligibility determination decisions; FNS interprets eligibility determination to include QC error determinations. However, if this requirement were amended to exclude QC, FNS could consider engaging contractors to do this work. Other Federal examples include CMS's PERM system, for which contractors conduct all review and error determination work (see appendix B1 for more detail). This would have the advantage of further reducing the number of Federal staff needed to operate a one-tier system but would have implications for the design of quality assurance procedures, as discussed in the next section.

3. Organizational Implications

Outsourcing error determination to a contractor would reduce the number of Federal staff needed to operate a one-tier system, especially in conjunction with engaging a contractor for data collection. Contractors conduct most of the work for CMS's PERM, with Federal staff primarily playing an oversight role (see appendix B.1).

E. Quality Assurance

The two-tier system involves many rounds of review to ensure the accuracy of the results: States conduct second-party reviews of at least a subset of cases; FNS re-reviews a subset of cases; and States can contest Federal determinations through arbitration. Moving from the two-tier system to a one-tier system necessarily removes one layer of review, so careful attention to the design of the other layers would be necessary to ensure high-quality results.

1. Procedures

The quality assurance process of a one-tier process would have two main components—second-party reviews and arbitration.

- After reviewers have completed their case review and made an error determination, the case would be ready for a **second-party review**. In the event the second-party review produces findings that conflict with the results of the initial review, the two reviewers would meet to resolve the differences; a third party (supervisor level or higher) would make a final determination if the two reviewers were unable to come to agreement.
- After all cases have been completed for a given month, FNS would share the results of the reviews with the States, such as through a summary memorandum to each State that lists the findings for each case reviewed and by releasing the reviews to read-only access for the States in SNAP QCS. States would then review the cases, request any clarifications, and request **arbitration** if desired. The arbitrator or arbitration panel would make a final determination on cases.

2. Design Options

Several design options could be used to ensure high-quality data and to increase stakeholder buy-in to the new system. However, each of these options would require additional resources, so decisions should be made to carefully balance review quality and costs.

a. Conduct second-party reviews of all cases

The proportion of cases subject to second-party review provides an opportunity to improve the accuracy of QC findings but comes at the cost of increasing reviewer workload. In the current system, policies for second-party reviews vary by State, ranging from about a third of cases to all cases. Generally, second-party reviews consist of a desk review, in which the second-party reviewer reviews the case file and FNS Form 380 completed by the initial reviewer. Given the loss of a layer of review inherent in transition from a two-tier to a one-tier system, conducting second-party reviews of all cases to enhance accuracy could reduce the number of cases States appeal and increase States' confidence in the results.

b. Conduct full, independent second-party reviews

In the current two-tier system, second-party reviews typically consist of a desk review, in which the second-party reviewer reviews the case file and completed FNS Form 380 for accuracy and completeness. To improve the accuracy and consistency of reviews, second-party reviews could be conducted as a full, independent review, in which the reviewer independently completes a second FNS Form 380 and compares the results to the initial reviewer's results. Independent second-party reviews could be conducted for a subset of all reviews. For example, a 25-percent subsample of cases could be subject to a completely independent second-party review, while the remaining 75 percent could receive a desk review. Independent second-party reviews would increase the amount of time needed for quality assurance.

c. Assemble an arbitration panel

In the current system, an arbitrator reviews cases States appeal and issues a final decision. A one-tier system could incorporate an arbitration panel, rather than an individual arbitrator. For example, the panel might consist of 12 members, and each appealed case could be reviewed by 3 members who would be required to come to a consensus on the determination. This could have several advantages. In a system in which only Federal reviewers examine cases, States may file more objections, leading to more cases than a single arbitrator could review; a panel would allow for review of more cases. Ensuring that several panel members agree on the final determination of the case could ensure greater stakeholder confidence in those determinations. Incorporating State representatives on the panel could address State concerns about not having input into the findings of a one-tier system.

A general concern about moving to a one-tier system is that it introduces bias to the findings because cases with payment errors are more likely to receive additional scrutiny than cases without those findings. To ameliorate this bias, for each case a State appeals, FNS could randomly select from the same reference period one or more uncontested cases with characteristics that are broadly similar to the contested case. The arbitration panel would then review both cases.

3. Organizational Implications

A successful one-tier QC system would need sufficient quality assurance for all stakeholders to feel confident in the results, but higher levels of quality assurance require additional staff. These organizational implications of the quality assurance design options are summarized in table 3.4.

Table 3.4. Organizational Implications of Quality Assurance Design Options

Option	Organizational Implications
Conduct second-party reviews on all versus a subset of cases	▪ Completing second-party reviews for the full caseload would require more staff than if such reviews were only conducted for a proportion of the cases.
Conduct independent second-party reviews	▪ A full independent review (not just a desk review) would increase the amount of time the reviews take and would therefore increase the number of staff needed to conduct them.
Assemble an arbitration panel	▪ The workload of the panel would largely be driven by the number of cases the States appeal; rigorous quality assurance earlier in the process would minimize the number of appeals. ▪ Reviewing cases disposed of as correct to minimize potential for bias would increase the panel's workload.

F. Postreview Procedures

After all cases have been reviewed, payment error rates are calculated and published and States are held accountable for their performance. There are several options for how these steps can be accomplished in a one-tier system, but the variations would have few implications for the organization of the system. The design options at this stage, particularly as they relate to error rate calculation, are largely driven by decisions made early in the process, in particular with regard to reference month and sampling. Below is a brief discussion of error rate estimation and accountability.

- After QC reviews are complete for a fiscal year, FNS would need to **calculate error rates**. At a minimum, this would include a payment error rate for each State and a national payment error rate. The methodology for computing error rates would necessarily vary from the calculation used in the current, two-tier system, which makes adjustments for differences in findings in the two tiers.

  The methodology would also need to account for decisions made in the sampling stage. Currently, the national error rate calculation adjusts for differences in the likelihood of being selected for QC review across States. If FNS chose to oversample relatively high-risk cases, or to have higher sample sizes in States with higher error rates, the error rate calculation would also need to weight cases accordingly in the error rate calculation.

  FNS could choose to calculate other performance measures using QC findings. For example, if negative case reviews continued to be a distinct portion of the QC process, FNS could calculate a measure similar to the current CAPER. FNS also currently calculates measures of application processing timeliness in conjunction with QC. New measures might include estimates of the relative contributions of client error and State error to the overall error rate.

- The error rates would be used for **accountability**. In the two-tier system, FNS uses error rates to assess financial penalties on States with high error rates for at least 2 consecutive years. High error rates are determined relative to other States; that is, the States with the highest rates received penalties.[26]

  In a one-tier system, FNS could reconsider the method for determining the threshold for the penalty. The penalties used in the current system promote competition between States; another approach could increase collaboration and sharing of best practices across States, leading to lower national error rates. For example, in lieu of a relative target, in which a State's penalty depends in part on other States' performance, a fixed threshold could be established prior to the QC year. This approach would provide States with a clear target for performance, which could be especially effective in a QC system that uses the certification month as the reference period because these certification decisions would take place after the target for the fiscal year is announced.

[26] Until the passage of the 2018 Farm Bill, FNS also used error rates to award financial bonuses to States with low error rates. The Farm Bill removed the bonuses but maintained the system of penalties.

Chapter 4. Data-Sharing Infrastructure Needed for a One-Tier SNAP QC System

Data obtained through Federal, State, and commercial databases play a crucial role in confirming information on household circumstances in lieu of information supplied by households. Using existing databases to obtain or verify information lowers the burden on clients and reviewers alike. Under the current two-tier QC process, State reviewers use a wide range of data sources to conduct these verifications. Federal reviewers, however, have limited access to the same databases partly because of the challenges associated with securing data-sharing agreements at the Federal level. Legal barriers also play a role: some Federal agencies have legislative mandates to share data with State SNAP agencies but no similar instructions to share data with FNS. Similarly, States face strict security requirements associated with the use of the databases, which restrict whether, how, and with whom the results of these data matches can be shared.

This chapter provides an overview of the data-sharing infrastructure in the current two-tier system, including a summary of the data matches conducted by States and benefits and limitations of those matches (section A). Following is an outline of how a data-sharing infrastructure might look in a one-tier system, including a discussion of the feasibility of having FNS access various State, Federal, and commercial data sources (section B).

A. Data Matching Under the Current Two-Tier System

States use a variety of data sources to verify earnings and employment, other income, assets, and other eligibility criteria. States also use various databases to identify alternative contact information for hard-to-reach households. However, there is variation by State as to which data sources are used—and sometimes how they are used. This section provides an overview of the data matches States conduct for QC and some of the challenges associated with data matching.

1. Overview of State Data Matching

Table 4.1 summarizes the common data sources States use for QC based primarily on the data-matching practices in three study States and supplementary information from several ROs; this is not intended to be a comprehensive list of data sources. States commonly rely on other State and local agencies—such as State departments of labor, justice, and revenue—for some verification information. Several Federal databases are also broadly used. Currently, only one commercial source is used fairly widely by the States. Some sources are used routinely during QC reviews, while others are used in more limited circumstances.

Table 4.1 Databases Used by States for SNAP QC Data Matching Under the Current Two-Tier System

Databases	Details
State and Local	
State tax data, Department of Labor data, business registry	These types of data sources are used to verify earnings and employment; business registries can be useful in verifying self-employment. State tax data are not widely available, but State QC staff find State data on withholdings to be more up to date than data from the Internal Revenue Service (IRS).

Databases	Details
Eligibility systems for other benefit programs	States use their own eligibility systems to verify receipt of benefits from programs such as TANF and other State systems to verify receipt of benefits such as UI. Some States also conduct data exchanges with neighboring States to identify duplicate participation. State QC staff may also use the State child support system to identify nonresidential family members.
Department of Motor Vehicles (DMV)	DMV data can be used to verify motor vehicle assets and as a source of contact information.
State and local prison and jail databases	States consult State and local databases of prisons and jails to determine incarceration status. State QC staff reported that these databases were more comprehensive and current than Federal prisoner data.
Federal	
NDNH (ACF)	NDNH contains three files: (1) the new hire file, which provides information on newly hired employees; (2) the quarterly wage file, which contains wage information on individual employees submitted by employers to State workforce agencies; and (3) the UI file, which contains State workforce agency data on individuals who received or applied for unemployment benefits. NDNH was established to facilitate the collection of child support payments within ACF but is also required by law for use by State agencies in SNAP eligibility determination. The most recent NDNH data cover the previous calendar quarter, so the database is not a comprehensive source of income data for the QC sample month. Although the data in NDNH are somewhat dated and not generally available for the QC sample month, some State QC reviewers find it useful in understanding a household's employment history. More generally, routine batch matching of NDNH to the full SNAP caseload produces a substantial number of false positives that must be investigated by local agency staff. There is a fee for the use of NDNH.
Systematic Alien Verification for Entitlements (SAVE) (DHS)	This database provides confirmation of immigration status or citizenship. Immigration status is checked during QC for any household member who is not a citizen (citizenship is verified at certification and not expected to change between certification and the sample month). There is a fee for the use of SAVE.
Electronic Disqualified Recipient System (eDRS) (FNS)	eDRS provides information on disqualification from SNAP.
BENDEX and SDX (SSA)	States rely on data from SSA to verify receipt of Social Security benefits. BENDEX provides Title 2 retirement and Social Security Disability Insurance (SSDI) benefits and earnings data through a batch data exchange. SDX provides Title 16 SSI benefits data through a batch data exchange. Alternatively, data on Title 2 and Title 16 benefits can be obtained through SSA's State On-Line Query/State On-Line Query-Internet (SOLQ/SOLQ-I), which provides real-time access to SSA data. Some States obtain citizenship status data through SSA in addition to SAVE.
Prisoner Update Processing System (PUPS) (SSA)	PUPS contains information on confinement date, release date, and facility of Federal prisoners. State QC staff indicated data contained in PUPS were relatively old and more current information could be obtained from State systems.
Death Master File (SSA)	The Death Master File contains the Social Security number, name, date of birth, and date of death of deceased individuals.

Databases	Details
Commercial	
The Work Number (Equifax)	Most States have contracts with Equifax to access The Work Number for information on employment and earnings. This is by far the most expensive data source States use. States pay per match; depending on the State and the number of matches, a State may pay between $900,000 and several million dollars annually for access to this database. State QC staff reported The Work Number is valuable for QC because it provides data that are more timely and of higher quality than data from other sources. However, they also expressed concerns about the high cost for access to the database and the potential for the per-match fee to increase in the future.

2. Challenges Associated With Data Matching

While many databases provide valuable data for verifying elements of eligibility, study States and ROs also reported several challenges associated with data matching that should be kept in mind when considering a data-sharing infrastructure for a new QC system.[27] These challenges include navigating many, sometimes complex, systems to access the matches; negotiating and maintaining data-use agreements; limitations on how data matches can be documented and shared; mismatch between the reference period of the review and the timing of the data match; and data quality issues (e.g., frequency of false positives).

Access to data matches. Most States have a complicated, patchwork process for data matching. Some matches are conducted automatically in system-to-system match processes; some systems require batch matching; and some systems require the reviewer to go through separate login screens, which can be a cumbersome process. A few data-match systems are linked to State eligibility systems; in some States, these links trigger notifications to eligibility workers in the event of a positive match. Other States have developed more integrated data systems, such as Virginia, Florida, and Utah, which have developed customized systems to centralize data matches and present the eligibility worker with real-time verification information. Such integrated systems also benefit QC. See chapter 5 for further discussion of data-matching systems.

Negotiating and maintaining data-use agreements. Obtaining access to many databases requires establishing agreements between the entity that owns the data and the entity that wants to use the data; such agreements can take significant time and effort to negotiate. They can include memoranda of understanding (MOUs), Computer Matching Agreements, and/or Information Exchange Agreements. These agreements are established for a certain period of time and must be renewed after that period ends. The terms of these agreements vary depending on the standard data-sharing practices of the agencies involved and the statutory and regulatory parameters affecting the individual data sources.

Limitations on documentation and sharing of data matches. The terms of the data-use agreements may limit how the data can be used and shared. For example, States reported security protocols dictating that screen shots of some data matches (e.g., NDNH, SSA, IRS data) could not be used for QC purposes and shared with outside entities such as FNS.

[27] In a 2016 U.S. Government Accountability Office (GAO) report, the only Federal databases identified as useful for eligibility determination by more than half of the States were BENDEX and SDX (U.S. GAO, 2016b).

Reference period of the data match. The reference period of the data in each data source can also be a challenge. In the case of the current QC system, users need data for at least the sample month, and often the certification month and some of the intervening months. However, many of the Federal databases, in particular, have outdated data that precede the sample month. For example, NDNH, which contains employment and earnings information, rarely contains sample month data at the time of the review, but NDNH's data can be used to develop an understanding of the household's employment history that can be fleshed out during the household interview. Verification of sample month employment and earnings would have to be obtained through other means.

Data quality concerns. Finally, there are occasionally quality issues associated with the matching process. States may get false-positive match results during routine caseload batch matching that requires additional investigation to resolve, drawing on limited State resources. Some data sources are outdated or incomplete, such as SSA's prisoner verification system, which produces false negatives. Similarly, SSA's Death Master File does not include death information for all deaths in the country (U.S. SSA, n.d.a).

B. Data Matching Under a One-Tier System

Under a one-tier system, Federal QC reviewers would need to verify the same data elements to confirm a household's eligibility and benefit levels as verified by State reviewers under the current system. Similar to those used by the States, these elements could be verified using various State, Federal, and commercial data sources, as described in this section. There are challenges associated with using all the available data sources, including out-of-date data, legal barriers to accessing the data, and costs for using the data. Considering these limitations, the QC process would likely continue to require new data collection on households' circumstances, particularly if the reference period continues to be Comp 1/Comp 2 or the sample month. However, a combination of data from several data sources would provide useful information for the QC review.

1. State and Local Data Sources

As described above, States use a variety of State and local resources to verify elements of eligibility during the QC review, including State departments of labor and taxation and State prison systems. However, obtaining direct access to these resources by Federal QC reviewers would be a formidable challenge for a one-tier QC system. Establishing access to each of these data sources would typically require an entity, such as FNS, to establish an MOU or another type of legal agreement that would specify user access to the data and the purposes for which the data could be used. There would also be a provision for secure storage and transfer of data. Such agreements would need to be established between FNS and each of the relevant State and local agencies.

Although these systems can be useful, establishing the necessary data-sharing agreements and maintaining the secure transfer of data, data storage, and user permissions for multiple databases in 53 States would not be worth the return on the investment. Although this would reduce the independence of the review, as discussed in chapter 3, FNS could consider requiring States to conduct these matches internally and provide documentation from these systems to data collectors after the cases are sampled for QC review. If the reference month for QC reviews is the certification month instead of the sample month, much of this documentation would likely already be in the case file, with no need for State personnel to conduct additional matches.

2. Federal Data Sources

A one-tier system should make use of existing Federal data sources for verification and supporting documentation to the extent possible. Because data sharing across Federal agencies is currently limited, FNS would face difficulty establishing the data-sharing infrastructure in the short term for Federal reviewers to conduct all the same matches as State reviewers. While FNS could relatively easily establish access for Federal reviewers to the FNS and DHS data sources as described in section A below, FNS would face substantial challenges establishing access to the ACF and SSA databases, as detailed in section B. Section C describes several other Federal data sources that could be considered for a one-tier system, but for which drawbacks likely outweigh the potential benefits.

a. Federal data sources with few or no barriers to access

Two Federal databases would be relatively easy to incorporate into a one-tier system: eDRS and SAVE. FNS maintains and therefore already has access to **eDRS**, which would provide information on disqualification from SNAP. States are currently required to use this database for eligibility and during QC, and FNS should continue to use it under a one-tier system. DHS administers **SAVE**, which provides confirmation of immigration status or citizenship. Although other sources contain data on citizenship status, SAVE is likely to have more information on the immigration status of noncitizens, which is needed given the complexity of SNAP's eligibility rules related to immigration status. FNS does not currently have access to SAVE but could establish access; agencies that want to obtain citizenship and immigration status through SAVE must register, submit an application, sign a memorandum of agreement upon approval of the application, and pay a usage fee. Because this data system was designed to be shared with other programs for verification purposes, it would be relatively easy to implement the necessary data-use agreements.

b. Federal data sources with more barriers to access

Access to ACF's **NDNH** and SSA's various databases (e.g., **BENDEX**, **SDX**) would be significantly more challenging to establish for FNS reviewers in a one-tier system. Because of the limited existing data-sharing infrastructure across Federal agencies, establishing data-sharing agreements and processes between FNS and other Federal agencies would be uncharted territory and would likely require legislation and substantial political will. For example, while CMS's Federal Data Services Hub offers an example of sharing of certain data sources at the Federal level, this infrastructure was built with a unique level of strong political backing as part of signature presidential legislation, the Patient Protection and Affordable Care Act. States use Hub data for verification purposes for CMS programs, but use of the Hub for other purposes (e.g., for SNAP verification) is strictly limited by the data-use agreements.

To establish access to other Federal agencies' data, FNS would need to establish and maintain timely data-use agreements with these agencies, which would likely require significant effort. While the process of negotiating interagency data-sharing agreements would depend on the parties involved, and while some parties have established standard processes and agreement language, legal concerns regarding privacy and data security compliance could result in a lengthy negotiation and legal review process. For example, FNS's recent experience with eDRS in implementing computer-matching agreements with the 53 SNAP State agencies provides insight into the level of effort that may be required for future data agreements. During this initial process for eDRS, a wide range of offices within USDA were involved—including the privacy offices at FNS and USDA, USDA's data integrity board and Office of General Counsel, and the Agriculture Security Operations Center—and approval for the

agreements was granted by OMB. It took FNS 3 to 4 years to establish an 18-month agreement with each of the 53 State agencies; each renewal will be for a 12-month period.

The study team encountered substantial difficulty identifying contacts at Federal agencies to discuss the hypothetical feasibility of establishing such agreements. Outreach to many contacts identified through referrals or internet research was unsuccessful, often because of lack of responsiveness. Even several personnel within CMS were unable to identify those who should be contacted for inquiries about CMS's Hub data. ACF personnel were responsive about inquiries into accessing NDNH data but indicated no such discussions could be held without review by the Office of General Counsel to confirm statutory authority for FNS to use the data. FNS encountered similar difficulty in past efforts to navigate discussions about Federal data-sharing.

Given these challenges, the implications for FNS's ability to gain access to Federal databases for costs and timeline are unknown. However, while it is not clear exactly how long it would take to establish data-use agreements for all Federal systems currently accessed by State QC reviewers, it is safe to assume many data-use agreements would require prolonged efforts. This is especially true if the data-use agreement is not a high priority for both agencies that are party to the agreement.

c. Other Federal data sources

Several other Federal data sources contain data that could potentially be useful for QC reviews, but the limitations to the data or the barriers to using the data sources outweigh the potential benefits. These sources are summarized in table 4.2.

3. Commercial Data Sources

The private sector increasingly offers products for data verification and analytics services that could be useful in a one-tier system to enhance verification capacity and to offset the challenges that would be involved in establishing access to many of the State, local, and Federal resources currently used in the two-tier system. Companies such as Equifax and Experian have developed platforms to enable State eligibility workers to verify applicant income, asset, and other information (table 4.3). Firms such as Appriss track incarceration history, and LexisNexis has services to detect identity theft. These vendors offer data products that can pull data from many sources, including one another. For example, Equifax can offer a customizable package of data offered through a single interface that includes incarceration data from Appriss, employment and earnings data from The Work Number, and contact information from LexisNexis.

FNS currently holds a contract with Equifax for use of The Work Number for Federal QC re-reviews.[28] FNS also pays half of States' administrative costs for their use of the database. Under a one-tier system, FNS could establish a contract with Equifax or another commercial entity to access a customizable package of participant data (employment, incarceration, financial assets, and/or identity/contact information).

[28] FNS's current contract with Equifax for access to The Work Number in support of Federal QC re-reviews includes an annual ceiling of $25,000 for a limited number of matches.

Table 4.2. Other Federal Data Sources for SNAP Household Eligibility Verification

Data/Resource	Lead Agency	Description
Federal Data Services Hub	CMS	The Hub was initially established to verify applicant information to determine eligibility for enrollment in qualified health plans and insurance affordability programs. Data elements include citizenship and immigration status, enrollment in various health insurance programs, incarceration status, American Indian status, employer information, veteran status, and household income. Data in the Hub come from a variety of sources, including CMS, IRS, DHS, the Department of Justice, the Department of Veterans Affairs, and private sources such as Equifax. According to a 2016 GAO report (U.S. GAO, 2016), FNS and CMS are considering allowing States to access The Work Number data via the Hub when determining eligibility for both Medicaid and SNAP. As of the time of data collection for this study, no States were using the Hub for SNAP eligibility or QC. Unlike the other federally administered databases discussed here, there is no current procedure in place for requesting access to the Hub. As for other data sources, FNS would likely need congressional authorization to use the Hub for QC. It is unclear whether data in the Hub would be useful for QC (e.g., whether it would contain monthly income for the appropriate time period).
Do Not Pay	U.S. Department of Treasury	Do Not Pay is a tool designed by the U.S. Department of Treasury to prevent improper payments. Agencies can check the status of individuals through an online search or check full caseloads through batch matching. The resources included in Do Not Pay are the Credit Alert System, the Death Master File, the List of Excluded Individuals and Entities, the Office of Foreign Assets Control, the System for Award Management Entity Registration Records, the System for Award Management Exclusion Records, and the Treasury Offset Program Debt Check. Most of the current contents of the Do Not Pay system are not relevant to SNAP. However, because Treasury plans to continue to expand the data included in Do Not Pay, FNS should continue to monitor the development of the system to assess whether there is more useful information for SNAP.[a]
National Accuracy Clearinghouse (NAC)	FNS	NAC began as a pilot demonstration within five State SNAP agencies: Alabama, Florida, Georgia, Louisiana, and Mississippi. This pilot was funded through a grant from FNS. NAC is operated by LexisNexis and centralizes real-time information on SNAP participation in those five States, with the goal of minimizing dual participation.[b] The 2018 Farm Bill (Pub. L. 115-334) contains a provision for the development of a national version of NAC, the Duplicative Enrollment Database. The legislation specifies that the initial data match for the database must occur within 3 years of the date of the enactment of the bill. This type of database provides useful information on disqualification and dual participation and could be used under a one-tier system if more States were included.
Public Assistance Reporting Information System (PARIS)	ACF	PARIS is a data-matching service that provides information on individuals participating in SNAP, Medicaid, TANF, General Assistance, SSI, and Workers' Compensation programs in States that participate in PARIS (PARIS, 2018).[c] PARIS is used to validate an individual's eligibility for and reduce dual participation in these programs. State agencies submit monthly files to the Defense Manpower Data Center (via the National Institutes of Health) and receive a return file for analysis. PARIS data matches occur quarterly, and consequently, results for some SNAP participants may not be available for several months. For the purpose of minimizing dual participation, PARIS has content similar to that in NAC. NAC is more limited as it currently contains data only on SNAP, whereas PARIS contains data on many benefit programs in multiple States (which could be used to verify other sources of unearned income). If NAC were not expanded, however, PARIS could potentially be a useful component of a one-tier QC system. Currently, not all State SNAP agencies use PARIS, however, and study respondents had concerns about the quality and timeliness of PARIS data for SNAP QC purposes. If FNS were to pursue use of PARIS for QC, further inquiry should be made into its utility.

[a] Do Not Pay was not used by any of the study States.
[b] NAC currently contains data only on SNAP, but LexisNexis plans to add data for other programs such as Medicaid; CHIP; TANF; and the Special Supplemental Nutrition Program for Women, Infants, and Children.
[c] As of August 2018, forty-nine States, the District of Columbia, and Puerto Rico participate in PARIS; Alaska, Guam, and the Virgin Islands do not participate.

The advantages of using a commercial provider include up-to-date data, additional data quality assurance performed by the provider, and a limited number of data systems a reviewer needs to check. Using a commercial provider would also reduce the burden on the States for providing the results of data matches. One drawback of these data sources is that coverage is not 100 percent. For example, the Equifax products do not include employment information from all employers or financial asset information from all banks. A second drawback is the fee for accessing these data. It is unclear what the fees would be; FNS has received indication in previous discussions that per-match prices would be higher than public rates available through GSA. To address these limitations, FNS's data-matching protocol could follow a "waterfall" approach, in which QC reviewers first attempt to verify household information in databases such as NDNH and turn to vendor-supplied data only when verification is not achieved.

Table 4.3. Commercial Data Sources for SNAP Household Eligibility Verification

Data/Product	Vendor	Description
Incarceration Intelligence	Appriss	Provides data on more than 80 percent of incarcerations across the country. These data from State and local prisons help agencies identify participants who are ineligible to receive benefits as a result of being imprisoned.
The Work Number	Equifax	Includes income and employment information obtained from more than 18,000 employers. The Work Number has data on 85 million currently employed individuals and 300 million inactive employment records. However, because The Work Number does not include data from many small businesses or from self-employment, its coverage is incomplete. Depending on the State, The Work Number may contain data on between 40 and 50 percent of currently employed individuals. Despite this limited coverage, many States find the up-to-date data included in The Work Number more valuable than data from NDNH.
Eligibility Advisor	Equifax	The Eligibility Advisor provides State human services agencies with real-time access to data from The Work Number, including information on financial assets obtained from a consortium of large financial institutions, information on real property assets obtained through public deed records, and information to detect identity theft. Equifax plans to add data on vehicle assets from State departments of motor vehicles and incarceration data from Appriss to the Eligibility Advisor.
Identity/Contact Information	LexisNexis	LexisNexis offers data resources on household addresses and phone numbers that could assist with locating households or verifying an individual's identity. These resources could be helpful for completing SNAP QC reviews if contact information in the SNAP eligibility system is no longer accurate.

Chapter 5. Technological Infrastructure Needed for a One-Tier SNAP QC System

For a one-tier system to be feasible and cost-effective, virtually every aspect of the QC process—from sampling to data matching, and from interviewing to determining payment error status—would require IT. The current two-tier system similarly relies heavily on IT, and this existing technology—SNAP QCS—could be the foundation for the IT infrastructure in a one-tier system. However, FNS would need to enhance the functionality of SNAP QCS and invest in software and storage for a viable one-tier system. This chapter describes the current technological infrastructure for the two-tier QC process (section A) and provides an overview of the infrastructure that would be needed to implement a one-tier process (section B). Findings are based primarily on discussions with study States, FNS, and the current SNAP QCS vendor.

A. Overview of Current Technological Infrastructure for QC

The IT infrastructure supporting the current two-tier QC process is a complicated patchwork of State, Federal, and commercial systems (figure 5.1). Key components of the infrastructure include—

- State eligibility systems
- Data verification systems, such as State, Federal, and commercial systems
- SNAP QCS/ROQCTS
- Additional tools reviewers use

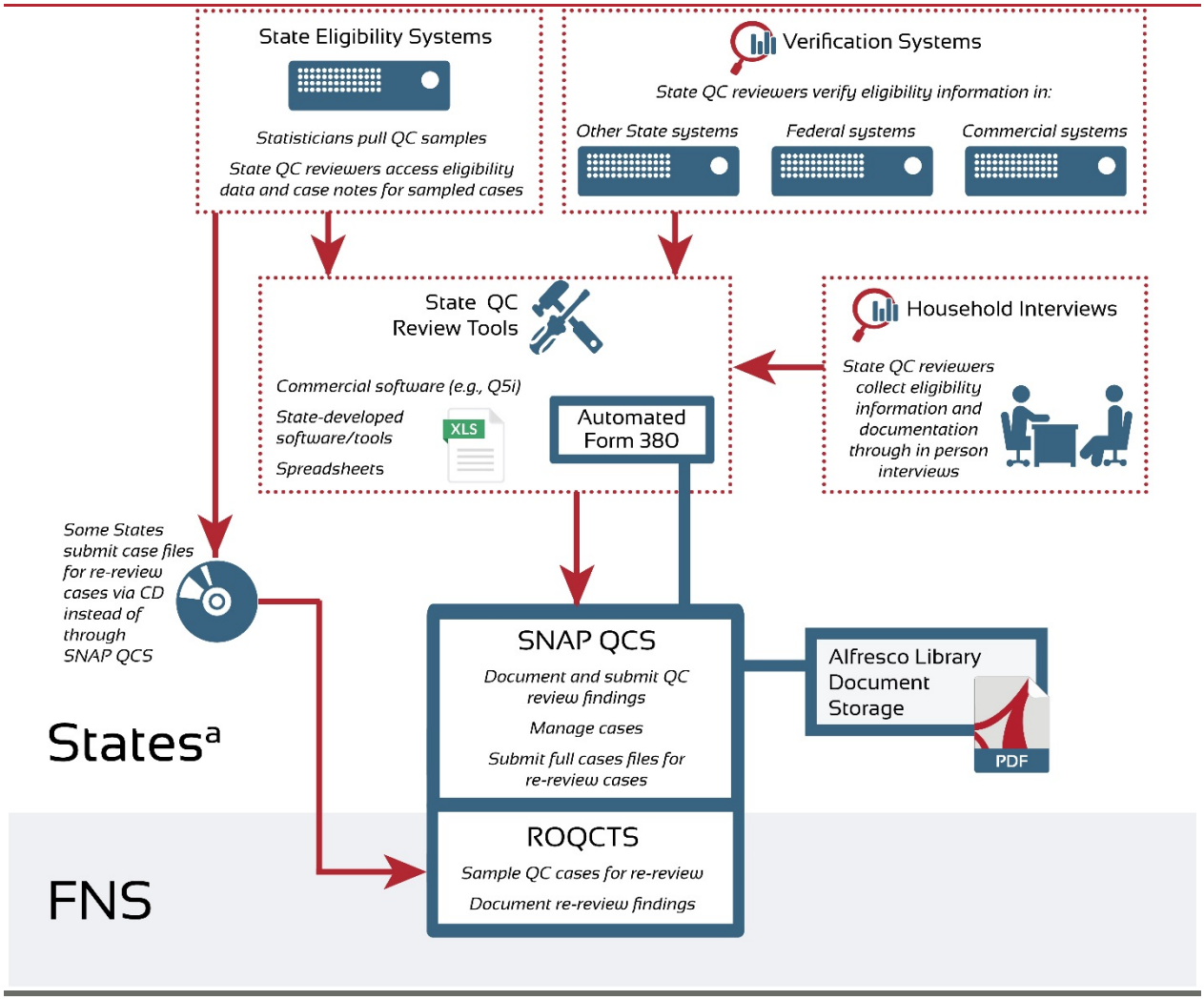
Technology support for the QC process begins when States pull the QC sample from their State eligibility systems. State QC reviewers then access the State eligibility system to pull case file and verification data for sampled cases. Reviewers also collect verification data from other State systems, Federal databases, and commercial databases, such as Equifax's The Work Number, as described in chapter 4. Depending on the State, reviewers use a variety of tools to track reviews and determine errors. These include the Automated Form 380, which links directly with the SNAP QCS system; standard commercial software, such as Microsoft Excel; proprietary systems built expressly to support SNAP QC; and other systems States develop to track and manage QC reviews.

State QC reviewers transmit QC information to FNS primarily through SNAP QCS. QC review findings are entered directly into SNAP QCS. Some States use the Automated Form 380, which transfers information directly into SNAP QCS, while other States upload the FNS Form 380 document into the system.

Federal reviewers conduct a re-review of a sample of QC cases. The re-review sample is pulled from SNAP QCS. Federal reviewers use ROQCTS, which links with SNAP QCS, to manage the Federal re-reviews. States submit case files and verification documentation for re-review cases through SNAP QCS or on compact discs (CDs).

The remainder of this section describes each of the components of the existing QC IT infrastructure.

Figure 5.1. IT Infrastructure for the Current Two-Tier SNAP QC System



[a] States have read-only access to cases in SNAP QCS after review findings are submitted to FNS.

1. State Eligibility Systems

State eligibility systems play an important role in QC reviews. State statisticians select a sample of SNAP households from their State eligibility system and send the samples to the SNAP QC review team. SQCRs then access their State SNAP eligibility and document imaging systems to retrieve eligibility data, verification documentation, and case notes for sampled cases. Most SQCRs have read-only access to these systems, which ensures reviewers cannot make changes to the data.

The three study States all have older eligibility systems that use mainframe infrastructure and programming languages, such as COBOL or NATURAL, although one State was in the process of rolling out an integrated eligibility system. Although most States nationwide have a single eligibility platform for their SNAP cases, some States that administer SNAP at the county level have separate eligibility systems for groups of counties. In States with multiple SNAP eligibility systems, SQCRs must access each system separately.

State SNAP eligibility systems are integrated with eligibility systems for other State programs to varying degrees. Integrated systems enable QC reviewers to verify information for sampled cases from all State programs that use the system. At the time of this study, one of the study States was in the process of implementing a new system that would integrate SNAP and Medicaid. According to RO staff, many States are in the process of upgrading their SNAP eligibility systems and integrating them with their Medicaid eligibility systems.

2. Data Verification Systems

SQCRs must verify the accuracy of information in the case file and collect information about the case for the review month. SQCRs interview and collect documentation from sampled households. States use different methods for retaining electronic images of paper documents. Some let their reviewers use smartphones to photograph documents, some are considering tablets or portable scanners that reviewers can use to scan in the documents, and some have clients bring their paper documents to a SNAP office to be scanned. In all cases, these documents are transferred to a network drive or some form of document imaging system so that SQCRs can access them. These documents are transmitted to FNS for cases sampled for the Federal re-review.

The technological infrastructure SQCRs use to access Federal and State systems to verify eligibility data also varies, both across the study States and across the different systems being accessed within States. The study States used a combination of the following processes for data verification:

- Daily, quarterly, or monthly batch matches are performed to acquire verification information for SNAP applicants. The SNAP IT office sends lists of SNAP applicant information to other State offices, such as the tax and labor offices. Those offices match the SNAP applicant data to their data using an automated system-to-system match process. The results of those matches are then sent back to the SNAP agency office, which uploads the results for eligibility workers and SQCRs to access.
- Social Security Numbers and SSDI information are autopopulated into the State's eligibility system based on information in SSA's BENDEX. Eligibility workers see this information when they log into the eligibility systems.
- States conduct matches by using a separate login to an external system to verify information. Examples of data that QC workers retrieve this way include prisoner and vital statistics data systems and commercial systems such as The Work Number.
- Some States have centralized, user-interface-driven verification systems that integrate the data needed for matches into one portal. The sophistication of such systems varies by State. In some, an eligibility worker can enter a client's Social Security Number into the system and all the data from the various sources needed for matching are immediately compiled into that one system. Other systems have only a certain subset of data available on the portal or application, such as SSI, TANF benefits, and DMV data. Virginia's Systems Partnering in a Demographic Repository (SPIDeR) is an example of a single-portal verification system (Piven, n.d.). In at least one other State, the matching process is built into the online application, so matches are automatically conducted when a household submits an application but before an eligibility worker reviews the file.

Some Federal systems, such as those for SSA and NDNH, have security requirements that do not allow staff to save an image of the information for documentation. In these cases, when a match occurs, State staff must conduct a secondary verification and document that secondary action in the case notes. Data systems may have additional security measures in place. For example, one State reported it must limit NDNH data access to a computer in a locked room.

3. SNAP QCS

FNS's SNAP QCS is the central application in the QC review process used by States to enter the SNAP QC review findings for each case for Federal review. The system uses a Microsoft Windows-based platform with a database to store data and a password-controlled, web-based user interface to enter and upload data. All 53 States use SNAP QCS to transmit Form FNS-380-1 and Form FNS-245 for active and CAPER cases, respectively.

SNAP QCS also offers an optional functionality some States use to manage QC workflows via the Automated Form 380 tool. This functionality includes data entry, search, and workflow tracking. States that do not use the Automated Form 380 tool can electronically upload their FNS Form 380 document into SNAP QCS.

SNAP QCS provides audit and status tracking for each case. Saved changes are available (where authorized) for comparison to prior iterations. SNAP QCS also contains edit check rules that prevent submission of information that violates business logic or other policy/regulatory guidance. In such cases, the system informs users of the issue and allows them to correct the data. Audit trails are also built into this system.

4. Additional Technology Used by SQCRs

Some States use a combination of spreadsheets and Microsoft Access databases developed in-house to track cases, document data matches and verifications, and perform calculations. In these States, SQCRs or administrative support staff typically enter findings manually into the required Form FNS-380-1 for active cases and Form FNS-245 for CAPER cases using the SNAP QCS interface and then upload the forms to FNS. However, some States use the Automated Form 380 to perform calculations, conduct data quality checks, and populate the required forms while still using spreadsheets or paper documents to track and document their cases. Still other States use a vendor-developed product for the QC review process. For example, one of the study States uses Q5i, a commercial product supported by Data Builders, Inc., which helps assign reviewers and supervisors to cases; enables reviewers to track, document, and review cases; and partially automates the completion of the required forms.

5. Technology Used by FQCRs

Federal QC staff use ROQCTS, a version of SNAP QCS whose functionality is limited to their needs. ROQCTS enables Federal QC reviewers to (1) subsample the State QC review cases, (2) review notes and findings, (3) manage workflows, (4) track case-related information, and (5) analyze and report on findings and case characteristics. As the Federal side of the system, ROQCTS is separated from the SNAP QCS side of the system that States use; Federal QC reviewers do not have access to SNAP QCS. ROQCTS has functionality to input data and case documentation but more limited functionality than SNAP QCS, reflecting the more complex review procedures at the State level. ROQCTS also allows Federal QC reviewers to communicate with States about their findings for each case. FNS OIT provides IT support to ROs for help with ROQCTS.

Federal QC staff use ROQCTS to select a subsample of cases received from States to conduct their re-review. States must provide Federal QC reviewers with case notes and supporting documents for cases that have been selected for re-review. Some States upload the case materials (e.g., as PDFs) via SNAP QCS, some send documents via CD, and in some instances, RO staff can remotely access the State system using secure virtual private network (VPN) connections and download the case notes and associated documents. Federal QC reviewers primarily rely on the information in the case file the States provide. They sometimes access The Work Number to verify wage information if it has not been provided. They also have access to eDRS. They do not have access to, or verify information against, any other Federal or State systems.

B. Technological Infrastructure Required for a One-Tier QC System

SNAP QCS, including the Automated Form 380, could form the basis for a one-tier QC system.[29] The existing SNAP QC system could be enhanced to support all QC processes that occur after selection of the QC sample and could store all data acquired on sampled households (see figure 5.2). A one-tier system's IT infrastructure would need to support the following processes:

- Transmitting sample (or sample frame) data to FNS
- Accessing data in State eligibility systems
- Conducting QC reviews and documenting findings
- Collecting and storing verification documents
- Accessing data verification systems

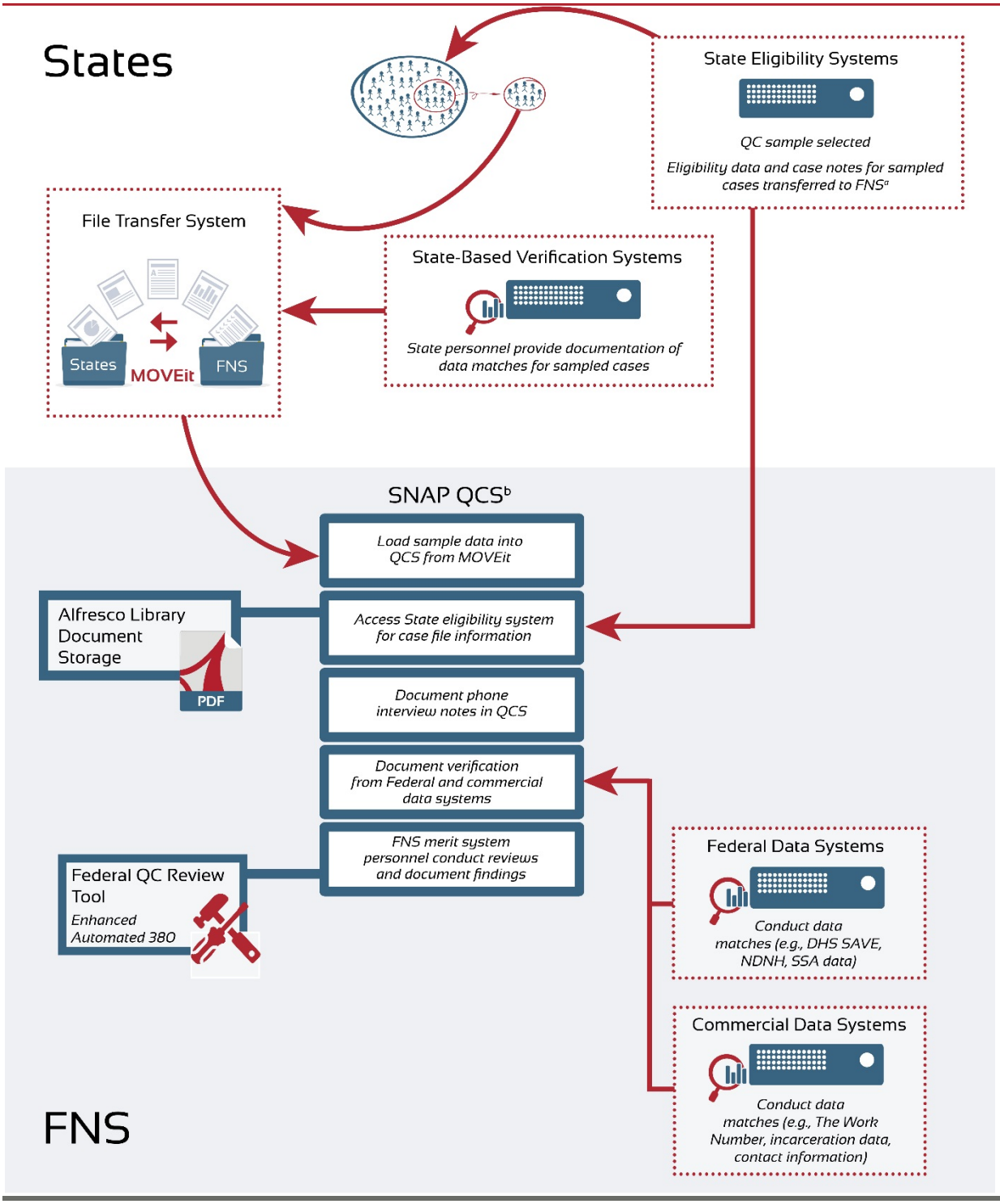
However, significant investment would be needed for enhancements to SNAP QCS, including the following:

- The Automated Form 380 would need to accommodate all State SNAP programs' policies, options, and waivers, including those with nonstandard benefit determination rules such as the Minnesota Family Investment Program (MFIP) that combines SNAP benefits and cash assistance.
- Varying access levels would be needed for State, Federal, and potentially contractor staff. For example, States would need read-only access to view QC results when finalized. If data collection contractors are used, they would need access to view case information and upload information and documents about cases. FNS staff would need various levels of access to enter, review, and edit case information.
- Functionality would need to be added to support secure client text and web uploading of client documentation.
- The system would also need to include case management functionality and store updated information on State-specific SNAP policies for reference during reviews.

The remainder of this section describes each of these key components.

[29] Because there would be only one tier, ROQCTS would no longer be used; the Federal reviewers would use an enhanced version of SNAP QCS.

Figure 5.2. IT Infrastructure for a One-Tier SNAP QC System



[a] If FNS selects the sample, States would transfer sample frame data through a similar process.

[b] States have read-only access to SNAP QCS to view cases when reviews are finalized.

1. Transmitting Sample Data to FNS

The starting point for a one-tier SNAP QC process would be pulling the SNAP QC samples. State eligibility systems would be the source of data for the QC samples. The most straightforward option for States to securely transmit sample data to FNS would be for States to use the MOVEit server now in place and hosted by FNS. Many States are already familiar with this software, and FNS has experience using it. MOVEit is a commercial off-the-shelf product for transferring files securely.[30] However, FNS would need to assess the ability of the current deployment of MOVEit to accommodate the increased amounts of incoming data and whether the transfer rate could be increased. Another option would be Secure File Transfer; for this option, FNS OIT would need to ensure the setup of the secure server and clients. Finally, if the files the States need to transmit are not large, States could encrypt the files and transmit them via email to FNS. In that case, FNS would need to ensure States use the NIST Advanced Encryption Standard to encrypt the files.

Who actually selects the sample would have implications for processing and storage capacity for both the alternative file transfer system (such as MOVEit) and SNAP QCS. If each State pulls its own sample (as is done in the two-tier system), States would send files containing case identifiers for all sampled households. FNS would then collect full eligibility information on each of the sampled households from State eligibility systems. If FNS conducts the sampling, States would transmit full sample frames to FNS each month. Once FNS pulled the sample, FNS would then collect full eligibility information on each of the sampled households from State eligibility systems.

2. Accessing State Eligibility Systems

Because of the variation and complexities of State systems, it is unlikely a single technology solution could be identified that would facilitate Federal reviewers' access into every State's eligibility system using common procedures. For the foreseeable future, any one-tier system would require a patchwork of procedures and technology to enable reviewers and contractors to access the systems within each State's unique parameters.

Once cases are sampled, Federal staff (and/or contractors) would pull case file information and relevant documents for the sampled cases directly from State systems (e.g., eligibility systems, document imaging systems). The technology and processes for providing reviewers with read-only access to State eligibility systems would be complicated and vary significantly by State. The complexities and variation would be driven in part by the limits of each State's existing IT infrastructure and by the degree to which State eligibility systems were integrated. For example, providing Federal staff direct access to integrated systems—where they could potentially view Medicaid or other program data they are not authorized to view—may be prohibited or may require States to ensure client information is appropriately firewalled from Federal staff and contractors.

A few States have already granted their respective ROs remote access to their eligibility systems, while others have not been able or willing to share access for various reasons. For example, several ROs and States cited system firewalls as the reason Federal reviewers cannot yet access State systems remotely. In one case, an RO has a dedicated computer in its office to access the system of one of the States in its purview. That computer cannot be on the USDA network, however, because the USDA network automatically updates a new version of Java[31] that is not compatible with the firewall on the State

[30] MOVEit uses Federal Information Processing Standards 140-2 validated by the National Institute of Standards and Technology's (NIST) laboratories and encrypts data at rest and in motion.

[31] JAVA is a programming language used on computers to allow programs to interface with one another.

system. Other States require Federal staff to be on site to access the eligibility systems because of security or other considerations; several States voiced concerns, for example, related to sharing PII. At least one State required its RO to sign a memorandum of understanding (MOU) to access the State system, and the MOU document has been stalled in a legal review.

If contractors access State eligibility systems remotely under a one-tier system, they would need to follow the same security verifications as Federal staff. For onsite access, contractors would need to be able to use laptops provided by FNS or desktops/laptops provided by the State. Current FNS policy prohibits the use of personal devices.

3. Conducting QC Reviews and Documenting Findings

FNS could use SNAP QCS to conduct QC reviews and document findings under a one-tier system. However, SNAP QCS would require enhancements to accommodate some of the required functionality and additional data needs. These enhancements should also address any existing issues with the application and make it as user friendly as possible. Because SNAP QCS is already functional, enhancing this system would take less effort than building an entirely new system from scratch.

SNAP QCS functionality includes detailed workflow management and supports the creation of review notes and findings, but this functionality is currently only available to States. Under a one-tier Federal QC system, Federal QC reviewers would use an enhanced version of SNAP QCS instead of the ROQCTS system used in the current process. Study respondents from both States and ROs expressed concern, however, that SNAP QCS can be difficult to use and would benefit from some improvements. FNS should assess the current capabilities of the system, conduct Joint Application Design (JAD) sessions[32] with users, and develop detailed requirements to understand what is needed to support a full one-tier review for 53 States. At a minimum, the enhancements should ensure—

- Supervisory staff could assign or reassign cases to QC staff (and/or contractors).
- If contractors are used to collect data, they could access information on sampled cases and upload case information, notes, collateral contacts, and supporting documentation acquired from State systems and interviews.
- Reviewers could see all their cases and progress indicators at a glance.
- Reviewers could track their cases through the QC process until completion.
- Reviewers (and potentially contractors) could communicate about specific cases, with that communication logged.
- Reviewers could see all their case information auto-populated in the Automated Form 380 tool, edit and add information as needed to document review findings, and upload the case to a supervisor upon completion.
- The Automated Form 380 tool could support QC reviews in all States (e.g., Minnesota's MFIP program).
- Reviewers (and contractors) could document all verifications including uploading supporting documents; supporting documents should be stored in SNAP QCS' Alfresco document storage and linked to the case.

[32] JAD is a methodology that involves the client or end user in the design and development of an application through a succession of collaborative workshops called JAD sessions.

- Interviewing staff, if different from the lead reviewer, could access case information and conduct and document an interview for a case on-the-spot when a household calls.
- Supervisors could verify case information and mark as complete or incomplete.
- Supervisors and reviewers could create case notes.
- Supervisors could customize and run reports on the review process.

SNAP QCS currently uses a Microsoft SQL Server suite of products. Because Microsoft SQL Server and the associated .NET products for web applications are industry standard, FNS could continue using this suite but should consider upgrading to the most recent version to take advantage of "fixes" and newer features. Data from the States should be virtually separated using dedicated databases, schemas, or database partitions and access controls, ensuring Federal staff and contractors could access only the data from the States assigned to them. Microsoft SQL Server contains SQL Server Integration Service (SSIS), which could be used to parse, validate, transform, and load data from the State SNAP files into the SQL Server database. SSIS could be used to specify data transfers that can run on demand or on schedule.

a. State policy information database

To support a one-tier system, FNS (or a contractor) could develop and update a centralized database of State policies, options, and waivers prior to each review year. Throughout the year, reviewers should be able to update this database whenever they learn of a policy change or nuance during the course of a review, or when the State alerts FNS to a change or correction. This database should be stored in conjunction with SNAP QCS application data but in a dedicated database. SNAP QCS would require enhancements to ensure—

- Reviewers could use an interface to update the policy database and access it while conducting their review.
- Reviewers could use the system knowing that all State-specific policies (e.g., options, waivers) are incorporated in the review interfaces.

b. Record-keeping requirements

FNS could make improvements to SNAP QCS storage and backup. While FNS requires data be retained for 3 years (Legal Information Institute, n.d.) respondents indicated SNAP QCS data are rarely purged from the application system. FNS should implement a robust archival or data backup system involving a combination of two types of backups: (1) a backup database separate from the SNAP QCS application from which users could retrieve data immediately if required, housed in a secure facility; and (2) archival storage. The backup database could be another SQL Server database. FNS could continue to use OIT's current processes for data archival. FNS could also consider using a cloud environment compliant with the Federal Risk and Authorization Management Program, such as the Amazon Web Services GovCloud environment for the backups.

At this time, data are never purged from the SNAP QCS database. However, under a one-tier process, SNAP QCS would need to accommodate full sample case data and the associated documentation for all States. Maintaining this increased volume of data in the database could increase storage cost. In a one-tier system, after QC reviews are finalized, the data could be backed up monthly or quarterly to another database, leaving only the current review period's data in the SNAP QCS application. Sample datafiles and SNAP case files could also be archived to cold storage after the reviews have been completed and

the error rates finalized. SNAP QCS application data and the associated case documents older than 3 years could be archived to cold storage or purged. Cold storage usually entails storing database dumps and files on disc; some time and effort is required to restore the data.

4. Collecting and Storing Verification Documents

In a one-tier QC review process, reviewers and/or contractors would need to verify eligibility information by collecting documents from sampled households and collateral contacts. If documents are collected during an in-person interview, reviewers would need a mobile device such as a phone, tablet, or portable scanner to scan documents at these interviews. Ideally, these devices should be FNS-issued tablets equipped with antivirus and security software. After photographing or scanning the documents, data collectors would need to use a secure internet connection, preferably from within a VPN, to upload the documents to the central document storage.

For interviews conducted by phone or video, FNS should establish a secure process clients could use to submit documents. In particular, FNS should establish a secure, mobile-enabled, web-based portal where clients could upload documents. FNS should explore whether existing commercial products could be used to facilitate document transfer. These tools should be assessed on client usability, client costs (e.g., costs for downloading applications and/or for their phone's data plan), and security. If a commercial product is not available, FNS may need to develop an application to support this functionality. FNS could also establish a secure phone number clients could use to text photos of supporting documents. However, this approach may not work for clients who incur fees for text messaging.

5. Accessing Data Verification Systems

Federal staff and contractors would need to verify SNAP household information using data matching in State, Federal, and other systems. For verifications against State systems other than the SNAP eligibility system, FNS could consider requiring States would conduct the matches and provide the results, as discussed in chapter 4. For accessing Federal and other systems, FQCRs would need to follow the access and security protocols outlined in the data-use agreements establishing access to those systems.

6. Future Enhancements

In the long term, an enhanced technological infrastructure may facilitate solutions that would offer greater efficiencies in the QC system than are available under current circumstances.[33] FNS does not currently have remote access to all State eligibility systems. Although FNS requires States to permit Federal reviewer access to State systems (USDA FNS, 2016a), ROs report difficulty establishing offsite access because of firewalls, security protocols, and limited access to non-SNAP program data. Similarly, data sharing across Federal agencies is currently limited: complex regulatory and legislative rules limit what data can be shared, with whom, and for what purposes (see chapter 4). Once established, direct access to SNAP caseload data in State systems and more integrated data sharing at the Federal level

[33] Enhancements discussed in this section are not reflected in the staffing and cost estimates referenced in appendices D and E.

would offer FNS some opportunities to streamline and enhance functionalities in the SNAP QC process, such as the following:

- With direct access to State SNAP systems, FNS could pull the sample frame data directly, rather than having the States provide it. Ultimately, the process of pulling the frame data and conducting the sampling could be automated each month.
- Similarly, FNS could consider software solutions to pull the caseload data from State systems for sampled cases, assign reviews, and populate elements of the QC review forms, similar to software used by some States such as Q5i.
- With FNS access to Federal data systems needed for QC reviews, such as SSA data, SAVE, and NDNH, FNS could consider developing a centralized portal that would pull together all matches needed for a QC review in one interface, similar to Virginia's SPIDeR system. Such an interface could include both Federal and commercial data sources, similar to CMS Hub's inclusion of Federal data and data from Equifax's The Work Number.[34]
- Ultimately, with enhanced access to verification data from a variety of sources, automation could be introduced into the SNAP QC system so that matches could be automatically conducted on sampled cases, minimizing the need for reviewer effort. This might eliminate the need for household interviews in some proportion of cases.[35]
    - FNS could also consider contracting with a commercial vendor to automatically match the entire QC sample against all available data (e.g., incarceration, employment and earnings, assets, identity and contact information) and create a risk score for likelihood of improper payments.

[34] Alternatively, Congress could consider expanding access to the Hub for SNAP and other programs to centralize verification data needed for Federal programs. Before pursuing this scenario, however, FNS would need to closely examine the data available in the Hub and whether they would be sufficient for SNAP QC. Additional data may need to be added to the Hub to meet SNAP's purposes and ensure data are timely enough to verify household circumstances for the reference month.

[35] Some elements may not be verifiable in existing Federal, State, or commercial databases. Self-employment and household composition, for example, may be difficult to verify without contacting the household or collateral contacts. If the reference month for QC reviews is the certification month instead of the sample month, however, some of this documentation would likely already be in the case file without needing additional data verification.

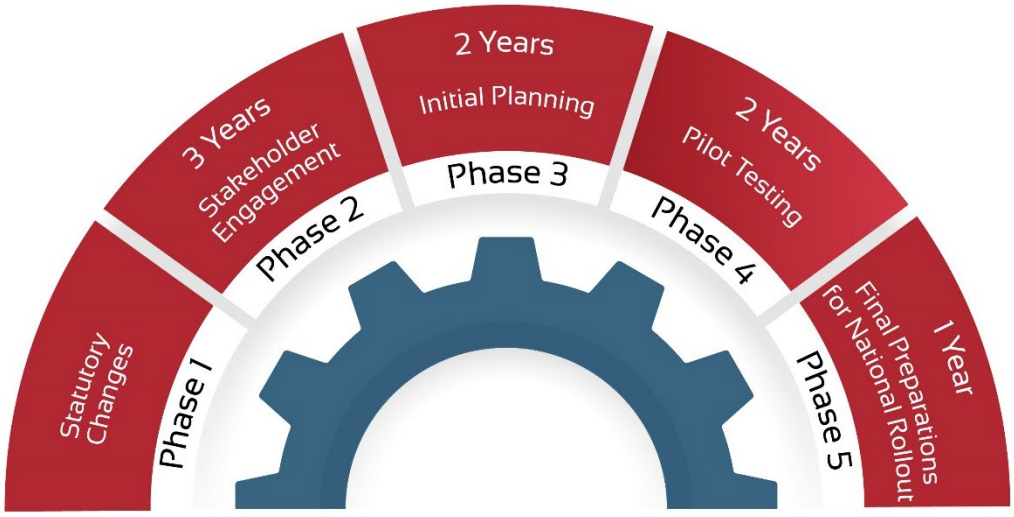
Chapter 6. Implementation of a One-Tier SNAP QC System

Implementing a one-tier QC system would be a substantial undertaking with significant implications for FNS and the States. This chapter outlines a five-phase implementation process to help ensure the best possible outcome; the timelines here are approximate and each phase's timing depends on timely completion of the previous phase (figure 6.1). All five phases of this implementation process would need to take place in parallel with the current two-tier system to allow FNS to continue estimating error rates; sufficient resources would need to be allotted for both the ongoing estimation of error rates and the planning and implementation process for the one-tier system.

The process would be initiated by congressional action to revise legislation related to QC (section A); this phase does not have an associated timeline because it is outside FNS's control. The remaining four phases enable FNS to solicit and consider input from other stakeholders (section B); thoroughly prepare for a pilot test of the one-tier system (section C); test, refine, and retest the system (section D); and make final preparations for full-scale implementation (section E). Together, these four phases would span an estimated 8 years (figure 6.1).[36]

This chapter provides an overview of the major tasks during each of these phases. Appendix D provides two examples for the design of a one-tier QC system (models A and B), including a summary of procedural and staffing implications. Estimates of the startup and annual operating costs of these models appear in appendix E.

Figure 6.1. Overview of Implementation of a One-Tier SNAP QC System



A. Phase 1: Statutory Changes

Before the work of implementing a one-tier system could begin, Congress would need to pass legislation that allows FNS to conduct QC at the Federal level and provides authority for FNS to have access to other agencies' databases for data-matching purposes (see chapter 4 for more detail on data-sharing infrastructure). Upon passage of this legislation, FNS would need to take two steps to lay the

[36] This estimate relies on an approximation of the duration of activities needed across each phase of the implementation process. The duration of the full implementation process could vary according to many factors, some of which could be outside FNS's control.

groundwork for the design and implementation of a one-tier system. As an initial step, FNS would need to submit an initial 5-year appropriations request to Congress to obtain the funds necessary for Phases 2 and 3 of the implementation process; an additional appropriations request would be needed later once the details of the system had been determined. The appropriation would need to include funds for staff salary and overhead, contractors, and travel needed for stakeholder engagement.

FNS would also need to undergo USDA's internal process for making changes to organizational structures, the Departmental Regulation 1010 process (USDA, 2018). This process is required for any substantial organizational changes. Organizational changes must be described in a detailed clearance package that must be approved by the Office of Human Resources Management, the Office of Budget and Program Analysis, the Office of the General Counsel, the Office of Congressional Relations, and the Office of the Secretary. Labor relations organizations must also be notified of the pending changes, and changes must meet labor relations obligations. Congress is notified at the conclusion of the Departmental Regulation 1010 process, but congressional approval is not required.

Once the organizational changes identified in the Departmental Regulation 1010 process have been approved, FNS would need to hire a minimum of seven full time staff for Phases 2 and 3 of the implementation process: a supervisory analyst, five program analysts, and a project manager. FNS would also need part-time contributions from a statistician and SNAP leadership. These staff would be in addition to current QC staff because the current QC staffing levels would need to be maintained for FNS to continue producing error rates under the two-tier system throughout this process.

B. Phase 2: Stakeholder Engagement and Buy-In (3 years)

The States have substantial experience conducting QC reviews, and each State has a unique landscape of systems, policies, and challenges. FNS would benefit from learning as much as possible from States' experiences. The States would continue to play a significant role in QC in a one-tier system (e.g., providing access to case files and systems, conducting data matches as necessary, responding to questions about policies, practices, and case file contents). They would be stronger partners to FNS if they bought into the new system. Other stakeholders, such as the research community, also have an interest in the QC system. Each of these stakeholders should be involved in the initial planning stage of the one-tier system. This approximately 3-year phase would contain the following steps:

- **Decide on the broad outlines of the system.** The first step would be for FNS to decide how the one-tier system should function; the example one-tier models outlined in appendix D of this report offer a template. FNS would draft and publish in the *Federal Register* proposed regulations describing the functioning of the one-tier system. The proposed regulations would invite feedback from stakeholders and the general public.
- **Engage stakeholders.** After the proposed regulations had been published, stakeholders could submit feedback as directed in the *Federal Register*. However, FNS should also actively engage various stakeholders to obtain their feedback on those parameters and their buy-in for the new system. In particular, States may have significant concerns about FNS assuming a role they have long held. States also have valuable expertise in QC in their States that FNS should consider in a revised process. Vetting States' concerns and soliciting their feedback and ideas would be critical for obtaining buy-in and ultimately the long-term success of the redesigned system. One venue for working with State partners in developing a new process would be through the National Association for Program Information and Performance Measurement. FNS should also seek input from other stakeholders, such as researchers who routinely use QC data for SNAP policy analyses, about the potential impacts of the proposed changes to the QC system. FNS could

establish a working group composed of State, Federal, and other stakeholders to solicit input and vet the proposed procedures. FNS would use this feedback, in addition to feedback submitted in response to the proposed regulations published in the *Federal Register*, to finalize plans for the system.

- **Develop specifications and requirements.** As the plans for the system are finalized, FNS should also develop specifications and requirements for various procurements associated with the implementation of the new QC system. First, substantial IT system changes would be needed, so FNS should begin the process of specifying those requirements as early as possible. This step should include JAD sessions with current and future users of SNAP QCS (see chapter 5). Second, FNS may need to award other contracts during Phase 3, such as contracts for data collection or sampling, so FNS should begin developing requirements for those contracts during this initial phase (see chapter 3).
- **Establish data-use agreements with other Federal agencies.** FNS would need to attempt to obtain access to several databases maintained by ACF, DHS, and SSA to conduct various data matches during the review process (see chapter 4).

C. Phase 3: Initial Planning (2 years)

After the detailed specifications for the one-tier system have been established, Phase 3 would consist of approximately 2 years of planning for pilot tests of the new system. This planning phase would include procuring contractors, developing detailed policies and procedural manuals, hiring and training new Federal staff, and recruiting and training States to participate in the pilots. This phase would also include a second appropriations request and clearance for additional organizational changes.

- **Draft final regulations.** After receiving feedback from stakeholders during Phase 2, FNS would need to draft final regulations for the one-tier system. These regulations would be published in the *Federal Register*. In addition to the formal regulations, FNS should also share information about the decisions made with the States and other stakeholders.
- **Request appropriations from Congress.** After the detailed parameters of the one-tier system have been determined, FNS would need to request an additional appropriation from Congress. This appropriation would need to include funds for the next two phases of implementation (pilot testing and final preparations) and the ongoing operation of the two-tier system.
- **Hire and train new Federal staff.** FNS would again need to follow USDA's Departmental Regulation 1010 process before hiring the additional staff needed for pilot testing, final preparations, and fully rolling out the one-tier system. The number of new staff would depend on the parameters FNS selects for the one-tier system (e.g., sampling strategy, use of contractors). The first round of new staff would need to be hired and trained toward the end of the planning stage, so they are ready to contribute during the pilots. During this process, FNS would need to redesign its organizational structure to support the additional staff. FNS could also reconsider QC's organizational location within the agency. As described earlier, the QC branch is currently part of PAAD within SNAP but the Federal QC reviewers located in the Regional Offices are situated within Regional Operations and Support, which is outside of SNAP. In a one-tier system, FNS could consider consolidating all QC functions under PAAD or moving QC outside of PAAD and SNAP entirely to enhance the independence of QC. FNS would also need to identify an appropriate oversight structure and sufficient supervisory positions.

- **Establish contract with IT vendor; develop needed systems.** The current tools—SNAP QCS and the Automated Form 380—could serve as a basis for the systems and tools that support a one-tier system, but they would need to be modified (see chapter 5). One of the first steps of the initial planning phase would be to establish a contract with an IT vendor to ensure the tools and systems were ready for the pilot.
- **Obtain commercial data.** FNS would need to establish a contract with a commercial vendor such as Equifax or Experian to obtain data on earnings and employment, contact information, prisoner status, and so on (see chapter 4).
- **Develop policies and procedural manuals.** To prepare for the pilot tests, FNS would need to develop policies and a manual of procedures to guide pilot reviewers. FNS would also need to develop a sampling plan for the pilot. After these documents were developed for the pilot, FNS would begin developing similar materials for the fully implemented one-tier system. Development of these documents would need to be initiated well in advance of the launch of the system to provide time for necessary clearances.
- **Retain non-IT contractors as needed.** Depending on the specifics of the model selected, FNS might need to hire one or more contractors to perform important functions during the pilots and eventually the fully implemented one-tier system. In addition to the contractors needed for QC functions, FNS should consider engaging a contractor to evaluate the pilots, as described below.
- **Select States for pilots.** FNS would need to decide on the ultimate goals of the one-tier system pilot and how many and which States would participate. States should be selected with the goal of ensuring diversity in the sample across several factors: geographic region, population density within the State (including a mix of urban and rural populations), SNAP caseload size, complexity and sophistication of MIS and other IT systems (including States with both integrated and legacy systems), and county-administered versus State-administered SNAP programs. Once States have been selected and recruited, FNS would need to provide training to the States on their role in the pilots.
- **Collect information on selected States' policies.** One of the final planning stages to prepare for the pilots would be to collect and standardize data on the participating States' SNAP policies.

D. Phase 4: Pilot Testing (2 years)

Phase 4 of the implementation process would consist of two rounds of pilot testing of the one-tier system. After the first round of pilot testing, FNS would refine the processes and procedures before a second pilot to ensure the effectiveness of those revisions. While most of the communications during this phase would be with the pilot test States, FNS would need to provide ongoing updates to the States about their future roles in a one-tier system and how they would need to prepare.

- **First pilot.** The initial pilot would run for approximately 6 months, using the same set of procedures planned for the fully implemented one-tier system. Cases would be reviewed and estimates would be computed for each month by participating State.

- **Evaluate pilot.** FNS would need approximately 6 months after the pilot to evaluate it and revise the procedures to make improvements. First, the evaluation should seek to identify process bottlenecks and develop improvements that could increase the efficiency and accuracy of the QC system. A third-party contractor with expertise in process improvement could conduct the evaluation, examining questions such as—
  - Where are the bottlenecks in the process?
  - Where are roles and responsibilities unclear?
  - Where is unnecessary or repetitive work being performed?
  - Were there any unintended consequences (e.g., did something create unnecessary, additional work)?
  - What worked well? What did not work well?
  - Which steps most frequently have to be repeated?
  - How does the timing of the process compare to the expected timeline?
  - If applicable: How frequently do clients request an in-person interview?
  - Second, the estimates would be compared to the results of the existing two-tier system in the pilot States during the same time period. This comparison would ask questions such as the following:
    - How does the case completion rate compare between the two systems?
    - How does the error rate of the pilot compare to the error rate of the existing two-tier system, taking variations in reference period into consideration?
    - How much of a difference does conducting reviews via telephone make in gaining client cooperation and gathering verifications?

  The results of this evaluation would be used to revise processes and procedures.
- **Second pilot and evaluation.** The second 6-month pilot would test the revised processes and procedures, using the same States and sample sizes as the first pilot. As with the first pilot, the second pilot would be followed by an approximately 6-month evaluation period. This evaluation would be focused on the newly revised procedures and providing information for final, fine-tuning adjustments.

E. Phase 5: Final Preparations for National Rollout (1 year)

After the one-tier system design has been tested, evaluated, and refined, FNS would use approximately 1 year to make the final preparations for a national rollout. This period would include dissemination of plans and guidance to the States, hiring and training additional Federal staff, finalizing sampling plans, and ensuring all the components were in place for a successful launch. At the conclusion of Phase 5, FNS would be ready to operate a one-tier QC system.

- **Disseminate plans to States.** The change to a one-tier QC system would have a significant impact on the States, so it would be essential for FNS to provide clear and detailed information to the States during this time and to provide ample time to address questions and concerns. FNS should also provide a final opportunity for States to provide feedback on the plans.

- **Hire staff, establish workspace, and adjust organizational structure.** As the system expands from a small sample in a small number of States during the pilots to a full-scale system, FNS would need to hire additional staff, provide workspace and equipment for these staff, and establish the appropriate organizational structure. Currently, Federal QC reviewers are located in FNS's ROs. In a one-tier system in which reviewers conduct most or all household interviews via telephone, reviewers would not need to be located in a specific geographic area. However, while it may be easier to provide workspace for new reviewers in the ROs (as opposed to the National Office), the reviewers should report directly to the National Office to promote uniformity in processes and procedures across the country and to minimize reviewers' bias toward their region or States within their region. Even if reviewers report to the National Office, any reviewers housed in the ROs should review only cases from States outside their regions. In a one-tier system in which contractors perform significant data collection functions, those contractors should work offsite; ideally these staff would be geographically dispersed to minimize travel costs, such as when case file data must be collected from State systems on site.
- **Train staff.** Before the one-tier system is fully rolled out, FNS would need to provide substantial training to a cohort of new reviewers. While many reviewers could have previous SNAP experience or even previous QC experience at the State or Federal level, the training should provide sufficiently in-depth information about SNAP policy and procedures and QC policy and procedures for a reviewer without any previous SNAP experience. The preparation should also include an in-depth training on interviewing techniques with a focus on telephone interviewing skills and detailed, hands-on training on the IT systems. Within the two-tier system, most State and Federal staff reported the most effective form of training for new reviewers is to shadow a more experienced reviewer. Because this would not be possible in a newly established one-tier system, the trainers would need to develop a substantial library of sample cases showing a range of issues and errors for use as practice cases.
- **Finalize sampling plans.** States would need time to prepare appropriate sample frames or samples, so FNS would need to finalize sampling plans and provide that information to the States relatively early in the final preparations phase.
- **Ensure contractors, IT systems, and other components are ready.** FNS would need to ensure all components of the one-tier system were in place and ready to function as expected in a one-tier system. These components would include various contractors, IT systems and tools, access to databases maintained by other Federal agencies, access to commercial data, and access to State systems.

Chapter 7. Final Considerations

This report presents an assessment of the feasibility of implementing a one-tier Federal SNAP QC system, including the challenges and opportunities such an endeavor would present and the design options FNS could consider. The information presented is based on analysis of data collected from State, Federal, and other respondents and a close examination of other Federal improper payment measurement systems. Previous chapters have outlined (1) the procedural and organizational options for the design of a one-tier Federal system, (2) the data-sharing and technological infrastructures that would be needed to support the system, and (3) an overview of the process needed to implement such a system. Supplemental materials, including two example one-tier models and estimated costs to implement and operate those models, are provided in the appendices.

This chapter provides an overview of additional considerations FNS should factor into a decision as to whether to transition to a one-tier QC system. First, QC data are used for purposes beyond the generation of error rates; section A describes the implications of a transition to a one-tier system on those uses. Second, FNS should consider the advantages and drawbacks of implementing a one-tier system as compared to making improvements to the existing two-tier system. Should FNS decide to stay with the current two-tier system, these study findings could inform ways to improve the current system; section B summarizes potential strategies for improvements.

A. Implications of a One-Tier System for Uses of QC Data

SNAP QC data are frequently used for purposes other than calculating error rates; FNS should consider the effects of changes to the QC database when redesigning or otherwise making changes to the SNAP QC system. SNAP QC provides a valuable source of data that policymakers and the research community use for analyzing policies, simulating effects of proposed changes to the program, and understanding the participant population for one of the largest programs in the Federal safety net (see, for example, the SNAP characteristics report; USDA FNS, 2019). While these uses of the data are outside the scope of the regulatory goals of QC, FNS and Congress should consider how changes to these data would reach beyond QC operations and could affect how well policymakers understand and can evaluate the program more broadly.

- **Implications of changes in sample sizes.** Reductions in QC sample sizes could affect the ability to use QC data for policy analyses. Analyses involving estimates for smaller subgroups of the population would be particularly affected. Similarly, some granularity could be lost in trend analyses. Further, if States participated every other year as a means to reduce the annual national sample size, States would receive policy feedback from QC reviews every 2 years, creating a longer lag in capturing effects of State policies in the QC data. The negative consequences of this lag could partially be offset, however, by implementing more robust quality assurance processes at the certification stage, such as by flagging certain types of cases that may be prone to errors for additional review prior to approval at certification or recertification.

- **New data opportunities.** Depending on the design features selected for a one-tier system, the approach could offer new data currently unavailable in SNAP QC. For example, if FNS were to conduct the sampling for QC reviews, the census data collection provided by States for the sample frames could provide alternative and potentially more robust data that could be used for research. This larger universe of data could facilitate subgroup analysis for certain groups with too few observations for robust analysis in the current QC sample, although the types of research that could be performed would vary depending on the extent of variables requested in the frame data (e.g., household composition, race/ethnicity, ABAWD status).

B. Potential Improvements to the Two-Tier SNAP QC System

Many of the design options considered for a one-tier approach to SNAP QC could be implemented as enhancements to the current two-tier system. This section briefly highlights these and other potential strategies for improving the current system.

Features of proposed one-tier approaches that could be applied to improve the current system include the following:

- Increasing the use of phone interviews in lieu of in-person interviews would likely be cheaper and more efficient, although it may increase the incidence of incomplete reviews. This could potentially be partially offset by making use of technology to enable participants to text or email pictures of their documentation. Enhanced training for QC review staff on effective telephone interviewing techniques could also improve the quality of the data collected and increase the likelihood of completing the review.
- Reorienting the reference period of QC reviews to focus only on the certification month or sample month would streamline the review process and improve the consistency of error determinations, thereby addressing one of OIG's concerns about the current Comp 1/Comp 2 approach (USDA OIG, 2015).
- Currently, FNS constructs separate payment error rates and CAPERs. With a shift away from a Comp 1/Comp 2 approach toward using the certification month as the reference period, FNS could consider rolling negative cases into the payment error rate. That is, the universe of cases that constitutes the sample frame for each certification month would be all households that had a certification decision during the month, whether the decision was an approval, a denial, or a termination. For cases that were incorrectly denied or terminated, the entire benefit for which they were eligible would be considered an error.
- FNS could consider providing structured guidance to States on implementation of more robust quality assurance procedures into certification processes. For example, flagging high-risk cases at the certification stage for additional review prior to approval might help prevent errors before they are found by QC. This would help address QC's goal of providing a timely and continuous flow of information for program improvement.

- Identifying and oversampling high-risk cases in the QC sample might yield a more efficient use of resources, provide more information for corrective action, and reduce the statistical uncertainty of estimates.
    - Similarly, FNS could consider reducing the administrative burden by eliminating the interview requirement for low-risk cases with stable circumstances over time. For example, cases with elderly participants with fixed income may be less error prone, with stable household characteristics over time that could be largely verified using Federal and State databases without an interview.
- Negotiating a national contract for Equifax's The Work Number service might result in lower per match costs and could help address States' concerns about variation in pricing across States. Cost savings from negotiating a bulk rate would be shared by States and FNS.
- While the 2018 Farm Bill (Pub. L. 115-334) eliminated the performance bonuses to States, eliminating or restructuring liabilities could further reduce the disincentive to find errors. Restructuring penalties to be based on a fixed error rate threshold, rather than on a distribution relative to other States' rates, could also potentially encourage collaboration and sharing of best practices in QC among States.

State respondents also offered additional recommendations to improve the two-tier system over the course of the data collection for this study; for completeness they are included here:

- More timely communications from FNS, including more consistency across regions, would help States address policies or practices causing errors sooner. This communication could take the form of a formal policy question-and-answer system that would enable States to submit questions and FNS to post responses online. The system could include a search function to facilitate searches for information on a particular topic.
- Similarly, more policy clarifications from FNS National Office would help States address the causes of error. Examples of topics State respondents reported needing clarification included (1) what constitutes "secure data" for videoconference purposes, (2) which data are considered verified upon receipt, (3) when policy and QC divisions may talk to each other and about what, and (4) appropriate uses of "likely conclusion."
- More flexibility in meeting deadlines for county-based States that face an extra layer of government, and allowing these States to interact with their local districts for guidance when responding to QC findings, would allow States to provide more accurate information to FNS.
- More collaboration with the States when FNS considers policy or program design changes to QC would enable FNS to benefit from the States' extensive experience with QC and increase State buy-in to changes.

Abbreviations and Acronyms

ACA	Patient Protection and Affordable Care Act
ACF	Administration for Children and Families
ALF	Alfresco Library for FNS
BAM	Benefit Accuracy Measurement
BENDEX	Beneficiary and Earnings Data Exchange
CAP	corrective action plan
CAPER	Case and Procedural Error Rate
CD	compact disc
CHIP	Children's Health Insurance Program
CMS	Centers for Medicare & Medicaid Services
CPPM	Cost per Person Model
DHS	U.S. Department of Homeland Security
DMV	Department of Motor Vehicles
DOL	U.S. Department of Labor
eDRS	Electronic Disqualified Recipient System
ERC	eligibility review contractor
FFS	fee-for-service
FNS	Food and Nutrition Service
FQCR	Federal Quality Control Reviewer
FY	fiscal year
HHS	U.S. Department of Health and Human Services
Hub	Federal Data Services Hub
IPERA	Improper Payments Elimination and Recovery Act of 2010
IPERIA	Improper Payments Elimination and Recovery Improvement Act of 2013
IPIA	Improper Payments Information Act of 2002
IRS	Internal Revenue Service
IT	information technology
JAD	Joint Application Design
MFIP	Minnesota Family Investment Program
MIS	management information system
MOU	memorandum of understanding

NAC	National Accuracy Clearinghouse
NDNH	National Directory of New Hires
NIST	National Institute of Standards and Technology
NITC	National Information Technology Center
NSTR	not subject to review
OIG	Office of the Inspector General
OIT	Office of Information and Technology (FNS)
OMB	Office of Management and Budget
O&M	operations and maintenance
OQR	Office of Quality Review (SSA)
PAAD	Program Accountability and Administration Division
PARIS	Public Assistance Reporting Information System
PERM	Payment Error Rate Measurement
PUPS	Prisoner Update Processing System
QC	quality control
RC	review contractor
RO	Regional Office (FNS)
ROQCTS	Regional Office Quality Control Tracking System
RSDI	Retirement, Survivor, and Disability Insurance
SAE	State Administrative Expense
SAVE	Systematic Alien Verification for Entitlements Program
SC	statistical contractor
SDX	State Data Exchange
SMERF	State Medicaid Error Rate Findings
SNAP	Supplemental Nutrition Assistance Program
SNAP QCS	SNAP Quality Control System
SPIDeR	Systems Partnering in a Demographic Repository
SQCR	State Quality Control Reviewer
SSA	Social Security Administration
SSDI	Social Security Disability Insurance
SSI	Supplemental Security Income
SSIS	SQL Server Integration Service
SSL	secure socket layer

TANF	Temporary Assistance for Needy Families
UCFE	Unemployment Compensation for Federal Employees
UCX	Unemployment Compensation for Ex-Service Members
UI	Unemployment Insurance
USDA	U.S. Department of Agriculture
U.S. DOL	U.S. Department of Labor
VPN	virtual private network

Glossary of Terms

Active case	A household certified prior to or during the sample month that was issued SNAP benefits for the sample month. This includes households certified for benefits in the sample month and issued benefits in the next month
Case error rate	Percentage of cases with errors
Case record	The record establishing a household's eligibility or ineligibility, and in active cases, authorizing the issuance of a SNAP allotment. Included are records referred to as the case file or certification record
Certification action	The action taken on a case prior to or on the review date that authorized the sample month's issuance. Includes initial certifications, recertifications, interim changes, changes prior to issuance, and authorizations of supplemental issuances
Certification month	The month in which the case was most recently certified or recertified, prior to the sample month
Collateral contact	A source of information that can be used to verify household circumstances. Collateral contacts are generally individuals such as landlords and employers, but they may also be documents such as those maintained in government offices. A collateral contact cannot be a person who was in the SNAP household under review or a person or office within the State agency administering the program for purposes of primary or secondary evidence
Eligibility worker	State SNAP personnel who interviews, certifies, and recertifies clients
Field interviewer	A member of the research team for this study who conducted re-reviews of incomplete cases in three States
FNS 310 Handbook	*FNS 310 SNAP Quality Control Review Handbook* provides the requirements and guidance for States to conduct SNAP QC reviews and determine errors
FNS 311 Handbook	*FNS 311 Quality Control Sampling Handbook* explains requirements concerning sampling, estimation, data management for State agencies' QC systems
FNS 315 Handbook	*FNS 315 Validation Review Handbook* provides FNS ROs with procedures and guidelines for monitoring State agencies' QC systems, including the procedures necessary to validate error rates and to assess States' sampling procedures, estimation procedures, and systems for data management
Improper payment	In an active case, an improper payment occurs when a QC reviewer determines a household that received SNAP benefits during the sample month is ineligible or received an incorrect allotment. Errors in active cases involve dollar loss to either the participant or the government For negative cases, an error signifies the reviewer determined the decision to deny, suspend, or terminate a household was incorrect This term is interchangeable with payment error
National Office	FNS headquarters in Alexandria, Virginia; works with ROs in administration of SNAP and other nutrition programs

Negative case	A household whose application for SNAP benefits was denied or whose SNAP benefits were suspended or terminated by an action in the sample month or by an action effective for the sample month
Overissuance	The amount of the SNAP benefits exceeds the allotment the household is eligible to receive
Payment error rate	The combined payment error rate; the sum of the overpayment and underpayment error rates. The payment error rate is based on the total amount of benefits issued in error divided by the total amount of benefits issued, adjusted for differences between State and Federal findings and for unknown level of error among incomplete cases
Recertification	A certification action taken to authorize benefits for an additional period of time immediately following the expiring certification period
Review date	For QC active cases, refers to a day within the sample month—either the first day of the fiscal or calendar month or the day a certification action was taken to authorize the issuance—whichever is later. The review date is never the day the quality control review is conducted The review date for negative cases, depending on the characteristics of individual State systems, can be the date the eligibility worker makes the decision to suspend, deny, or terminate the case; the date the decision is entered into the computer system; the date of the notice to the client; or the date the negative action becomes effective
Sample month	The month of the sample frame from which a case is selected
SNAP QCS	SNAP Quality Control System, the online system for States and FNS Regions to document and submit findings from SNAP QC case reviews
Underissuance	The amount of the allotment is less than the amount the household is eligible to receive
Variance	The incorrect application of policy and/or a deviation between the information used and the information that should have been used to authorize the sample month's issuance
Verification	The establishment of the accuracy of specific elements of eligibility and allotment by securing documentary evidence and/or by making collateral contacts with individuals other than members of the household under review. Households under review can provide verification for some elements

References

Affholter, D. P., & Kramer, F. D. (Eds.). (1987). *Rethinking quality control: A new system for the Food Stamp Program.* Washington, DC: National Academy Press.

Agriculture Improvement Act of 2018, Pub. L. 115-334 (2018).

Bawden, L., Holcomb, P., Jeffries, N., Vroman, W., & Wissoker, D. (1989). *Evaluation of the Federal One-Tier Quality Control pilot project.* Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service.

Brown, K. E. (2016). *Policy changes and calculation methods likely affect improper payment rates, and USDA is taking steps to help address recipient fraud.* Statement of Director, Education, Workforce and Income Security Issues]. U.S. Government Accountability Office. Retrieved from https://www.gao.gov/assets/680/678228.pdf

Center for Digital Government. (2005). *2006 best of the web and digital government achievement awards: Virginia's Systems Partnering in a Demographic Repository (SPIDeR).* Retrieved from https://www.vita2.virginia.gov/uploadedFiles/Library/DSSDGAentryCenterforDigitalGovernment.pdf

CMS (Centers for Medicare & Medicaid Services). (n.d.). *RY 2019 contractor roles and responsibilities*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicaid-and-CHIP-Compliance/PERM/Downloads/RY19ContractorRolesandResponsibilities.pdf

CMS. (2014). *Payment error rate measurement (PERM) overview*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicaid-and-CHIP-Compliance/PERM/Downloads/PERMOverview.pdf

CMS. (2017). *Payment error rate measurement (PERM): Introduction to PERM*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicaid-and-CHIP-Compliance/PERM/Downloads/RY19PERM101presentation.pdf

CMS. (2018). *Payment error rate measurement manual*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicaid-and-CHIP-Compliance/PERM/Downloads/FY17PERMManual.pdf

Congressional Research Service. (2018). *Errors and fraud in the Supplemental Nutrition Assistance Program (SNAP).* R. A. Aussenberg. Retrieved from https://fas.org/sgp/crs/misc/R45147.pdf

County Welfare Directors Association of California. (n.d.) *LEADER replacement system deployment begins*. Retrieved from https://www.cwda.org/featured-content/leader-replacement-system-deployment-begins

Food and Nutrition Act of 2008, 7 U.S.C. As amended through Pub. L. 113-70 (2011).

Hatch, G. (2016). *Improper payments legislation: Key provisions, implementation, and selected proposals in the 114th Congress*. Congressional Research Service. Retrieved from https://fas.org/sgp/crs/misc/R44702.pdf

IPERA (Improper Payments Elimination and Recovery Act of 2010). (2010). Pub. L 111–204. Retrieved from https://paymentaccuracy.gov/pdf/PL_111-204.pdf

IPERIA (Improper Payments Elimination and Recovery Improvement Act of 2012). (2013). Public Law 112–248. 121th Congress. Washington, DC. Retrieved from https://www.gpo.gov/fdsys/pkg/PLAW-112publ248/pdf/PLAW-112publ248.pdf

IPIA (Improper Payments Information Act of 2002). (2002). Public Law 107–300. 107th Congress. Retrieved from https://www.gpo.gov/fdsys/pkg/PLAW-107publ300/pdf/PLAW-107publ300.pdf

Kingston, J. L., & Burgess, P. L. (1981). *Unemployment Insurance overpayments and improper payments in six major metropolitan areas*. Washington, DC: National Commission on Unemployment Compensation.

Lauffer, S. (2016). *Characteristics of Supplemental Nutrition Assistance Program households: Fiscal year 2014*. Mathematica Policy Research. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Policy Support. Retrieved from https://fns-prod.azureedge.net/sites/default/files/ops/Characteristics2016.pdf

Lauffer, S., Vigil, A., Tadler, C., & Wilcox-Cook, E. (2018). *Technical documentation for the fiscal year 2017 Supplemental Nutrition Assistance Program quality control database and the QC minimodel*. Mathematica Policy Research. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service. Retrieved from https://host76.mathematica-mpr.com/fns/PUBLIC_USE/2017/FY%202017%20Tech%20Doc.pdf

Legal Information Institute. (n.d.). *§ 275.4 Record retention*. Retrieved from https://www.law.cornell.edu/cfr/text/7/275.4

McGill, B., Thorn, B., Trippe, C., & Tucker, M. (2016). *Enhancing SNAP quality control completion rates.* Retrieved from http://www.fns.usda.gov/enhancing-completion-rates-supplemental-nutrition-assistance-program-snap-quality-control-reviews

PARIS (Public Assistance Reporting Information System). (2018). U.S. Department of Health and Human Services, Office of Administration for Children and Families. Retrieved from https://www.acf.hhs.gov/paris

Piven, A. (n.d.). *Systems Partnering in a Demographic Repository (SPIDeR), Commonwealth of Virginia Department of Social Services*. [Executive summary]. Retrieved from https://www.communitycommons.org/wp-content/uploads/bp-attachments/24402/SPIDER-Systems-Partnering-In-a-Demographic-Repository.doc

Potter, F., Ziegler, J., Roemer, G., Richman, S., Wang, S., Clarkwest, A., & Bodenlost, K. (2014). *Benefit accuracy measurement methodology evaluation*. Mathematica Policy Research. Washington, DC: U.S. Department of Labor Employment and Training Administration. Retrieved from https://www.mathematica-mpr.com/our-publications-and-findings/publications/benefit-accuracy-measurement-methodology-evaluation

Seleznow, E. M. (2013, September). *Unemployment Insurance program letter no. 28-13, Benefit Accuracy Measurement (BAM) investigative and coding guidance*. U.S. Department of Labor, Employment and Training Administration Advisory System. Retrieved from https://oui.doleta.gov/dmstree/uipl/uipl2k13/uipl_2813.pdf

USDA (U.S. Department of Agriculture). (2018). Organization planning, review, and approval. *Departmental Regulation* (No. DR 1010-001). January 4. Retrieved from https://www.ocio.usda.gov/document/departmental-regulation-1010-001

USDA FNS (U.S. Department of Agriculture, Food and Nutrition Service). (2006). *FNS Handbook 315*.

USDA FNS. (2015). *Supplemental Nutrition Assistance Program: Payment error rates FY 2015*. Retrieved from https://fns-prod.azureedge.net/sites/default/files/snap/FY2015SNAPPaymentErrorRates.pdf

USDA FNS. (2016a). *Integrity of the SNAP Quality Control System quality control policy memo: 16-02.*

USDA FNS. (2016b). *New threshold for State submittal of CAPER corrective action plans quality control policy memo: 16-03.*

USDA FNS. (2016c). *Process for measurement of the fiscal year 2016 payment error rate quality control policy memo: 17-02.*

USDA FNS. (2016d). *Quality control procedural clarifications and Federal access to State systems; quality control policy memo: 17-01.*

USDA FNS. (2017a). *Update to FNS Handbook 310, Supplemental Nutrition Assistance Program quality control review handbook quality control policy memo: 18-01.*

USDA FNS. (2017b). *Supplemental Nutrition Assistance Program quality control annual report, fiscal year 2014*. Retrieved from https://fns-prod.azureedge.net/sites/default/files/snap/SNAPQCAnnualReportFY2014.pdf

USDA FNS. (2018a). *FNS Handbook 310, Supplemental Nutrition Assistance Program quality control review handbook*. Retrieved from https://fns-prod.azureedge.net/sites/default/files/snap/FNS_310_Handbook.pdf

USDA FNS. (2018b). *FNS Handbook 310, Supplemental Nutrition Assistance Program quality control review handbook—Clarification of procedures regarding the transmission/release of case finding quality control policy memo: 18-02*.

USDA. (2018c). *FY 2017 SNAP high performance bonuses*. Retrieved from https://fns-prod.azureedge.net/sites/default/files/snap/FY2017OnlyHighPerformanceBonuses.pdf

USDA FNS. (2018d). *Reported case and procedural error rates*. Retrieved from https://partnerweb.usda.gov/sites/SNAP/fsp/Quality%20Control/QC%20-%20Error%20Rates/FY2017/StRptdCaseProceduralErs.pdf

USDA FNS. (2018e). *Supplemental Nutrition Assistance Program: Payment error rates*. Retrieved from https://fns-prod.azureedge.net/sites/default/files/snap/FY17-QC-Payment-Error-Rates.pdf

USDA FNS. (2018f). *Supplemental Nutrition Assistance Program participation and costs*. Retrieved from https://fns-prod.azureedge.net/sites/default/files/pd/SNAPsummary.pdf

USDA FNS. (2018g). *Update to FNS Handbook 310, Supplemental Nutrition Assistance Program quality control review handbook quality control policy memo: 19-01.*

USDA FNS. (2018h). *Update to FNS Handbook 310, Supplemental Nutrition Assistance Program quality control review handbook quality control policy memo: 19-02.*

USDA FNS. (2018i). *State options report. Supplemental Nutrition Assistance Program. Fourteenth Edition, Options as of October 1, 2017.* Food and Nutrition Service, U.S Department of Agriculture.

USDA FNS. (2019). *Characteristics of Supplemental Nutrition Assistance Program households: Fiscal year 2017*. Retrieved from https://www.fns.usda.gov/snap/characteristics-supplemental-nutrition-assistance-program-households-fiscal-year-2017

USDA OIG (Office of Inspector General). (2015). *FNS quality control process for SNAP error rate.* Audit Report 27601-0002-41. Retrieved from http://www.usda.gov/oig/webdocs/27601-0002-41.pdf

USDA OIG. (2018). *USDA's fiscal year 2017 compliance with improper payment requirements*. Audit Report 50024-0013-11. Retrieved from https://www.usda.gov/oig/webdocs/50024-0013-11.pdf

U.S. DOL (Department of Labor), Employment and Training Administration. (1992). *The implementation of alternative verification methods in the UI benefits quality control program.* UI Program Letter No. 41-92. Retrieved from https://workforcesecurity.doleta.gov/dmstree/uipl/uipl92/uipl_4192.htm

U.S. DOL (Department of Labor), Employment and Training Administration Advisory System. (1996). *Implementing changes in the UI Benefit Accuracy Measurement Program*. UI Program Letter No. 03-97. Washington, DC: DOL.

U.S. DOL, Office of Unemployment Insurance, Division of Performance Management. (2009). *Benefit accuracy measurement State operations handbook*. ET Handbook No. 395, 5th edition. Retrieved from https://wdr.doleta.gov/directives/attach/ETHandbook_395_Ch5_acc.pdf

U.S. DOL. (2011). *Benefit Accuracy Measurement methodology and program description*. Retrieved from https://workforcesecurity.doleta.gov/unemploy/bam/2017/BAM_Methodology_IPIA_2017.pdf

U.S. DOL, Office of Inspector General, Office of Audit. (2017). *Department of Labor report to the Office of the Chief Financial Officer: DOL needs to do more to reduce improper payments and improve reporting*. Retrieved from https://www.oig.dol.gov/public/reports/oa/2017/03-17-002-13-001.pdf

U.S. GAO. (2016). *Supplemental Nutrition Assistance Program: More information on promising practices could enhance States' use of data matching for eligibility*. Retrieved from https://www.gao.gov/products/GAO-17-111

U.S. GAO. (2017). *Unemployment Insurance: State use of warnings related to work search requirements affects DOL's improper payment estimates*. Washington, DC. Retrieved from https://www.gao.gov/assets/690/688538.pdf

U.S. GPO (Government Publishing Office). (n.d.). *Quality control (QC) reviews*. Retrieved from https://www.gpo.gov/fdsys/search/pagedetails.action?sr=30565&originalSearch=&st=unit&ps=10&na=&se=&sb=re&timeFrame=&dateBrowse=&govAuthBrowse=&collection=&historical=false&granuleId=CFR-2016-title7-vol4-part275-subpartC&packageId=CFR-2016-title7-vol4&fromState=&collectionCode=CFR&browsePath=Title+7%2FSubtitle+B%2FChapter+II%2FSubchapter+C%2FPart+275%2FSubpart+C&collapse=true&fromBrowse=true

U.S. GPO. (2017). Medicaid/CHIP program; Medicaid Program and Children's Health Insurance Program (CHIP); changes to the Medicaid eligibility quality control and payment error rate measurement programs in response to the Affordable Care Act. *Federal Register 82*(127). Retrieved from https://www.gpo.gov/fdsys/granule/FR-2017-07-05/2017-13710

U.S. OMB (Office of Management and Budget), Executive Office of the President. (2011). *Memorandum for the heads of executive departments and agencies: Issuance of revised parts I and II to appendix C of OMB circular A-123*. Retrieved from https://donotpay.treas.gov/OMB_M11-16.pdf

U.S. OMB, Executive Office of the President. (2018). *Memorandum for the heads of executive departments and agencies: Transmittal of appendix C to OMB circular A-123, requirements for payment integrity improvement*. Retrieved from https://www.whitehouse.gov/wp-content/uploads/2018/06/M-18-20.pdf

U.S. SSA. (n.d.a.). *Reducing improper payments: Program statistics, improper payments experience FY 2014–FY 2016*. Retrieved from https://www.ssa.gov/improperpayments/SSI_progStats.html#sb=3

U.S. SSA. (n.d.b.) *Reducing improper payments: Program statistics, RSDI improper payments experience FY 2014–FY 2016*. Retrieved from https://www.ssa.gov/improperpayments/RSDI_progStats.html#sb=2

Appendix A. Overview of Federal Improper Payments Legislation

Ensuring the integrity of Federal programs is critically important to safeguarding the investments of taxpayer dollars. In 2002, Congress passed the Improper Payments Information Act (IPIA, 2002), which put in place an initial government-wide system for dealing with improper payments. This legislation was updated in 2010 by the Improper Payments Elimination and Recovery Act (IPERA, 2010), which expanded the previous requirements of IPIA and combined those requirements with those of the Recovery Audit Act of 2002. In 2012, Congress passed the most recent improper payments legislation, IPERIA (2013), which further expanded the system put in place by IPIA and updated by IPERA (Hatch, 2016).

This appendix summarizes the main components of IPERIA, its predecessor legislation, and its application to SNAP QC. Section A describes the main components of IPERIA. Section B summarizes its predecessor legislation, IPIA and IPERA. Section D provides an overview of the Do Not Pay Initiative established by IPERIA. Section E describes guidance OMB has issued to implement IPIA, IPERA, and IPERIA. Finally, section F summarizes SNAP's compliance with the requirements of IPIA, IPERA, IPERIA, and the related OMB guidance.

A. IPERIA

IPERIA has three central components: (1) requirements for OMB related to improper payments and recovery audits, (2) requirements for a set of agencies and Inspectors General related to improper payments, and (3) requirements for agencies and OMB related to the Do Not Pay Initiative.

1. OMB Requirements

IPERIA makes several requirements of OMB. First, OMB must "identify a list of high priority Federal programs for greater levels of oversight and review" (IPERIA, 2013, p. 1) annually. This list must be determined by identifying programs that have high rates of improper payments, high dollar amounts of improper payments, or risks of improper payments.

Second, OMB must work with each agency that administers a high-priority program to create annual targets for reducing improper payments and identify actions that can be taken to that end, semiannually or quarterly.

Third, OMB must issue guidance to agencies on how to improve improper payment estimates. This guidance must include the following:

- Standards for agencies to use in determining whether sampled payments were proper or improper
- Instructions to agencies that all relevant payment data and documentation be given to the people/entities responsible for estimating improper payments
- A prohibition on agencies using only self-reported data from program recipients to estimate improper payments

- A requirement that each agency use all improper payments, including those that have been recovered, in its improper payment estimates
- A requirement that agencies assess the risk—and where necessary estimate the rate—of improper payments to employees
- A requirement that the corrective actions agencies take be custom fit to the unique circumstances of each high-priority program

Finally, OMB must determine the rates at which improper payments are recovered and the amounts that are recovered. OMB must also set improper payment recovery targets (Hatch, 2016; IPERIA, 2013).

B. Agency/Inspector General Requirements

Each agency that administers a high-priority program must submit an annual report to its Inspector General. These reports—all of which OMB must make available on a single website—must detail efforts to recover improper payments and reduce improper payments in the future.

In turn, these Inspectors General must review several aspects of each high-priority program, including the risk assessment, the estimation methodology, and the systems that detect and stop improper payments. Each Inspector General must then submit recommendations on how the relevant agency should change its plans related to improper payments to Congress (Hatch, 2016; IPERIA, 2013).

C. Do Not Pay Initiative

IPERIA also establishes the Do Not Pay Initiative, which requires each agency to put procedures in place to verify that the recipient of a payment is eligible prior to making any payment. Agencies must use several databases to do so:

- SSA's Death Master File
- General Services Administration's Excluded Parties List System
- Department of the Treasury's Debt Check Database
- Department of Housing and Urban Development's Credit Alert System (or Credit Alert Interactive Voice Response System)
- Office of the Inspector General of the U.S. Department of Health and Human Services' List of Excluded Individuals/Entities

OMB may add databases as needed. IPERIA also required certain agencies, such as the Department of Justice, the Department of the Treasury, and SSA, to evaluate current practices or investigate the possibility of creating new databases, such as one related to incarceration, for use in the Do Not Pay Initiative.

OMB has several responsibilities in overseeing this program. First, OMB must submit an annual report to Congress detailing the progress made on the initiative. Second, OMB must facilitate data sharing and agency access to the databases (Hatch, 2016; IPERIA, 2013).

D. IPIA and IPERA

IPERIA was preceded by two related pieces of legislation passed in the decade before it became law; namely, IPIA and IPERA. In general, IPIA created the basic outline that prescribes the way agencies address improper payments; IPERA, and IPERIA in turn, expanded on this outline (Hatch, 2016).

1. IPIA

IPIA required that agencies identify programs and activities susceptible to "significant improper payments," subject to the methods determined by OMB. For those programs, each agency must provide estimates of annual improper payment amounts to Congress (IPIA, 2002, p. 1). If improper payments for a program or activity are above $10 million, the agency must submit a report to Congress on actions the agency is taking to reduce improper payments (IPIA, 2002).

IPIA also created several definitions. Most importantly, it defined an improper payment as—

> *Any payment that should not have been made or that was made in an incorrect amount (including overpayments and underpayments) under statutory, contractual, administrative, or other legally applicable requirements; … [including] any payment to an ineligible recipient, any payment for an ineligible service, any duplicate payment, payments for services not received, and any payment that does not account for credit for applicable discounts (IPIA, 2002, p. 2).*

IPERA, IPERIA, and the most recent OMB guidance required by IPIA, IPERA, and IPERIA (appendix C, OMB Circular A-123) continue to use this definition (IPERA, 2010; IPERIA, 2013; U.S. OMB, 2018).

2. IPERA

The 2010 IPERA legislation expanded the framework created by IPIA in four important ways:

- Codifying risk assessment procedures and requirements
- Refining agency reporting requirements
- Setting standards agencies must meet to be compliant
- Expanding the recovery audit process

3. Risk Assessment

IPERA formalized and expanded the process that IPIA required agencies to undergo to identify susceptible programs. It requires that each agency assess the risk of all the programs it administers at least once every 3 years—subject to additional requirements for phasing in the law. This risk assessment is used to determine programs that have a risk of "significant improper payments" (IPERA, 2010, p. 1). When this assessment is conducted, a program is determined to be significant if improper payments are greater than $10 million and 2.5 percent (1.5 percent beginning September 30, 2013) of program outlays, or greater than $100 million. In conducting risk assessments, agencies are required to consider several defined program characteristics, such as the volume of payments and the complexity of the program, among others (IPERA, 2010; Hatch, 2016).

4. Agency Reporting Requirements

Similar to the requirements of IPIA, IPERA requires that agencies estimate the amount of improper payments for susceptible programs and submit a Report to Congress on the actions being taken to reduce them. IPERA mandates that agencies "produce a statistically valid estimate" using an OMB approved methodology and publish these estimates in the agency's annual financial statement (IPERA, 2013, p. 2).

IPERA substantially expands the subjects that must be addressed in the annual reports each agency overseeing a susceptible program submits to Congress. IPERA also requires OMB to submit a report on improper payments across the government and issue more guidance related to improper payment reports (IPERA, 2010; Hatch, 2016).

5. Compliance

IPERA established a procedure for establishing whether agencies are compliant with requirements and created a system of remediation for dealing with agencies deemed noncompliant. Each agency's Inspector General must submit a report documenting whether the agency is compliant with IPERA to the head of the agency, the Comptroller General, and two Congressional committees. To be compliant, the agency must—

- Publish an annual financial statement on the agency's website.
- Conduct all required risk assessments.
- Publish estimates for all susceptible programs.
- Publish reports detailing the actions the agency is taking.
- Have no improper rates greater than or equal to 10 percent.

If an agency is noncompliant, it must submit a plan to Congress describing how it will become compliant. If the agency is noncompliant for 2 consecutive years, OMB can require that the agency devote more money to compliance efforts. If the agency exhausts its ability to transfer funds to these efforts, it must submit a request for additional authority to transfer its funds. If the agency is noncompliant for 3 consecutive years, the agency is required to submit reauthorization proposals to Congress and proposed statutory changes that would improve the likelihood of compliance (IPERA, 2010; Hatch, 2016).

6. Recovery Audits

IPERA updated and expanded on recovery audits previously laid out in the Recovery Audit of 2002. A recovery audit is an attempt to recover overpayments. IPERA requires these audits to be conducted for programs with more than $1 million in annual expenditures if they can be completed in a cost-effective manner. Recovery audits may be conducted by the agency or by a contractor. Recent payments and payments for susceptible programs are required to be prioritized (Hatch, 2016).

E. OMB Guidance

The most recent OMB guidance, appendix C to Circular A-123, which implements the requirements from IPIA, IPERA, and IPERIA, was released June 26, 2018. Among the issues addressed in this guidance, the two aspects most relevant to SNAP QC are the determination of high-priority programs and the guidelines for "statistically valid" improper payment estimates.

1. High-Priority Programs

The OMB guidance substantiates IPERIA's requirement that it identify high-priority programs. OMB uses the improper payment reporting in each agency's Annual Financial Report or Performance and Accountability Report to do so. As of FY 2018, the threshold for a program being classified as high priority is $2 billion in estimated improper payments (U.S. OMB, 2018).

2. Statistically Valid Estimates

The OMB guidance includes information on how agencies should conduct sampling and improper payment estimation to meet the requirement of producing "statistically valid estimates." Plans for a statistically valid estimate, which must be prepared by a statistician, are required to be submitted to OMB. The agency must also certify that its sampling and estimation plan—or census measurement plan—will produce statistically valid estimates. While OMB can raise questions about methodologies, it does not issue formal approvals of methodologies, and the onus of producing a valid estimate is on each agency. Should an agency not be able to produce a valid estimate, it must receive OMB approval to proceed with an invalid one. OMB encourages agencies to incorporate the recommendations of outside groups, such as its OIG, to improve their methodologies.

OMB requires several factors to be addressed in sampling and estimation plans. Agencies should address how they plan to sample the relevant population. They may use simple random samples, stratified samples, multistage samples, clustered samples, or a complete census. They may also use methods where payments are selected using unequal probabilities based on factors such as the size of the payments. In selecting sample sizes and sampling design, agencies may use past estimates and information from risk assessment. They must submit the formula used to set the sample size to OMB.

OMB sets specific requirements for statistically valid estimates. Agencies must use an unbiased random sample to generate point estimates and confidence intervals. Beyond this requirement, there are options for estimation plans to meet the criteria of statistically valid and rigorous plans above and beyond the statistically valid requirements. These plans may have, at most, a 3-percent margin of error at the 95-percent confidence interval. They must also cover the entire program population for the entire fiscal year being measured. Census measurement plans are included in this category.

OMB sets several requirements related to documentation. All parts of the sampling design should be documented such that "a qualified statistician would be able to replicate what was done" and the design can be externally evaluated. The statistical formulas used to generate the estimates must also be documented (U.S. OMB, 2018, p. 18).

F. SNAP Compliance

In May 2018, USDA's OIG released an audit report documenting the department's compliance with the requirements related to improper payments. Per IPERIA, OMB identified SNAP as a high-priority program for FY 2017.

OIG found SNAP was noncompliant with IPIA for the third consecutive year, as amended by IPERA, during FY 2017 because FNS did not publish improper payment estimates and therefore did not publish an improper payment rate below 10 percent or meet its reduction goals. In FY 2017, USDA did, however, meet other requirements of IPERA, including conducting a risk assessment and publishing an annual financial report and corrective action plans, as required by IPERA (USDA OIG, 2018).

Appendix B.
Summary of Other Federal Quality Control Programs and Considerations for SNAP

Appendix B1. CMS's Payment Error Rate Measurement Program

In response to the Improper Payments Information Act (IPIA) of 2002, CMS implemented the Payment Error Rate Measurement (PERM) program, which measures improper payments in Medicaid and the Children's Health Insurance Program (CHIP) and produces national-level and State-level improper payment rates for each of the two programs. The improper payment rates produced by PERM do not measure fraudulent activity within Medicaid and CHIP but rather beneficiary payments that did not comply with statutory, regulatory, or administrative requirements.

A. PERM Components

PERM reviews three components of the Medicaid and CHIP programs:

- The fee-for-service (FFS) component of the PERM review consists of both a medical review and a data-processing review. In the FFS component, the cases sampled for improper payments consist of FFS claims.
- The managed care component consists of a data-processing review of sampled managed care payments that consist of at-risk capitated payment.[37] Like the FFS component, sampled claims data are obtained from the providers.
- The eligibility review component consists of a review of both active and negative eligibility cases. Eligibility case reviews are sampled from the same sampling universe as the claims sample and review the eligibility of the individual associated with the sampled FFS claims (CMS, 2017).

Because the PERM eligibility reviews are the most comparable to SNAP QC reviews, the remainder of this discussion focuses on this component, including an overview of the PERM eligibility review pilots and a description of the key steps and characteristics of the review process.

1. FY 2014–2017 Eligibility Review Pilots

When PERM was first implemented, States conducted the eligibility review portion of the PERM program. The Patient Protection and Affordable Care Act (ACA), however, changed the Medicaid and CHIP eligibility processes, which impacted PERM. In response to the legislation, CMS decided to forego the State-run eligibility reviews in lieu of Medicaid and CHIP eligibility review pilots during FY 2014–2017. A pilot format was implemented to provide CMS with sufficient time to update the eligibility component measurement methodology to accurately measure improper payments under the new ACA provisions. Under the pilots, a contractor performed the PERM eligibility reviews with support from the States, instead of States performing the eligibility reviews on their own. The rationale for using a contractor was to reduce State burden and to decrease review inconsistencies across States. CMS ultimately decided to have a contractor remain tasked with eligibility reviews after the pilots concluded.

[37] An at-risk capitated payment is a fixed amount of money per patient per unit of time paid in advance to a physician for the delivery of health care services to reduce the physician's financial risk for providing services to patients.

2. Sampling

Samples are pulled quarterly in PERM. Each payment in the PERM universe is considered an individual "unit" for sampling purposes. For most individual beneficiary-level claims and payments, the sampling unit is an individually priced service tied to a single beneficiary, such as a claim, managed care capitation payment, or a fixed payment. Sampled FFS and managed care payments are used for eligibility, medical, and data-processing reviews.[38]

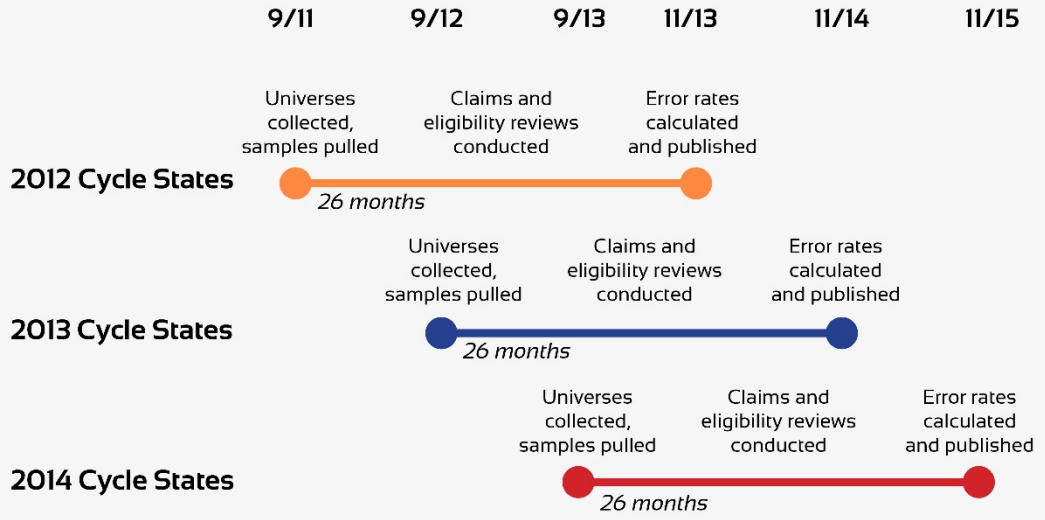
State-level PERM sample sizes are derived to allow an estimated State improper payment rate with a 95-percent confidence interval of 3 percentage points in either direction. Although separate samples are drawn for Medicaid and CHIP, the procedures for sampling are the same for both programs. During the eligibility review pilots, instead of using the State-specific sample sizes, PERM established a national annual sample size, which was distributed across States in that review cycle (about one third of all States): 6,000 eligibility reviews for Medicaid and 4,000 for CHIP. The maximum State sample size is 20 percent of the national sample size, so the largest State sample for eligibility reviews would be 1,200 for Medicaid and 800 for CHIP. The minimum sample sizes are 196 for Medicaid and 132 for CHIP.

3. *PERM timeline*

PERM operates on a 17-State rotation, with each State being reviewed once every 3 years, for a total of 51 "States" (Medicaid and CHIP serve all 50 States and the District of Columbia). This rotation format enables States to plan in advance of reviews and know when they will be measured. Figure B1.1 illustrates the PERM rotation cycle.

Each PERM cycle begins in September of the fiscal year preceding the year being studied with the universe collected and samples drawn. Each cycle concludes 26 months later in November of the succeeding fiscal year being studied, when the improper payment rates are calculated and published.

Figure B1.1. Sample PERM Cycle Timeline



Source: CMS, 2014

[38] A separate negative case universe is not required; however, it is possible for negative cases to be reviewed through PERM if relevant denied claims are sampled.

4. Use of contractors

Contractors are used for all PERM components. The statistical contractor (SC), which is The Lewin Group in review year 2019, collects the universe of claims data for Medicaid and CHIP FFS and managed care from the States. Claim payments are used as the sample for the eligibility reviews. During the latter part of each PERM cycle, the SC calculates the State-specific and national Medicaid and CHIP improper payment rates overall and by component.

A review contractor (RC), which is CNI Advantage, LLC, in review year 2019, collects State Medicaid and CHIP policies that are used for the medical and data processing and also conducts those two types of reviews. The RC also manages the resolution process when States disagree with review findings.

The eligibility review contractor (ERC), which is Booz Allen Hamilton in review year 2019, conducts the eligibility reviews, including collecting all necessary policy information and case documentation and helping States develop corrective action plans (CAPs) for addressing review findings. The ERC conducts eligibility policy updates in an ongoing manner by creating regulation tracking databases for new State and Federal regulations that are released. This preemptive policy-tracking method familiarizes the ERC with State policy prior to the eligibility review. The ERC must obtain access to State eligibility and document management systems. Remote access is preferred, but if it cannot be obtained, the ERC travels to the State to access the necessary files. Because the ERC relies on support from States to conduct eligibility reviews, including providing case documentation when eligibility information is missing from a case file, the ERC does not have direct access to Federal data sources (e.g., CMS's Federal Data Services Hub). The State conducts data matching when necessary and provides the results of the match to the ERC. The ERC reviews State eligibility determinations for each sampled claim. If States do not provide sufficient documentation for this review, they have 30 days to provide the information. The ERC posts the findings from the reviews of these cases to the State Medicaid Error Rate Findings (SMERF) system. The ERC works with CMS and States to develop CAPs for addressing error findings.

5. Contractor oversight

The CMS PERM team communicates regularly with the PERM contractors and often provides high-level guidance about the policies contractors apply to individual cases. CMS samples a subset of the PERM-sampled cases monthly and reviews them independently from the contractor's review to ensure accuracy and agreement with the contractor's decision. If there is a discrepancy between the finding of CMS and the contractor, the PERM team deciphers whether the cause is individual error or differing policy interpretation. CMS monitors PERM program milestones such as sample universe collection and improper payment rate calculation to ensure meeting planned deadlines within each PERM cycle. The resolution process whereby States can appeal a contractor's finding to CMS provides a feedback mechanism that enables CMS to assess contractor performance.

6. Roles and responsibilities

The PERM team at CMS provides oversight of the contractors and the States. CMS also assigns a liaison to each State within each PERM cycle. This person is the State's main point of contact for that cycle and ensures the measurement deadlines are met. States are responsible for working with CMS and the contractors to ensure all parties have the necessary information to calculate improper payments. Table B1.1 summarizes the responsibilities of CMS and the States and table B1.2 summarizes the responsibilities of each contractor.

Table B1.1. Federal and State Responsibilities in the PERM Process

Federal Responsibilities	State Responsibilities
▪ Structure the parameters for measurement through legal and policy decisionmaking processes. ▪ Oversee the operation of PERM and PERM contractors. ▪ Provide educational resources for Medicaid and CHIP providers. ▪ Make final decisions on State-requested appeals of error findings. ▪ Provide assistance to States as they experience challenges. ▪ Ensure States return the Federal share of identified overpayments.	▪ Assist the RC in accessing State policies needed for review. ▪ Track identified errors and respond. ▪ Request difference resolution with RC (and then with CMS if necessary) if the State disagrees with an error finding. ▪ Implement corrective actions to reduce improper payments. ▪ Return Federal share of overpayments.

Source: CMS, n.d.

Table B1.2. Contractor Responsibilities in the PERM Process

Statistical Contractor	Review Contractor	Eligibility Review Contractor
▪ Conduct intake meetings with State staff prior to each cycle to collect relevant information about systems, programs, and payment methodologies. ▪ Collect quarterly FFS claims and managed care capitation payment universes from each State. ▪ Conduct extensive quality control review checks on each submitted universe. ▪ Select quarterly random samples from each submitted universe for the RC's review. ▪ Calculate State and national improper payment rates. ▪ Create error analysis reports for States to use for corrective action purposes. ▪ Maintain the PERM Eligibility Tracking Tool, which States use to report findings. ▪ Support CMS in reviewing State-submitted findings.	▪ Research, request, and collect applicable Federal regulations and State medical and claims payment policies. ▪ Request and receive medical records from providers for sampled payments. ▪ Conduct data processing reviews on all sampled claims and medical review on FFS claims. ▪ Host the SMERF website.	▪ Ensure the PERM eligibility standard operating procedures are implemented accurately and eligibility review findings are comparable across States and measurement cycles. ▪ Obtain and maintain Federal and State eligibility policies for the PERM program. ▪ Obtain access to State eligibility and document management systems, prior to the start of eligibility review cycle, to collect case file documentation. ▪ Review Medicaid and CHIP samples across the 17 States in each PERM cycle. ▪ Post eligibility review findings to the SMERF system. ▪ Work with CMS and the State to develop CAPs for reduction of error rates.

Source: CMS, n.d.

7. *Improper payment rates*

In PERM, an improper payment is the difference between the amount paid and the amount that should have been paid. Equations for calculating the improper payment rates in the PERM program are included in the PERM manual (CMS, 2018), which is updated periodically and published on the CMS website. The PERM improper payment rates for both Medicaid and CHIP are calculated using the improper payments and total payments sampled from the data provided by the States.

Four national PERM improper payment rates are separately calculated for each Medicaid program and for the CHIP program: FFS, managed care, eligibility, and overall. These national rates are released annually and are calculated on a rolling basis by aggregating the most current data available from all 51 States, including the 17 States in the current cycle and those in the samples from the previous 2 years. To calculate the rate, the SC uses a State's reported payments from the year sampled and State expenditures as weights that ensure a State's impact on the national rolling improper payment rate is proportional to the size of its payment. The error and payment amounts by component are combined across all 51 states to calculate the national rolling component improper payment rates for FFS, managed care, and eligibility. The three component rates are combined to form the overall national rolling improper payment rate.

In any cycle, improper payment rates (FFS, managed care, eligibility, and overall) are calculated for the 17 States in that cycle. Component improper payment rates are calculated separately by adding the total projected improper payment amount for each component within each State and then calculating the percentage of improper payment amount.[39]

8. *Corrective actions*

States must submit a CAP to CMS within 90 days of the release of the State-specific improper payment rate. CMS provides a template for that purpose that prepopulates the State and fiscal year, improper payment rate, and summary of error causes. Other fields on the template include the date, State contact, and State corrective action discussion, where the State can input a high-level overview of planned corrective actions such as increased staff training or provider education. Specifically, the CAP must address all errors identified by the PERM review and include the following:

- A data analysis of the findings to identify where and why errors are occurring and a program analysis to determine the causes of errors in program operations
- An outline of actions that can be implemented to correct error causes
- Plans to implement the outlined actions, including milestones, target dates, and how the corrective action will be monitored
- An evaluation to assess whether the corrective actions established from the previous cycle have been effective at reducing or eliminating the targeted error causes

CMS encourages the use of corrective action panels consisting of senior management in the areas of policy, field operations, statistics, finance, human resources, and legal issues, and the panels should be

[39] Because of the FY 2014–2017 Eligibility Review Pilots, PERM did not calculate State-specific eligibility improper payment rates during those 4 fiscal years. For the purposes of the national Medicaid and CHIP improper payment rates, State-specific eligibility rates were maintained from the prior PERM cycle and used to calculate the national rates.

led by the State Medicaid or CHIP director. These panels should identify the cause of errors and develop amelioration strategies, communicate CAP progress to stakeholders, and make decisions regarding the planning and implementation of corrective actions.

Under the final rule in the *Federal Register* (U.S. GPO [Government Publishing Office], 2017) implemented in 2017, States continue to implement CAPs but more stringent requirements were added for States that have consecutive PERM eligibility improper payment rates above 3 percent for two consecutive PERM cycles. In these situations, CMS will intervene and provide direction for active case reviews.

9. *Resolution process*

States have the opportunity to dispute error findings by filing difference resolution requests with the RC and to further appeal resulting decisions to CMS. These procedures are intended to ensure PERM provides States with due process protections by allowing them to seek redress for error findings they dispute.

If a State disagrees with an error finding reported to the RC, that State can submit a difference resolution request via the SMERF. The RC reviews the request and issues a decision that upholds, modifies, or overturns the initial error finding. If the State still disagrees with the reconsidered decision, it can appeal to CMS within 10 days. When a State appeals to CMS, the RC is notified by email and is required to provide CMS with access to the entire sampling unit record. CMS convenes a panel of PERM clinical and policy experts to review appeals and usually reaches a decision within 45 days. CMS sends an email notifying the State that the appeal decision is available for review in SMERF. The CMS review panel's decision is final and binding.

10. *Mini-PERM*

Mini-PERM measurements are voluntary State-specific improper payment reviews designed to assist States in identifying and eliminating improper payments during years States are not measured under PERM. These reviews are conducted by State staff and are intended to support States' development of targeted CAPs that will decrease Medicaid and CHIP improper payments.

States determine the aspects of mini-PERMs, such as sample size, universe composition, review procedures, and error definitions. These mini-PERMs can focus on a smaller sample, a particular component (FFS, managed care, or eligibility), a specific service type, or another aspect. Many States expressed interest in conducting mini-PERMS but lacked resources to do so. As a result, CMS offers States staff resources such as reviewers and statisticians.

B. PERM Features Relevant to a Potential One-Tier SNAP QC Process

There are several features of the PERM program that could be applied to a one-tier SNAP QC process, including employing a pilot process before launching a system nationwide, implementation of a cycle that staggers State reviews over time, the use of a contractor for all or some parts of the process, the use of CAPs in lieu of the bonus and sanction approach currently employed by SNAP QC, and a mini-PERM measurement process during off cycles. The features, applications for QC, and benefits and limitations are summarized in table B1.3; further detail on these features is provided in the remainder of this section.

Table B1.3. PERM Features Applicable to a One-Tier SNAP QC

PERM Feature	Application for SNAP QC	Benefits	Limitations
Pilot Process	▪ Implement several rounds of pilots and issue guidance based on previous pilot rounds to provide lessons learned.	▪ Allow FNS to test different approaches in a one-tier QC system and make improvements prior to rolling out to all States.	▪ Implementation of a pilot process could take several years.
State Review Rotation Cycle	▪ Split SNAP QC reviews into two or more review cycles, such that each State would no longer be reviewed annually.	▪ Reduced resources would be needed for reviews at a given time and would enable FNS to reduce the national sample size in a given year without reducing State sample sizes needed for precision of estimates.	▪ Information would be provided to Congress on SNAP QC errors less frequently. ▪ State-specific error rates would not be available annually. ▪ National rates would be a rolling average of the previous 2 years.
Outsource to Contractors	▪ Outsource all or some QC functions, such as sampling, tracking Federal and State policies, conducting reviews, and/or calculating error rates.	▪ This would reduce the Federal workforce needed to implement the one-tier system. ▪ Outsourcing data collection to contractors (with error determinations made by Federal personnel) would adhere to the current requirement that merit personnel make determinations related to eligibility.	▪ A legislative change would likely be required regarding merit personnel if a contractor was responsible for all QC activities. ▪ FNS would be further removed from the process and would need to establish robust oversight procedures. ▪ Contractors would need to learn much policy.
Collect case file and data matches from State staff	▪ Collect case file information from State systems in person if remote access not available. ▪ Require State staff to provide any documentation missing from the case file, including data matches	▪ This would address the challenge of lack of remote access to State eligibility and document imaging systems. ▪ Having States provide documentation of data matches would address FNS's challenge in establishing access to Federal and State data-matching sources.	▪ Reliance on State staff to provide documentation of information needed for QC reviews would reduce the independence of the review.

PERM Feature	Application for SNAP QC	Benefits	Limitations
CAPs	▪ Implement CAPs to identify where and why errors are occurring and to determine the causes of errors in program operations. ▪ Outline actions that can correct error causes.	▪ CAPs would help meet the QC goal of providing a continuous flow of information on which to base corrective action.	▪ Implementing CAPs in lieu of the current sanction component of SNAP QC would require a legislative change.
Mini-measurements	▪ If States are not reviewed annually, implement additional error measurement activities during off-cycles to improve review procedures and error definitions.	▪ This could improve review procedures and error definitions. ▪ This approach would facilitate continued improvement during off-cycles for some States.	▪ This approach would require some additional FNS staff time or contractor resources during off-cycles.

1. Pilot Process

The FY 2014–FY 2017 Medicaid and CHIP Eligibility Review Pilots could provide a useful example of testing a major change to the QC process before a final implementation. Goals of the pilots included the following:

- Evaluate the performance of automated processes and caseworker actions.
- Provide States and CMS with detailed information on the accuracy of eligibility determinations under ACA.
- Provide the time necessary to test various methodologies for producing error rates.

CMS released guidance for the first round of pilots in 2013 and guidance for subsequent rounds based on lessons learned in the first round.

All States participated in the pilots to ensure all 51 Medicaid and CHIP States were given equal oversight. As part of the pilots, States were required to submit pilot proposals within a 3-month timeframe in advance of each pilot. CMS provided a proposal template outlining the information States needed to include with their submission. CMS reviewed and approved the proposals within 2 weeks. States whose proposals were not approved were given 1 additional week to make revisions based on CMS's comments.

The reviews implemented under the pilots consisted of case reviews, payment reviews, and quality control re-reviews. Case reviews examined case worker actions and whether the case worker correctly applied State policies. Payment reviews identified payment for active case errors. The QC part of the reviews consisted of re-reviewing 10 percent of the sampled cases, on all errors.

States were required to report the following results for both Medicaid and CHIP:

- Number of active and negative cases reviewed
- Number of active and negative cases correct
- Number of active and negative cases in error
- Amount of improper payments identified

In reporting the results from their pilots, States were also required to submit an analysis of the types of errors identified and a CAP addressing each error found to prevent its recurrence.

CMS allowed States to staff the work for the pilots with their own staff or contractors but specified that the State agency responsible for conducting the pilot reviews needed to be independent of the State agency that makes eligibility determinations.

Implementing a pilot process for a one-tier SNAP QC system could help FNS to develop best practices before launching a revised system. Some of the features of the FY 2014–FY2017 Medicaid and CHIP Eligibility Review Pilots could be applicable to a pilot of a one-tier SNAP QC process. For example, FNS could implement several rounds of pilots and issue guidance based on previous pilot rounds to provide lessons learned. This kind of pilot process would enable FNS to test different approaches in a one-tier QC system before implementing them.

A limitation of conducting a pilot process is the considerable time the process would take, especially if many rounds were conducted. The pilot process could take several years before the system would be effective enough to run in an official capacity.

2. State Review Rotation Cycle

Instead of conducting SNAP QC reviews for all States at the same time, a one-tier system could adopt a rotation format similar to that of PERM. Using this format, SNAP QC reviews could be split into multiple review cycles, such as 3 cycles that each include 17–18 States reviewed over the course of 26 months. Alternatively, each State could be reviewed biennially.

The advantage of this approach would be reduced resources needed for reviews by spreading them over a longer period. For example, sample universe data would need to be pulled from only 26 to 27 States at once, rather than all 53. A national error rate could be calculated as a running average of the previous 2 years.

This approach, however, would reduce the frequency of information provided to Congress on SNAP QC errors and would produce State-specific error rates only every 2 years rather than annually.

3. Outsource Review Process Functions to Contractors

A one-tier SNAP QC system could outsource all functions to contractors, with FNS simply retaining an oversight role, similar to PERM, or FNS could outsource only some functions of the process. For example, FNS could outsource sampling, tracking Federal and State policies, collecting data, conducting reviews, and/or calculating error rates. Comparable contracted functions successfully executed by CMS's PERM program include sampling and error rate calculation (by the SC), managing the resolution process (by the RC), and collecting updated Federal and State eligibility policy information in advance of reviews, conducting reviews, and helping develop CAPs (by the ERC).

Hiring a contractor to conduct some or all functions within a one-tier SNAP QC system would overcome a significant staffing challenge. Politically, it might be advantageous to have contractors do the work because it would be difficult to expand Federal staff to the capacity necessary to complete QC. Having a contractor conduct certain functions, such as sampling or data collection, would also avoid the merit personnel requirement for eligibility determination activities. A QC system with contractors might also attract better and more consistent quality of review staff. Having contractors perform the work for SNAP QC would improve consistency across States and reduce State burden, which was the rationale for CMS to have contractors conduct eligibility reviews for PERM. The PERM pilots demonstrated that an experienced contractor can review consistently across States while accounting for State-specific policies.

There could also be some challenges to having an outside contractor complete some or all of the functions for QC. A legislative change might be required regarding the language requiring merit personnel if FNS were to use contractors to conduct SNAP eligibility determination. Contractors would need to develop expertise in SNAP policies, which differ significantly across the States. Contractors would also need access to State data systems.

4. CAPs

A one-tier SNAP QC process could hold States accountable for errors through corrective action reporting in lieu of the sanction approach currently used in the two-tier process. Under PERM, States must implement CAPs to address all errors identified by the medical, data processing, and eligibility reviews. As in PERM, CAPs in the context of SNAP QC could include an analysis of review findings to identify where and why errors are occurring and the causes of errors in program operations. SNAP QC CAPs could outline actions that could be implemented to correct error causes and plans to implement the CAPs, including milestones, target dates, and how the corrective action will be monitored. Including an evaluation component in the CAPs could help assess whether these plans were effective at reducing or eliminating the targeted error causes. In addition to holding States accountable for errors, CAPs would also help meet the QC goal of providing a continuous flow of information on which to base corrective action.

Implementing a new process of developing, implementing, and monitoring CAPs, however, would require development and piloting of new procedures. A robust pilot phase for such a new process would be beneficial.

5. Mini-Measurements

Under a one-tier QC system, FNS could implement some features of the mini-PERM. If the QC process moves to a rotation cycle, mini-measurements like those used by States between PERM measurement years could help FNS to identify and eliminate errors during years States are not measured under PERM. These mini-measurements could focus on improving review procedures and error definitions. The smaller scale processes would require less staff time than the larger QC process but could help FNS work toward making procedural improvements to the QC process by illuminating inefficiencies or areas of QC that are prone to errors.

Although the mini-measurements could be useful in improving the QC process, they would require additional staff or contractor time and effort, which may be limited while staff are working on the larger QC process.

Appendix B2. DOL's Unemployment Insurance Benefit Accuracy Measurement Program

The Department of Labor (DOL) established the Federal-State Unemployment Insurance (UI) program in 1935 to provide temporary aid to people who lose employment because of circumstances beyond their control. Concerned with the accuracy of UI benefit payments, DOL began assessing benefit payment accuracy in the late 1970s. After a study by the National Commission on Unemployment Compensation revealed higher than anticipated error rates in UI benefit payments, DOL implemented a random audit of payments in five States (Kingston & Burgess, 1981). In 1987, DOL developed the Benefit Quality Control program, later renamed the Benefit Accuracy Measurement (BAM) program, to identify payment errors across all States. In 2001, BAM began to sample and audit denied claims in addition to paid claims. Today, State BAM programs assess the rates of improper or inaccurate payments to claimants from three major unemployment compensation programs: (1) Regular State UI, (2) Unemployment Compensation for Federal Employees (UCFE), and (3) Unemployment Compensation for Ex-Service Members (UCX). DOL uses BAM data to construct a series of UI program performance measures in compliance with Federal law and to produce several other program integrity rates.

Aspects of the BAM program may inform the discussion of potential changes to the SNAP QC process. Section A of this appendix provides an overview of the BAM program. Section B identifies components of the current BAM program that could be adapted for the SNAP QC process and discusses the advantages and disadvantages of adapting these components. This appendix focuses on the BAM process for paid claims. The process for denied claims is similar to that for paid claims but with a focus on the specific reason for denial.

A. Overview of the BAM Program

The UI program and BAM process, while federally mandated and funded by DOL, are operated by individual States with State staff. Within each State agency, a dedicated BAM unit that functions independently from the claims processing unit is responsible for assessing payment accuracy. The State BAM unit draws a representative, random sample of paid and denied UI claims each week. State investigators then review sampled claims using standardized data collection methods and procedures developed by DOL and defined in the *Employment and Training Handbook 395* (U.S. DOL, 2009). State investigators then record information from questionnaires, claim information as it existed prior to the investigation, and updated claim information obtained during the investigation into a State database; information from State databases is uploaded daily to a centralized DOL database.

For paid claims, investigators attempt to (1) verify that the claimant was eligible for benefits at the time of application, (2) confirm that the claimant met the State's ongoing eligibility standards during the sampled week, (3) calculate the dollar value of any errors (both overpayments and underpayments), and (4) assign responsibility for any errors to the appropriate party (agency, claimant, or employer). Audits of denied claims focus on the specific issue on which the denial was based. Despite the standardized methods and procedures, stakeholders are cautioned to avoid comparing payment accuracy rates across States because laws, regulations, and policies vary for each State, and differences in these conditions (or the interpretation of these conditions) influence the potential for error.

1. Sampling

State BAM units randomly select a weekly sample of paid and denied claims from each of the three UI programs (State UI, UCFE, and UCX). The time period for the weekly sampling interval, or batch, is midnight Sunday to 11:59 p.m. Saturday.

BAM State sample sizes are consistent with the OMB reporting standard of a 95-percent confidence interval of +/- 3 percentage points for the national estimates of improper payments (U.S. OMB, 2011). To establish minimum sample sizes, DOL first identifies the 10 smallest and largest States (as defined by the number of UI weekly claims paid during the previous 5 years) and then uses this information to set separate minimum sample sizes for (1) the 10 smallest States and (2) all other States (U.S. DOL, 1996). The annual sample sizes for paid claims and the three types of denials (monetary, separation, and nonseparation) are fixed for the calendar year, and States are expected to select at least the minimum number of cases each week. That is, States are not allowed to oversample during a portion of the year to meet the annual sample allocation and then suspend sampling for the remainder of the calendar year.[40] The minimum annual sample allocations are shown in table B.2.1.

Table B.2.1. Annual Sample Sizes per State for UI Paid Claims and Denials

Sample	Paid claims	Denied claims			Total Sample[a]
		Monetary	Separation	Nonseparation	
10 smallest States	360	150	150	150	810
Other States	480	150	150	150	930

[a] The annual sample sizes break down to a minimum sample of 16 cases per week for the 10 smallest States and 18 cases per week for all other States.

2. Staffing

While the number of BAM staff varies, States typically employ five or six investigators who are responsible for conducting reviews; at least one supervisor who is responsible for program administration and oversight of BAM investigations; and one or more administrative support staff who facilitate the review process by obtaining customer information, preparing case files, sending mailings, and so forth (Potter et al., 2014, pp. A-4–A-5). Investigators need extensive knowledge of the UI process to be effective, so BAM supervisors prioritize experience over educational background when hiring investigators. Specifically, BAM supervisors often try to recruit investigators with prior UI adjudication experience and broad UI knowledge (Potter et al., 2014, pp. A-4–A-5).

3. Data Collection Process

Investigators collect data from claimants via a questionnaire and from data verification sources such as employers and data matches.

a. Claimant questionnaire

Investigators administer an eight-page survey to each claimant in the sample to collect demographic characteristics, detailed information on monetary and nonmonetary eligibility, ability and availability to

[40] States sometimes sample more than the minimum number of cases. For example, a State might sample 520 paid claims per year because their designated sample size for paid claims (480) does not allocate evenly across 52 weeks.

work, and work search efforts. Sampled claimants are also asked to provide a work search log, which is entered into the State database. Investigators make up to three attempts to contact a claimant. Depending on the State, they may—

- Administer the questionnaire to claimants over the phone.
- Mail or email the questionnaire and request that claimants complete and return the form.
- Ask claimants to complete the questionnaire in person at their local BAM office.

The number of completions by phone, mail or email, and in person varies by State, and the type of claim depends on which combinations of these options are offered by the State. Each year, DOL provides aggregate information on BAM findings. For example, in 2017, the number of paid claims questionnaires completed in person was 6 percent; 39 percent were completed by phone; 43 percent were completed by mail; and 12 percent were incomplete (U.S. DOL, 2017).

A claimant's failure to complete the questionnaire after the third attempt can result in delay or denial of benefits in accordance with the reporting requirements of the State. Despite this strong incentive to respond, nonresponse to the questionnaire remains a concern. According to the Unemployment Insurance Program Letter No. 28-13, in calendar year 2012, almost 7.6 percent of the sampled claimants did not complete the questionnaire, with a range across States of slightly more than 2 percent to nearly 20 percent (Seleznow, 2013).

b. Data verifications

Investigators must also contact all prior or current employers that could have had an impact on the sampled week to verify the completeness and accuracy of the claims records and the data collected (U.S. DOL, 2009, p. VI-5). The goal of these contacts is to ensure claimants properly reported earnings, confirm the reason for separation, and verify that claimants' discharges were no fault of their own (Potter et al., 2014, p. A-15). BAM units also contact employers to verify claimant work search efforts for paid claim investigations and third parties such as doctor offices, schools, and training providers to verify claimants are able and available to work (Potter et al., 2014).

Data matching is conducted at various stages of the UI process. For example, State BAM units often match to NDNH and a State-maintained New Hires Directory, if available, to confirm that claimants have not returned to work. States also use other data sources for validation, but these data sources vary by State. The Work Number, provided by Equifax, was recently piloted by three States to obtain employer payroll information (U.S. DOL, 2017).

4. Improper Payment Rate Calculation

DOL calculates national and State-level UI overpayment and underpayment rates and two improper payment rates. The overpayment rate is the total weighted amount of payments determined to be overpaid divided by the weighted dollar amount paid in the BAM sample population. This rate includes fraud, nonfraud recoverable, and nonfraud nonrecoverable overpayments (U.S. DOL, 2017). The underpayment rate is the total weighted amount of payments determined to be underpaid divided by the weighted dollar amount paid in the BAM sample population. DOL then reports two improper payment rates, one that includes recoveries (in accordance with IPIA) and one that excludes recoveries (in accordance with IPERIA). The IPIA improper payment rate is the sum of the overpayment rate and underpayment rate, subtracting overpayments recovered, while the IPERIA rate is the sum of the

overpayment rate and underpayment rate, without subtracting recovered overpayments (U.S. DOL, 2017).

There is some variation across States in what constitutes an overpayment. For example, a GAO report on how State-based differences in work search warnings affect the BAM improper payment estimates found that "some States have formal warning policies that allow UI claimants to receive benefits after the first discovered occurrence of their failing to meet work search requirements, while other States do not have such policies. As a result, States are inconsistent in whether they report such benefit payments as overpayments, which could have an impact on DOL's reported improper payment rate" (U.S. GAO, 2017, p. 4).

State-based differences in coding based on failure to complete the questionnaire also have an impact on DOL's reported improper payment rate. DOL guidance indicates BAM units "must treat the failure to complete the questionnaire as a condition of continuing eligibility for future benefits 'in accordance with the eligibility and reporting requirements in State law'" (Seleznow, 2013, p. VI-15). These laws vary by State, and some States therefore code claimant nonresponse as a work search overpayment, while others code this as incomplete and do not count as overpayments (Potter et al., 2014, p. 31).

5. Peer Review

Unlike the two-tier system used for SNAP QC, BAM does not include a Federal re-review of a subsample of State-reviewed claims. Instead, BAM holds annual regional peer review meetings and periodic cross-regional meetings when States complete desk reviews of documentation for one another's completed investigations, share best practices, and address coding discrepancies (Potter et al., 2014). These are relatively informal meetings for informational and learning purposes with no set number of cases to review. There are also no penalties for States with higher improper payment rates. In fact, the sampling procedures are based on the assumption that every State has similar improper payment rates (see below). However, when State BAM units identify an error, they typically notify the agency's intake and adjudication divisions to promote process improvement and staff development efforts so that necessary corrections can be made. This can include forwarding information to call centers, intake supervisors, and the tax department and initiating and participating in fraud proceedings (Potter et al., 2014).

B. Components of the Current BAM Process That Could Be Adapted for SNAP QC

The following three BAM components could be adapted for the SNAP QC process:

- Revise sampling procedures so that sample sizes are fixed and no longer proportionate to caseloads
- Conduct interviews by telephone
- Hold peer review meetings where States can review one another's completed investigations to share best practices and address coding discrepancies

See table B2.2 for a summary. A detailed discussion of the advantages and disadvantages of adopting each component follows.

Table B2.2. Summary of BAM Components That Could Be Adapted for SNAP QC

BAM Feature	Application for SNAP QC	Benefits	Limitations
Varying sample sizes based on historical improper payment rates	▪ FNS could consider varying State sample sizes based on previous years' improper payment rates.	▪ Sample sizes based on error rates would reduce the level of effort for States with low payment errors.	▪ DOL's revised sampling procedures have not yet been finalized or tested.
Telephone interviews	▪ FNS could consider allowing QC reviewers to conduct interviews by telephone in addition to, or instead of, in-person data collection.	▪ This could mean reduced level of effort for QC reviewers and lower costs. ▪ This might increase the number of completed interviews. ▪ QC reviewers would not need to be located within driving distance of the households they are reviewing.	▪ It might be harder to obtain necessary supporting documentation when not meeting in person.
Peer review meetings	▪ FNS may want to include similar meetings for Federal QC reviewers to share best practices.	▪ The meetings could serve as an important source of coding information. ▪ The meetings could also be an effective means to promote uniform treatment of cases across States.	▪ BAM experience indicates some of the guidance given at the meetings is not consistent with procedures. Participation by FNS may be helpful in this regard.

1. Varying Sample Sizes Based on Historical Improper Payment Rates

Although the BAM sample of paid claims is less than half the SNAP QC sample of cases (22,800 versus 55,004 in FY 2016), when viewed as a percentage of total caseload, BAM sample sizes are comparable to SNAP QC sample sizes. However, a sampling difference between BAM and the SNAP QC system is that BAM sets fixed sample sizes for two groups of States—the 10 smallest and all others—whereas SNAP QC requires sample sizes to be proportionate to State caseloads for the smallest States. Under a one-tier QC review process, FNS could consider adopting similar sampling procedures to BAM. Potter et al. (2014) note that this approach is statistically acceptable because tying sample size to population size is not efficient unless the population is relatively small. For any two populations that include more than 1,000 members each, the same sample size will provide the same level of precision regardless of the number of members in each population.

However, Potter et al. (2014) found several problems with the BAM sampling methodology. Specifically, the current method for determining State sample sizes assumes a uniform improper payment rate for each State. This is problematic "because the precision of the improper payment rate estimate is based on the level of the improper payment rate, and the improper payment rate is a function of those components" (Potter et al., 2014, p. 11). As a result of these findings, DOL is currently engaged in efforts to revise sampling procedures, focusing on setting sample sizes based on States' improper payment rates. The outcome of the revisions to the BAM sampling procedures is not yet known. It seems likely that sample sizes will vary by State, but this variation will be based on the improper payment rates and not the size of State UI caseloads. FNS could monitor the ongoing efforts to revise the BAM sampling procedures and draw lessons from the revised sampling plan to inform sampling for the SNAP QC system.

2. Conduct Interviews by Telephone

Currently, SNAP QC reviewers conduct face-to-face interviews with most SNAP households being reviewed. Prior to 1993, all BAM verifications also were conducted in person. However, DOL found that allowing investigators to collect data via telephone (or mail) did not significantly affect overall accuracy rate estimates, even though somewhat less information was collected (U.S. DOL, 2009). DOL's experience in moving away from in-person interviews can inform FNS's considerations of doing the same. Advantages to conducting SNAP QC interviews by telephone include a reduced level of effort for reviewers and lower costs. Telephone interviews might also increase the number of completed interviews; some State staff noted that scheduling in-person interviews can be difficult and may be contributing to nonresponse. Most importantly when considering a one-tier QC review process, allowing telephone or videoconference interviews would mean QC reviewers would not need to be located within driving distance of the households they are reviewing.

However, some FNS and State staff have expressed concerns about moving away from in-person interviews. In particular, they expressed concerns about being able to confirm clients' identities over the phone. They also contend it is easier to obtain necessary supporting documentation when meeting in person.

There are also considerations about the protocols themselves. The SNAP QC interview and BAM questionnaire are designed to collect substantively different information. The SNAP QC interview collects information about each member of the SNAP household, including information on demographics, income, resources, and work activities. The BAM questionnaire collects only information about the beneficiary, including (1) demographic information (name, date of birth, citizenship status, race, gender); (2) employment history (name of employer, length of employment, job title, wages, responsibilities, and reason for leaving); (3) ability and availability for work; and (4) sources of income. The type of information collected and the number of individuals on which information is needed might make it less feasible to complete the SNAP QC interview by telephone.

FNS will need to consider staff concerns about moving away from in-person interviews and the challenges associated with collecting the complex data needed for SNAP QC when considering whether interviews could be conducted by telephone. As part of this process, FNS may want to seek more information from DOL and State BAM staff to learn more about how the switch from in-person to telephone interviews affected BAM data collection and performance measures.

3. Peer Review Meetings

As noted in section A, BAM holds annual regional peer review meetings and periodic cross-regional meetings. Under a one-tier QC review system, FNS may want to include similar meetings for Federal QC reviewers. During site visits that Potter et al. (2014) conducted with State UI agencies and BAM units, several BAM supervisors indicated these meetings were very beneficial to their BAM units and served as an important source of coding information. In theory, these meetings could also provide an effective means to promote uniform treatment of cases across States. However, one BAM supervisor indicated some guidance received at peer review meetings contradicts the procedures prescribed in the DOL ET Handbook 395, 5th Edition. Another supervisor noted that lessons learned from these meetings are not always disseminated to staff that could not attend. If FNS were to hold peer review meetings that resemble BAM's, it would be beneficial to incorporate processes or procedures that (1) ensure accurate guidance is provided during the meeting and (2) lessons learned are systematically disseminated.

Appendix B3. SSA's RSDI and SSI Stewardship Reviews

The Social Security Administration (SSA) administers the Retirement, Survivor, and Disability Insurance (RSDI) program[41] and the Supplemental Security Income (SSI) program. RSDI provides monthly benefits to qualified retired and disabled workers and their dependents and survivors. Eligibility and benefit amounts are determined by the worker's contributions to Social Security. There is no means test to qualify for benefits, although there is a limit on earned income for people under the full retirement age. The SSI program provides income support to people who are age 65 or older, are blind, or have a disability. The Federal payment is based on the individual's countable income excluding $20 of income, $65 of earnings, and one-half of any earnings above $65. Individuals are not generally eligible for SSI if they have resources in excess of $2,000 (or $3,000 for a couple).

This appendix provides an overview of SSA's system for measuring improper payments in these programs. Section A provides an overview of the review process and section B describes components of the system that could be applied to SNAP QC.

A. Overview of SSA's Stewardship Reviews

SSA's Office of Quality Review (OQR) conducts payment accuracy or "stewardship" reviews of nonmedical eligibility and payment amounts for RSDI and SSI to determine improper payment rates and comply with national and regional guidance. OQR also conducts several other types of reviews, including reviews of transaction accuracy and the medical aspects of cases. OQR works under a different deputy commissioner than SSA's operational offices, and OQR reviewers are located in separate offices from operational staff.

The stewardship review processes for RSDI and SSI are fairly similar, with some program-specific variation. These reviews measure improper payments resulting from (1) SSA's mistake in computing the payment or in failing to obtain or act on available information affecting the payment or (2) a beneficiary's failure to report an event or submission of an incorrect report. The difference between what SSA paid a beneficiary and what the OQR reviewers determines should have been paid is identified as a payment error. Improper payment rates are calculated by dividing total payment errors by total payments. SSA also separately calculates underpayment rates and overpayment rates. Tables B3.1 and B3.2 show the size of the RSDI and SSI programs, along with their improper payment rates for FY 2012 through FY 2017.

[41] Also known as Old-Age, Survivors, and Disability Insurance

Table B3.1. RSDI Improper Payments, FY 2012–FY 2017

Payments/Rates	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Total Payments						
Dollars (millions)	$770,288	$824,191	$862,719	$853,689	$911,200	$910,010
Underpayments						
Target Rate (percent)	≤ 0.20	≤ 0.20	≤ 0.20	≤ 0.20	≤ 0.20	≤ 0.20
Actual Rate (percent)	0.10	0.13	0.05	0.07	0.07	0.03
Overpayments						
Target Rate (percent)	≤ 0.20	≤ 0.20	≤ 0.20	≤ 0.20	≤ 0.20	≤ 0.20
Actual Rate (percent)	0.22	0.22	0.53	0.36	0.21	0.64

Source: U.S. SSA, n.d.a.

Table B3.2. SSI Improper Payments FY 2012–FY 2017

Payments/Rates	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Total Payments						
Dollars (millions)	$53,411	$55,350	$56,458	$56,626	$56,754	$56,495
Underpayments						
Target Rate (percent)	≤ 1.20	≤ 1.20	≤ 1.20	≤ 1.20	≤ 1.20	≤ 1.20
Actual Rate (percent)	1.78	1.66	1.48	1.36	1.23	1.13
Overpayments						
Target Rate (percent)	≤ 5.00	≤ 5.00	≤ 5.00	≤ 5.00	≤ 5.00	≤ 6.00
Actual Rate (percent)	6.34	7.57	6.95	6.06	7.62	7.29

Source: U.S. SSA, n.d.b.

SSA also uses stewardship reviews to identify the leading causes of improper payments to focus on the most critical areas for improvement. Over the last 5 years, the major causes of overpayments in the RSDI program have been (1) substantial gainful activity by disabled beneficiaries that was either not reported by the beneficiary or not acted upon by SSA and (2) computation errors. Computation errors are also the major cause of RSDI underpayments. SSI is a more complex program than RSDI, in part because fluctuations in monthly income, resources, and living arrangements can affect eligibility and monthly payment amounts. Recipients' failure to report such changes represents the primary cause of both overpayments and underpayments in the SSI program. SSA has developed CAPs to address some of the major causes of improper payments. For example, because changes in wages are a leading cause of improper payments, SSA is in the process of implementing myWageReport, a new application that gives recipients a more convenient way to electronically report wages.

1. Sampling

OQR selects a random national sample of cases for stewardship review each month. Currently, sampled cases are distributed across 10 field offices based on staffing levels and availability.[42] In FY 2016, the annual stewardship review sample size was 1,876 cases for RSDI and 4,608 cases for SSI.[43] Within the RSDI sample, there are separate samples for retiree, survivor, and disability cases. For SSI, there is one

[42] When beneficiary interviews were conducted in person, prior to October 2014, field offices reviewed cases in their region.
[43] In December 2016, the number of beneficiaries receiving RSDI payments was 61 million; 8 million received SSI.

regionally stratified national sample. All samples are statistically valid at the national level. OQR staff use the Electronic Quality Assurance system to select and manage samples. For RSDI, cases are selected from Social Security numbers based on recently processed transactions or updates to the Master Beneficiary Record. For SSI, cases are selected from Supplemental Security Records based on a payment made in the month being sampled.

2. Review Process

OQR reviewers are independent from the operational staff of SSA and may conduct multiple types of SSA reviews. For both programs, quality reviewers conduct stewardship reviews on selected cases in the following ways:

- Review the primarily electronic claim materials and other related documents
- Interview, by telephone, the beneficiary or representative payee
- Contact third-party collateral sources of information as needed

Re-reviews are then conducted at the regional and Federal offices.

a. Beneficiary interviews

Generally, the quality reviewer sends the beneficiary (or representative payee) an appointment letter to explain the purpose of any required interview and schedule an appointment. The stewardship review completion rate averages around 95 percent for RSDI and around 86 percent for SSI. Because SSI is a means-tested program, additional documentation about income and resources must be obtained from beneficiaries, leading to the lower completion rate for SSI stewardship reviews.

Prior to FY 2014, SSI stewardship review interviews were conducted in person at the beneficiary's home. OQC moved to telephone interviews because of safety and security concerns and the resources involved in conducting home visits out of a regional office.[44] After the change to telephone interviews, the review completion rate dropped slightly, mostly because of the increased difficulty in collecting required information from beneficiaries. OQC increased the SSI sample size slightly (less than 10 percent) to compensate for the slightly lower completion rate.

b. Data verification

The quality reviewer also requests documentation (e.g., birth certificate, pay stub, rental lease) that must be submitted; this is retained in the electronic OQP datafile. Third-party collateral sources of information, such as a landlord or employer, are contacted if a beneficiary is unable or unwilling to provide the required documentation.

The quality reviewer uses the information gathered to redevelop all nonmedical eligibility factors as of the sample month. Reviewers verify only factors that affect the eligibility and benefits of the particular case they are reviewing. For RSDI, this may include age, relationships, earnings records, and current earnings. For SSI, all income and resources need to be verified.

[44] Formerly, there were three tiers of reviewers: those who would travel by plane to conduct interviews, those who would drive within the region to conduct interviews, and those who would conduct only local interviews.

Reviewers generally follow the same operational procedures used to initially process the claim, making extensive use of SSA data exchanges, where possible, to verify the required eligibility factors.[45] However, reviewers do not use any of the "operational tolerances" that claims intake staff may use. For example, quality reviewers must always observe an original birth certificate, while in some circumstances, operational staff may use other evidence to establish age. Operational staff may also accept an applicant's statement about level of income and resources, while reviewers must verify all income and resources.

c. Re-reviews

Managers review a sample of the cases conducted within their regional field offices, although the number of cases rereviewed varies by site. Nationally, a cadre of experts perform "consistency reviews" on a subsample of completed reviews to confirm appropriate procedures were followed during the review. Cadre members are experienced reviewers selected from each region and serve for 1 year. Any deficiencies found during the consistency review are corrected and uploaded to the Electronic Quality Assurance system.

B. Components of SSA's Stewardship Reviews That Could Be Adapted for SNAP QC

SSA's stewardship reviews differ from SNAP's QC reviews in several ways. Importantly, RSDI and SSI are administered at the Federal level, with uniform Federal rules, while SNAP is administered by States, with significant variation in State policies. The eligibility and benefit computation rules are also substantially less complex, especially for RSDI. For example, RSDI does not have any means test, so reviewers primarily need to verify age, relationship (in the case of survivor and dependent benefits), death (in the case of survivor benefits), and the earnings history of the insured person. SSI does have means tests, so reviewers need to verify income and resources, but SSI does not have the variety of income deductions SNAP has. Data need to be collected only for the beneficiary, the beneficiary's spouse, if applicable, and in case of dependent children, their parents.

Despite the differences, FNS may want to consider some features for SNAP QC, including conducting telephone interviews, having more separation between operational and quality review staff, and systematically using the review results to identify leading causes of improper payments (table B3.3).

Table B3.3. SSA Review Components for Consideration

Stewardship Review Feature	Application for SNAP QC	Benefits	Limitations
Telephone interviews after mail contact	▪ FNS may want to replace some or all in-person QC review interviews with telephone interviews.	▪ A reduced level of effort could lead to lower costs. ▪ QC reviewers would not need to be located near the households they are reviewing. ▪ Telephone interviews would eliminate safety and security concerns associated with home visits.	▪ OQC staff have found it harder to obtain necessary supporting documentation when not meeting in person.

[45] SSA has thousands of data exchange agreements, including those with other Federal agencies, all States, prisons, foreign governments, and private companies such as banks and The Work Number.

Stewardship Review Feature	Application for SNAP QC	Benefits	Limitations
Separation of reviewers from operational staff	▪ A one-tier QC system would create greater separation between caseworkers and QC reviewers.	▪ More separation may reduce concerns about operational staff biasing QC reviewers.	▪ Federal QC reviewers may need to maintain close relationships with State staff who can help interpret State-specific policies, which would reduce the degree of separation possible.
Strong understanding of the leading causes of payment errors	▪ While some States already have a good understanding of the causes of their payment errors, FNS could adopt processes to analyze the causes of payment errors at the national level.	▪ A similar understanding of the leading causes of SNAP's payment errors could lead to practices that reduce errors.	▪ Because policies and practices differ across States, an understanding of the causes of payment errors at the national level may not be useful at the State level.

1. Telephone Interviews

Changing to telephone interviews increased the overall efficiency of the stewardship review process. However, OQC staff have found it harder to obtain all the necessary supporting documentation from recipients, leading to a slightly lower completion rate. From the OQC reviewer perspective, many appreciate that they no longer have the safety and security concerns associated with home visits. Some, however, miss the personal touch of home visits and feel further removed from the recipients they are reviewing. If FNS considers replacing in-person visits with telephone interviews, it may be helpful to meet with SSA staff who can share the lessons they learned during their own transition.

2. Staff Separation

SSA OQR quality reviewers are far enough removed from the RSDI and SSI operational staff that the likelihood of reviews being biased in favor of operational staff because of personal relationships is small. Under a one-tier review process, FNS would be able to establish more separation between QC reviewers and State staff than under the current two-tier system. It may not be possible, however, for SNAP QC reviewers to achieve as much separation as in the SSA programs because of the need for QC reviewers to be familiar with State-specific SNAP policies and for States to help reviewers with accessing the necessary information from State systems. States may also interpret and implement Federal policies in different ways, which could require regular communication between QC reviewers and State staff to clarify State practices. RSDI and SSI, by contrast, have the same policies throughout the country, so OQR reviewers do not need to specialize in a particular State or region. Despite the challenges, FNS may want to consider ways to maintain as much separation as possible between QC reviewers and State staff.

3. Understanding of Leading Causes of Improper Payments

SSA analyzes causes of overpayment and underpayment errors in RSDI and SSI to identify leading causes of payment errors, which helps focus efforts for improvement. A one-tier QC review process could also provide FNS an opportunity to deepend its understanding of the causes of payment errors. For instance, under a one-tier QC review process, reviews would likely be conducted, and findings documented, more consistently across States, leading to better and more consistent data on the causes of payment errors. However, because of the complexity of SNAP program rules, there are more potential causes for payment error than in RSDI and even in SSI, making it more difficult to identify a handful of leading causes of payment errors. Differences in policies across States also mean that a prevalent cause of payment errors in one State may not exist in another, making it difficult to aggregate leading causes of payment errors at the national level. That said, FNS may want to consider ways to incorporate enhanced analyses of leading causes of payment errors into a one-tier review process.

Appendix C. Study Methodology

The goal of this study is to assess the feasibility of revising the SNAP QC system from the current two-tier process that involves State reviews and Federal re-reviews of cases to a one-tier process in which only FNS reviews cases. This appendix describes the methodology used for the study, providing an overview of the study objectives and research questions (section A) and each of the data collection components (section B).

A. Study Objectives and Research Questions

This study has six objectives to assess the feasibility of revising the SNAP QC system from the current two-tier process to a one-tier Federal system, as summarized below.

Study Objectives

Objective 1: Document how the QC review process would change if it became a one-tier rather than two-tier system.

Objective 2: Determine the changes needed to the Federal QC staff size and organizational structure for a one-tier QC system.

Objective 3: Determine the necessary technological infrastructure for a one-tier QC system.

Objective 4: Determine which Federal and State databases the Federal QC staff would need to access to conduct verifications.

Objective 5: Explore other alternatives to the current QC review process.

Objective 6: Estimate the costs and timeline of changing from a two-tier to a one-tier SNAP QC review process.

To address these study objectives, Insight employed the five data collection components outlined below.

Overview of Data Collection Components

1. An environmental scan
2. Site visits to three States
3. Interviews with Federal staff from FNS and other agencies
4. Consultative discussions with subject matter experts
5. An administrative cost collection

Table C.1 presents a summary of the major study objectives and relevant research questions by the data sources used to address them. The following sections describe the data collection components in further detail.

Table C.1 Crosswalk of Research Questions by Data Source

Objective/Research Question	Environmental Scan	State Site Visits	Interviews With FNS and Other Federal Agency Staff	Consultative Discussions With SMEs	Administrative Cost Collection
Objective 1: Document how the QC review process would change if it became a one-tier rather than two-tier system.					
▪ Should second-party reviews be part of the one-tier system? How would second-party reviews work in a one-tier system? What are the advantages and disadvantages of performing second-party reviews for all QC cases or designing a system like the current two-tier system where the second-party review is applied to a random subsample of reviewed cases? ▪ With the abundance of electronic databases and modern computer technology, can the face-to-face interview be replaced with phone or video conference contacts? What key functions are met with the face-to-face interview? ▪ What improvements in internal communication are needed between QC staff and other FNS staff, such as when States implement or change State options or parameters that affect eligibility and benefit determinations?	●	●	●		
Objective 2: Determine the changes needed to the Federal QC staff size and organizational structure for a one-tier QC system.					
▪ What are the organizational changes required for devoting FNS staff to a one-tier QC system under a centralized authority? What staffing functions would be needed to support QC reviewers and immediate supervisors? ▪ What would be the ideal organizational structure for the staff responsible for QC reviews? ▪ How many additional Federal employees would need to be hired? ▪ Assuming home visits would continue as part of the SNAP QC review process, how should QC staff be located, especially with the growing use of telework?		●	●		

Objective/Research Question	Environmental Scan	State Site Visits	Interviews With FNS and Other Federal Agency Staff	Consultative Discussions With SMEs	Administrative Cost Collection
Objective 3: Determine the necessary technological infrastructure for a one-tier QC system.					
▪ With more than 53 different computer systems (not including county-based States with multiple computer systems), what framework is most sensible for a one-tier system? ▪ What computer system requirements are needed for a one-tier review process for 53 State agencies with variations in State options and waivers? How would the system be updated as States modify their choices? ▪ What is needed to develop a computer system that could pull in all the case file data and desired verification data so that much of the QC process could be conducted on a QC reviewer's computer? How does Virginia's SPIDeR system work, and are there other State systems like it? Is the FNS automated 380 system close to meeting this need? ▪ What are the security requirements for the computer and data systems? ▪ What are the record-keeping requirements?	●	●	●		
Objective 4: Determine which Federal and State databases the Federal QC staff would need to access to conduct verifications.					
▪ To ensure unbiased case samples each month, a one-tier QC system would require access to all SNAP cases (both active and negative actions). What would be necessary to permit such access? Does FNS already have the required authority? ▪ What would be necessary to permit FQCRs' access to the State case files for their content, including scanned documents that may be stored on a separate system? ▪ States use multiple State internal and external data-sharing agreements for SNAP verification processes. What would it take for Federal development of similar data-sharing agreements?	●	●	●	●	

Objective/Research Question	Environmental Scan	State Site Visits	Interviews With FNS and Other Federal Agency Staff	Consultative Discussions With SMEs	Administrative Cost Collection
▪ States use multiple State internal and external data-sharing agreements for SNAP verification processes. What would it take for Federal development of similar data-sharing agreements? ▪ Some data needed for SNAP QC reviews may be collected for other State programs but do not require State explicit data-sharing agreements because the data are stored in the same computer record. What issues does this raise for gaining Federal access to these State data records? ▪ States also use Federal data-sharing agreements to access IRS data, BENDEX data, Social Security death records, Income and Eligibility Verification System, etc. What would it take for FNS to develop similar data-sharing processes? Are there additional barriers for Federal agencies?	●	●	●	●	
Objective 5: Explore other alternatives to the current QC review process.					
▪ What are the potential advantages or disadvantages of using an unaffiliated contracted third party versus Federal staff to operate and manage a one-tier QC system? Are there positive examples? What are examples of unintended motivations that drive for-profit companies? ▪ What features of the Medicaid QC system are most relevant to the SNAP QC system that might be applicable to a SNAP one-tier QC system? Can they be adapted for the SNAP one-tier system? ▪ Are there other alternative approaches to be considered?	●	●	●	●	●
Objective 6: Estimate the costs and timeline of changing from a two-tier to a one-tier SNAP QC review process.					
▪ Considering the information obtained in completing Objectives 1 through 4, the Insight team will provide a detailed cost estimate and approximate timeline for developing a one-tier QC review process.	●	●	●	●	

Note: SME = subject matter expert

All interviews were audiorecorded for note-taking purposes with the permission of the respondents, and the study team took detailed notes during the interviews. The study team analyzed the detailed notes from the State, RO, and National Office interviews using NVivo10 software. Insight developed a coding scheme for the notes by identifying interview text relevant to the research questions. These findings were synthesized with those from the other data collection components.

B. Data Collection Components

This section describes each of the five methodological components.

1. Environmental Scan

Insight conducted an environmental scan to understand the history of SNAP QC requirements, recent improvements to the process, and challenges that would need to be addressed if the process was revised to a one-tier system. The sources in the environmental scan follow:

- Existing research on SNAP QC
  - Examples: 1989 One-Tier Federal QC Pilot Project evaluation (Bawden et al., 1989); the 1987 National Academies of Sciences' review of the SNAP QC system (Affholter & Kramer, 1987); the 2018 Congressional Research Service report on errors and fraud in SNAP (Congressional Research Service, 2018)
- USDA reports related to the SNAP QC system
  - Examples: 2015 OIG report on the FNS QC Process for SNAP Error Rate (USDA OIG, 2015) and the 2017 Report on Compliance With Improper Payment Requirements (USDA OIG, 2018)
- GAO audits related to SNAP QC and other Federal improper payment estimation systems
  - Examples: 2016 reports on SNAP policy changes and calculation methods likely to affect error rates (Brown, 2016) and on practices that could enhance States' use of data matching for eligibility (U.S. GAO, 2016)
- Goals and requirements of SNAP QC: Code of Federal Regulations (7 C.F.R. § 275.10, 2016) (U.S. GPO, n.d.)
- Policy guidance for SNAP QC
  - Examples: FNS handbooks 310 and 315 (USDA FNS, 2018a, 2006) and SNAP QC policy memos 16-02, 16-03, 17-01, 17-02, 18-01, 18-02, 19-01, and 19-02 (USDA FNS, 2016a, 2016b, 2016d, 2016c, 2017a, 2018b, 2018g, and 2018h)
- Data system documentation for systems used in the SNAP QC process (Center for Digital Government, 2005; Piven, n.d.)

Insight researchers also attended two recent conferences that provided additional information on the latest developments related to data sharing, data systems, and QC procedures for Federal agencies: the 2018 National Association for Program Information and Performance Measurement Annual Education Conference and the 2018 IT Solutions Management for Human Services conference, both organized by the American Public Human Services Association. Informational sessions and conversations with industry

members at these conferences provided additional insights into topics such as available data-sharing resources and the challenges and opportunities they present.

2. State Site Visits

a. State identification and recruitment

Insight worked with FNS in fall 2017 to identify the three study States. Insight suggested the following criteria to consider in the selection:

- States known to have good QC processes or that have made recent improvements to their QC systems
- At least one State with a significant rural population
- Geographic/regional variation
- States with varying data systems, including varying degrees of sophistication (i.e., newer or more integrated versus a legacy system)

FNS held a conference call in November 2017 with the SNAP Regional Directors and Branch Chiefs responsible for SNAP QC to request their recommendations for States that should be included in the study. Based on the proposed selection criteria, the ROs recommended a series of States to participate and alternative States in case any primary State could not participate. From the list of recommended States, Insight selected New York, Minnesota, and Oregon to be part of the study because they met the criteria and were not included in the previous study of SNAP QC processes (and hence would provide more new information to the study team).

In December 2017, FNS sent a recruitment letter via email to the New York, Oregon, and Minnesota State SNAP Directors introducing the study, including its major components and timeline. Insight held teleconferences with each of the States and the respective ROs in January 2018 to discuss the invitation to participate in the study, explain the data collection components and timeline, and answer any questions the States had. Insight did not encounter any challenges during the recruitment process, and all three States agreed to participate in the study.

b. Site visits

Insight requested interviews with three staff members in each of the three States: the QC Director, someone knowledgeable about State IT systems, and someone knowledgeable about the State's data-sharing agreements with other State agencies, Federal agencies, or other organizations. In most cases, State staff invited additional team members to the meetings. Insight developed protocols for each interview designed around the research questions pertaining to the respondent's area of expertise. All interviews were conducted on site at State offices from late March through mid-April 2018. Each site visit lasted approximately 8 hours over the course of 2 days, with 1–2-hour interviews with each proposed respondent and a summative discussion with the QC director at the conclusion of the visit. Each site visit also included an observational component to see and understand the functionality of the States' data systems. The study team requested administrative cost data from the States in advance of the visits. Insight emailed an Excel workbook to the State contacts several weeks before their respective site visit and requested the staff complete and return the document in advance of the site visit. The

study team discussed the resulting cost data during each interview with the QC director to clarify any questions.

3. Interviews With Federal Staff From FNS and Other Agencies

a. FNS National Office and RO interviews

Insight interviewed 13 National Office and 8 RO staff members about the feasibility of implementing a one-tier QC process. The Insight team also interviewed FNS and contractor staff regarding SNAP QCS. Seven of the interviews were conducted in person at FNS headquarters in mid-October 2017, and the remainder of the interviews were conducted by telephone in late October through early March 2019. Table C.2 lists the interview respondents.

Table C.2 FNS Interview Respondents

National Office Staff	RO Staff	SNAP QCS Staff
▪ Program Accountability and Administration Division Director ▪ Branch Chief, QC ▪ Branch Chief, Retailer Administration, SNAP Retailer Policy & Management Division (RPMD) ▪ QC Team Lead ▪ QC of QC/QC Trainer ▪ QC Arbitrator ▪ Office of the General Counsel ▪ Deputy Associate Administrator, Regional Operations and Support ▪ Statistician ▪ QC Reviewer (2) ▪ Program Analyst, QC ▪ Assistant to the Program Accountability and Administration Division Director ▪ Program Analyst, RPMD	▪ Statistician (2) ▪ QC Supervisor (3) ▪ QC Reviewer (3)	▪ SNAP QCS COR ▪ SNAP QCS Project Manager ▪ SNAP QCS Project Manager (from Criterion) ▪ Business Analyst (from Criterion) ▪ QC Branch Program Analyst ▪ OIT SNAP Project Manager ▪ OIT Project Manager

Following the three State site visits, Insight conducted follow-up telephone interviews with Federal staff in six FNS ROs in May and June 2018. Mid-Atlantic RO, Mountain Plains RO, Midwest RO, Northeast RO, Southeast RO, and Western RO were included in these interviews. Each of these ROs oversees one of the three study States or oversees States with data-sharing or IT systems that were mentioned during the State site visits. Interview topics with ROs included the following:

- IT infrastructure for State and Federal SNAP QC (e.g., reasons States report for using or not using the Automated Form 380; use of Q5i software; FNS access to State systems)
- State data-sharing practices (e.g., VA's SPIDeR system; similar systems in other States; examples of robust or innovative data-matching systems in States; State participation in PARIS and perspectives on its effectiveness for QC)

- State SNAP quality assurance practices for case review at the certification stage, including examples of effective and ineffective practices
- Impressions of State perspectives on a one-tier Federal QC system or other changes to SNAP QC
- SNAP QC administrative costs (e.g., what information RO financial management staff have on administrative costs of QC and drivers of those costs; implications of a one-tier system for State staffing and Federal cost match)

b. Discussions with other Federal agency staff

The study team reached out to officials involved in improper payment and related programs at other Federal agencies. Despite extensive effort, the study team could interview only staff from the following agencies:

- Staff from the SSA's Office of Quality Reviews and Office of Chief Actuary, who provided details regarding SSA disability determination and stewardship review procedures
- Staff from the U.S. Department of Health and Human Services' ACF, responsible for oversight of the PARIS data system
- Staff from CMS to discuss the goals and processes for administering PERM

All interviews were conducted via telephone. The study team was unsuccessful in obtaining interviews with staff involved with CMS's Marketplace Data Services Hub, ACF's National Directory of New Hires, and SSA's data exchanges.

4. Consultative Discussions With Subject Matter Experts

Insight held consultative discussions with subject matter experts within the study team's organizations with expertise in Federal improper payment estimation systems and Federal systems with processes or goals similar to those of the SNAP QC system. These discussions focused on CMS's PERM, DOL's UI, and SSA's RSDI and SSI programs. Additional systems covered in the discussions included the improper payment estimation systems of DOL's Employee Benefits Security Administration, CMS's Comprehensive Error Rate Testing, the U.S. Railroad Retirement Board, and data validation systems for several job training programs: Trade Adjustment Assistance, the National Farmworker Jobs Program, and the Senior Community Service Employment Program.

Each of the subject matter expert interviews was conducted via telephone in December 2017, with follow-up discussions as needed. The interview topics focused on the processes other Federal agencies use to sample cases, calculate improper payment rates, and conduct corrective actions, plus data sources and the use of contractors.

5. Administrative Costs Collection

Insight developed an Excel tool to obtain administrative cost information from the three study States based on the study team's detailed understanding of the QC process and the key components of administrative costs. The tool is organized by major cost drivers, including worksheets for (1) a staff roster and staff included in core activities, (2) QC review labor costs, and (3) nonlabor costs.

Insight requested the administrative costs from each of the study States 4–7 weeks before the site visit to each State. The study team sent an email to the main contact identified during the recruitment process with the State cost tool and detailed instructions requesting the QC team fill in the requested cost information.

In August 2018, the Insight study team contacted staff in the ROs that oversee the three study States to collect Federal administrative costs for QC. Insight also requested administrative costs from the National Office QC Branch. The cost tools developed for the ROs and National Office were similar to those for the States but customized to the Federal roles in the QC process.

Appendix D. Example Models of a One-Tier System

Appendix D1. Model A Approach for a One-Tier SNAP QC System

This appendix presents the first of two model approaches to a one-tier SNAP QC system. While chapter 3 provides a comprehensive list of options that could be considered in the development of a one-tier system, these two models were designed to combine sets of options that would complement one another and form a cohesive system.

In developing Model A, the study team sought to take advantage of all opportunities to improve QC accuracy and reduce QC costs. Under this model, the annual national sample size would be reduced by half by dividing States into two groups that alternate years for participation in QC reviews, so reviews for all States would take place over the course of a 2-year QC cycle.[46] To reduce the number of Federal staff that would need to be hired, Model A would rely heavily on the use of contractors throughout the review process and assumes most client interviews would be conducted by telephone or videoconference. The reference period would focus on the certification month only in lieu of the Comp 1/Comp 2 approach of the current system.

This appendix summarizes the procedural and organizational features of Model A. Section A provides an overview of its approach. Section B describes the procedural aspects of the model, and section C describes the staffing and organizational structure that would be needed. An alternative approach to a one-tier QC system, Model B, is presented in appendix D2. Estimates of the startup and annual operating costs associated with both models appear in appendix E.

A. Overview of Model A

Table D1.1 summarizes the Model A approach to a one-tier SNAP QC system. As with the current QC system, this proposed QC approach would include both active and negative cases; unless otherwise specified, the components and procedures described below would apply to both active and negative cases. An enhanced version of SNAP QCS would provide the technological infrastructure for this system, as described in chapter 5.

Table D1.1. Overview of Model A

Component	Model A
Reference Period for Review	▪ Certification month only.
Sampling Approach	▪ Average sample sizes per State would be similar to the current system, but FNS would review only half the States each year, with each State being reviewed once every 2 years (annual national sample decreases by 50 percent). ▪ FNS would develop sampling plans for States; to boost precision of error rate estimates, sampling plans would yield proportionately larger samples for States with historically higher error rates. ▪ ***Active cases:*** 55,650 cases across the Nation per 2-year QC cycle (the 2-year sample size is similar to the 1-year sample size in the current QC system). ▪ ***Negative cases:*** Simple random sample, approximately 500 cases per State per month, 26,500 cases across the Nation per 2-year QC cycle (smaller sample size than 1-year sample size in the current QC system).

[46] This would require a statutory change.

Component	Model A
Sampling Process	▪ States would submit monthly sample frames to FNS during the year they are in the QC cycle; FNS would oversee contractors that select the samples.
State Policy Tracking	▪ Contractors would compile State policy information at the beginning of each review year.
Data Collection	▪ Contractors would gather as much case file information as possible remotely and travel to States to gather case file information that cannot be obtained remotely. ▪ Contractors would conduct data matches and collect verifications from Federal and commercial databases. States would provide documentation of data matches from State databases other than the SNAP system. ▪ ***Active cases only:*** Contractors would conduct phone interviews with most households (up to 10 percent of interviews could be in person), collect verifications from collateral contacts and other sources.
Error Determination	▪ FNS merit system personnel would analyze findings, make payment error determinations, and identify case and procedural errors. ▪ ***Active cases only:*** Payments would be considered in error if they were more than $38 greater or less[a] than the correct payment amount; error calculation would be based on the certification month only. ▪ ***Negative cases only:*** Cases would be considered in error if the action taken was inappropriate, the reason for the action was incorrect, or the notice to the household was inadequate.
Quality Assurance	▪ ***Active cases only:*** A lead worker or supervisor from FNS would conduct a full independent re-review of a random selection of 15 percent of cases (i.e., completes a new FNS Form 380 but does not reinterview the household); the remaining cases would receive a desk review. ▪ ***Negative cases only:*** A lead worker or supervisor would conduct a desk review of all cases. ▪ Any disagreements between the initial review and the second-party review would be settled by a third party at the supervisor level or higher.
Communication With States and Arbitration	▪ Findings would be communicated to the States through a summary memorandum of findings, plus read-only access to all cases in SNAP QCS. ▪ A 12-person panel would arbitrate cases in which States disagree with review findings; the panel would include 4–6 State representatives, although these representatives would not arbitrate cases from their own States. ▪ Each case would be reviewed by three members of the panel, one of whom would be a State representative; these members would need to agree on the final determination. ▪ To minimize bias, the panel would also review at least one randomly selected case with similar characteristics that was not contested for each error case a State disputes.
Error Rate Calculation (***Active cases only***)	▪ State error rates would be calculated for the review year as the absolute value of dollars spent improperly divided by total dollars spent across all cases subject to review, adjusted for nonresponse bias in incomplete cases. ▪ The national error rate would be calculated annually (after the completion of the first 2-year cycle, using findings from both years) as the absolute value of dollars spent improperly divided by total dollars spent across all cases subject to review, weighted to account for sampling variation across States and adjusted for nonresponse bias among incomplete cases.
Case and Procedural Error Rate Calculation (***Negative cases only***)	▪ State rates would be calculated for the review year as the number of cases in error divided by the total number of cases subject to review. ▪ The national rate would be calculated annually (after the completion of the first 2-year cycle, using findings from both years) as the number of cases in error divided by the total number of cases subject to review, weighted to account for variation in sampling rates across States.
Accountability	▪ A fixed error rate threshold would be established prior to the beginning of the QC year; States with rates above the threshold for two consecutive QC cycles would be at risk of penalty.

[a] Consistent with the current error threshold

Distinctions from the current two-tier system follow:

- States would participate in QC in alternate years instead of participating each year.
- States would submit monthly sample frames to FNS; an FNS contractor would select samples each month with proportionately larger samples for States with historically higher error rates. Currently, States select their own samples.
- Most household interviews would be conducted by telephone or videoconference, as opposed to almost all household interviews conducted in person currently.
- Contractors would be employed for significant responsibilities across the QC review process, but FNS merit system personnel would continue to make all determinations about eligibility and benefits and ultimately assess whether a case is correct or in error; contractors are used very infrequently in the current system.
- QC reviews would examine the certification month, whereas the current system identifies errors as being the lesser of those associated with either Comp 1 or Comp 2.
- Arbitration would be conducted by a panel of 12 persons, including 4–6 State representatives. One person serves as arbitrator in the current system.
- Liabilities would be determined based on a fixed error rate threshold each year rather than a threshold determined by national error rates each year.

While Model A reflects major changes from the existing two-tier system, this approach would still meet all the goals of the QC program (table D1.2).

Table D1.2. SNAP QC Goals Met by Model A

SNAP QC Goal	Model A
Systematic method of measuring the validity of SNAP caseload	Model A would use a reduced national sample size consisting of half the States each year, along with proportionally higher samples among States with higher error rates in previous years, to measure the validity of the caseload and for use as a basis for determining error rates. The annual State-level samples sizes for active cases would be similar to the current system (for States active in the QC cycle) but smaller for negative cases.
Basis for determining error rates	
Timely continuous flow of information on which to base corrective action at all levels of administration	Model A would provide a continuous flow of information for half the States at any given time. However, given the amount of time needed to review cases, there would be a lag between when the error occurs and when the QC finding could be used to make improvements; this is also a concern with the current two-tier process. If Model A were implemented, FNS should also support States in establishing rigorous quality assurance processes at the (re)certification stage to identify errors earlier in the process and to provide feedback during years the State does not participate in QC.
Basis for establishing State agency liability for errors that exceed the national performance measure	Model A would provide a basis for identifying States with error rates greater than a fixed threshold established prior to the review year.

B. Procedures

This section discusses the tasks that would occur before, during, and after the years in which a State participates in QC. Each 2-year period is referred to as a QC cycle.

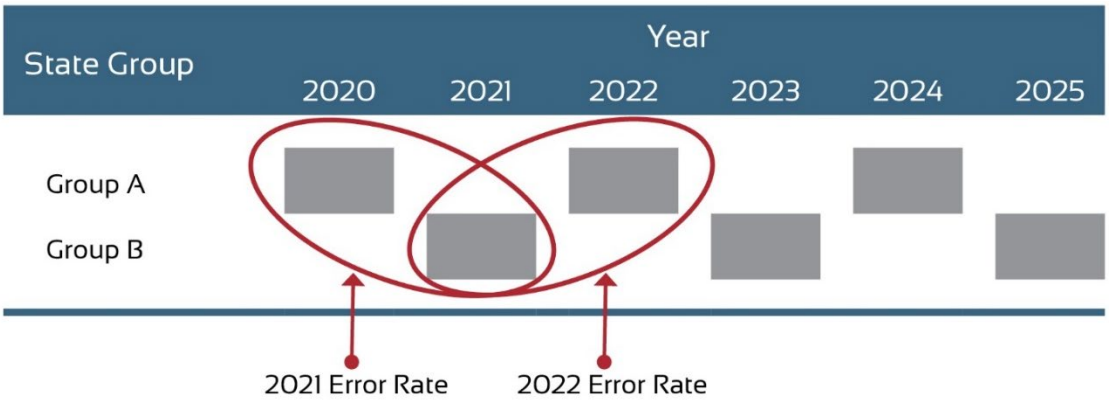
1. Prior to the sample month

a. Sampling approach

First, FNS would construct two groups of States, based on State caseload size, geography, and historic error rates. Each year, FNS would conduct QC reviews for only one group, and groups would alternate from year to year. To avoid losing any precision in the annual national error rates by reviewing only half the States, FNS would construct national estimates by combining samples across years. Thus, the total sample required for calculating error rates at the national and State levels could remain the same as in the current two-tier approach—approximately 55,500 active households for national estimates and 1,000 households per State.[47] However, each year FNS would conduct only about 28,000 QC reviews—half the number of QC reviews conducted under the two-tier approach.[48]

Error rates for any individual State would be computed only every other year. For example, States in Group A would be reviewed in 2020, 2022, and 2024, while States in Group B would be reviewed in 2021, 2023, and 2025 (see figure D1.1). The 2021 national error rate would be computed using the 2020 and 2021 State samples, and the 2022 national error rate would be computed using the 2021 and 2022 samples.[49] Alternating groups of States is an approach similar to that used by CMS's PERM, in which States are divided into three rotating groups and the national error rate is a running average of the most recent 3 years (see appendix B1 for more detail).

Figure D1.1. National Error Rates as a Running Average of 2 Years



[47] In 2016, there were 55,650 active SNAP households sampled for QC. The final SNAP QC file contains only 47,000 households, reflecting that some QC reviews are not completed for sampled households and reflecting other edits made to the SNAP QC file.
[48] The study team examined the effects of reducing the SNAP QC sample size on estimates of payment errors and estimates of SNAP household characteristics derived from the QC data. These estimates suggest sample size reductions greater than 15 percent could significantly reduce the precision of State improper payment rates. See appendix F.
[49] This approach precludes the ability to produce national rates in the model's initial year of operation.

The primary disadvantage of this approach is that State error rates would be available only every other year.[50] For any given year, half of the national error rate would be based on data from the previous year. The effect of this approach on the accuracy and policy relevance of error rates—and of SNAP QC data in general—would likely be minimal, because State QC error rates are historically relatively stable. Between 2006 and 2014, State error rates fluctuated on average fewer than 2 percentage points from year to year. Between 2013 and 2014, almost half of all States had a change less than 1 percentage point, and more than two-thirds had a change less than 2 percentage points. The study team simulated grouping States into two cohorts: Group A and Group B. National annual error rates were simulated alternating which group provided error rate data from the current year and which provided data from the prior year. In most years, the difference between the simulated and the estimate of the official rate was less than 1 percentage point (table D1.3).[51] These data points suggest any bias caused from the alternating sample approach would be minimal, and data from a QC sample based on alternating groups of States could still inform policies. However, before proceeding with an alternating sample approach, a more thorough assessment of the impact of this approach on all uses of SNAP QC data should be conducted.

Table D1.3. Simulation of Alternating State Contributions to National Error Rate

Rate	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate From Prior Year	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A
Rate From Current Year	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B
Simulated Split Sample Rate	7.47	8.02	9.16	7.95	7.04	6.39	4.86	4.70	4.81
Approximate Official Rate	8.43	7.96	11.05	6.99	7.18	4.89	4.21	5.15	5.28
Difference	-0.96	0.06	-1.89	0.96	-0.14	1.50	0.65	-0.45	-0.47

Under the alternating sample approach, FNS would develop tailored sampling plans for each State. These plans could be developed in the "off cycle" year to inform the next year's QC sample. The plans would cover sampling of both active cases and negative cases. Each of these is described below.

Sampling approach for active cases. The sample size for active cases would be approximately 28,000 per year. The total sample—drawn over a 2-year cycle—would remain the same as the current 1-year cycle, approximately 55,500 households. FNS sampling plans would specify sample targets for each State. The average sample target would be approximately 1,000 cases per State per year in the QC cycle. To improve the precision of error rate estimates, sample targets would be higher for States that tend to have higher error rates.[52] Consistent with current practice, targets would be lower for States with extremely small caseloads (e.g., Wyoming, North Dakota, the Virgin Islands). To set these State-specific targets, sampling statisticians could determine the optimal allocation of the 55,500 cases in the 2-year QC cycle by examining each State's previously estimated error rate and average monthly caseload. Sampling plans would establish an annual sample target for each State; monthly sample targets would be approximately one-twelfth of each State's annual target.

[50] This disadvantage would affect other uses of SNAP QC data too, such as for policy analysis and research on the SNAP population. These implications are discussed further in chapter 7.

[51] See appendix F for details of the analysis of between-year changes in State error rates and the simulation of alternating groups of States.

[52] Higher improper payment rates have larger sampling errors, all else being equal. This introduces more uncertainty in improper payment rates for States with high rates. Increasing the sample for these States could minimize the sampling errors and reduce the statistical uncertainty of improper payment rate estimates.

Sampling approach for negative cases. The annual sampling plans would also specify sample targets for negative cases. Currently, each State samples approximately 750 negative cases per year, for a total annual sample size of 39,750 cases. To reduce overall effort associated with QC, these sample sizes could be reduced to 500 households per State, or a total sample of 26,500 negative cases. Because only half of the States would be examined each year, FNS would review 13,250 negative cases per year.

b. State policy tracking

Prior to the start of each year, a contractor would work with each State participating in QC that year to update a centralized database of State policies, options, and waivers. Throughout the year, this database would be updated whenever a reviewer learned of a policy change or nuance during the course of a review, or when the State alerted FNS or a contractor to a change or correction.

2. Review process

a. Sample selection

Sampling active cases. In years that a State is "in rotation" for QC review, the State would submit monthly sample frames to FNS. Each month's sample frame would contain data on all households that were certified or recertified during that month. The frame would consist of a single datafile with one record for each household. For each household, the file would include at a minimum a household ID, benefit allotment amount, and date of most recent certification. The file could include additional data elements that may be useful to FNS for research or analytic purposes to inform the sampling approach.[53] The frame would be submitted to FNS or its contractor through a secure file transfer system.

Upon receiving the sample frame, a sampling contractor would first perform basic diagnostics to confirm the file had been produced correctly and then conduct the sampling according to the parameters specified in the sampling plan. FNS would oversee the sampling contractor.

Sampling negative cases. Each State would also submit a full sample frame of cases that were suspended or terminated and applications that were denied during the sample month. The frame would consist of a single datafile with one record for each household containing the following three elements: household ID, denial date, and termination date. As with the active case sample frame, this file would be submitted to FNS or its contractor through a secure file transfer system.

Upon receiving the sample frame and performing basic diagnostics on the file, FNS's sampling contractor would conduct a simple random sample within each State so that each State's sample size is consistent with the sampling plan for the QC cycle.

b. Data collection

Once the samples have been selected, data collection contractors would begin collecting the necessary data. The process described in this section assumes FNS has direct access to State systems, including document imaging systems, either remotely or in person.

[53] The study team has assumed fewer than 25 fields (approximately) would be included for each record.

Remote case file collection. Data collection contractors would begin by remotely gathering as many case files as possible. This effort would include supplementary materials that may be stored in document imaging systems or other systems distinct from the primary management information system (MIS). At a minimum, completed case files would include the household's most recent application or report, the documents used to support that application or report, case notes output from the MIS showing the history of the case, and indications of verifications from other State systems. Case files would be saved to SNAP QCS, likely as PDFs.

In-person case file collection. Not all State systems would be remotely accessible. Currently, not all case file information can be obtained from a centralized location in each State because some county SNAP offices continue to maintain paper files and some document imaging systems are offline. FNS is working to establish access to all State MIS, but in some cases, this would mean going in person to the State office to use a workstation there. For these reasons, it would be necessary for contractors to gather some case file information in person.

Data matching. Data collectors would also use various Federal and commercial databases to verify aspects of the households' circumstances, for active cases only. See chapter 4 for more information on these recommended databases. FNS would request States conduct matches on State verification systems for the certification month and provide documentation of those matches to the Federal reviewers for sampled cases, if those matches were not already a part of the case file.

Household interviews. For reviews of active cases, data collection contractors would interview the household. Most of these interviews would be conducted via telephone or videoconference, but a small subset may be conducted in person at the household's preference or in the case of hard-to-reach households.[54] The goal of this interview would be to gather information on the household's circumstances during the certification month. This interview would need to gather enough information on all aspects of the household's circumstances to facilitate a determination of the household's eligibility and benefit level.

The contractors would begin the process of scheduling the interview by mailing information about the interview to the household using certified mail. This mailing would include information on the reason for the interview, what is expected of the household, and the potential consequences of not cooperating with the interview (i.e., suspension of benefits, consistent with current procedures), along with a request to call a toll-free number to conduct or schedule the interview at any time.[55] If the household does not call this number within a week after the letter is mailed, the contractor would call the household to attempt to conduct or schedule the interview. If, after 10 attempts to reach the household, the household is still unresponsive, the contractor would mail a second letter to the household via certified mail alerting them that their case would be referred to their local agency for suspension.

The contractor would document and store all case file information in such a way that any interviewer could access it to interview any household; the household would not need to schedule an appointment with a specific interviewer. One exception to this would be when the household requests an in-person interview. In those circumstances, an interview would be scheduled for a given time, place, and interviewer.

[54] The administrative cost model assumes no more than 10 percent of interviews would be conducted in person.
[55] This mailing would be printed in all the languages used by the household's State SNAP agency; the contractor would either provide multilingual staff to conduct the interviews or use a service such as Language Line.

Households would also need to provide documentation of income and expenses for the certification month, even for those elements for which documentation is not required when applying to participate, and they must provide contact information for a collateral contact who could confirm household composition. Households would be able to submit this documentation by texting or emailing a picture of the documentation or by mailing a hard copy. Data collectors would work with households to ensure all the necessary documentation is provided. All documents received would be added to the household's case file in SNAP QCS.

Collateral contacts. For reviews of active cases, contractors would also obtain verification of certain household circumstances from collateral contacts. In particular, data collectors would obtain confirmation of household composition from a third party familiar with the household. In the event a household interview could not be completed, or a household was unable to provide some verification, the data collector would seek to obtain the necessary information from collateral contacts, such as landlords, financial institutions, or employers. Documents received from collateral contacts would be added to the household's QC case file in SNAP QCS.

Data collection narrative. For each active case, the data collection contractors would complete a data collection narrative within SNAP QCS that describes their efforts to complete the data collection. This narrative would include dates, times, and outcomes of all efforts to reach the household and collateral contacts; searches for information on the household in State systems and other databases; and notes about verifications that were viewed but could not be copied or imaged.

c. Payment error and CAPER determination

Case assignment. After the case files, interview information, and supporting documentation have been gathered, FNS merit system personnel would review the active cases. In the current two-tier system, cases are typically assigned to a designated reviewer immediately after sampling. However, in a system such as Model A, cases could be assigned to reviewers using a case-banking system, in which any given case with completed data collection could be assigned to the next available reviewer trained in the policies and procedures of the relevant State. To ensure a steady flow of work for reviewers, each reviewer should be familiar with the policies and procedures in multiple States, and multiple reviewers should be knowledgeable about policies and procedures in each State.

Payment error. The review process itself would be substantially similar to the process used by State reviewers in the current two-tier system. Reviewers would complete the Automated Form 380 in SNAP QCS with case record data and any new data collected for the certification month. A case would be determined to be in error if the certification month calculated benefit were more than the tolerance threshold less than or greater than the issued benefit.[56]

In instances where not all pieces of documentation could be obtained, reviewers would evaluate the case to determine whether an imputed conclusion could be reached using the "likely conclusion" approach, as described in the *FNS 310 Handbook*. If so, the reviewer would complete the case without the missing documentation.

[56] The tolerance threshold, $38 in FY 2018, is adjusted each year using the Thrifty Food Plan for the 48 contiguous States and District of Columbia.

As in the current two-tier system, reviewers would not be able to complete all active cases. Some cases would be disposed of as incomplete because of missing documentation or noncooperative households. Other cases, in which the household has moved out of State, all members are deceased or institutionalized, or have been referred for investigation into possible intentional program violations, would be disposed of as not subject to review.

CAPER. The review process for negative cases would also be substantially similar to the process used by State reviewers in the current two-tier system. Reviewers would examine each case file to determine whether the action taken was appropriate; the reason for the action was correct; and the household received a clear, correct, and complete notification about the action. A case that is incorrect on any of those three elements would be considered incorrect overall.

d. Quality assurance

The two-tier QC system has multiple rounds of review to ensure accuracy of the results. A one-tier system would similarly need multiple reviews to ensure quality. A subset of active cases (15 percent) would be randomly sampled from each State for a completely independent review by a lead worker or supervisor. As with the original review, this review would start with the case file and a blank FNS Form 380, although the household would not be subjected to a second QC interview. The remaining active cases and all negative cases would also be reviewed by a lead worker or supervisor; this second-party review would consist of a review of the case file and completed FNS Form 380. In the event an independent re-review or a second-party review produces findings that conflict with the results of the initial review, the two reviewers would meet to resolve the differences; a third party (supervisor level or higher) would make a final determination if the two reviewers were unable to come to an agreement.

e. Communication with States and arbitration

After all cases have been completed for a given month, FNS would share the results of the reviews with the States. This would take the form of a summary memorandum to each State that lists the cases reviewed and the findings for each case. FNS would also release the reviews to read-only access for the States in SNAP QCS. States would have 1 month from this time to review the cases, request any clarifications, and appeal the findings if desired.

When States appeal a finding, the case would be reviewed by an arbitration panel. This 12-member panel would consist of a combination of FNS and State staff, with 4–6 of the members representing States. Each case would be reviewed by three members of the panel, and at least one State representative would be on each review team; no State representative would review a case from their own State. The three review team members would need to agree on the final decision. This design is intended to address State concerns that they would not have input into the findings in a one-tier system.

A general concern about moving to a one-tier system is that it introduces bias into the findings because cases with payment errors or CAPERs are likely to receive more scrutiny than cases without those findings. To ameliorate this bias, for each case a State appeals, FNS would randomly select one or more uncontested cases with characteristics that are broadly similar to those of the contested case from the same month. The arbitration panel would review both cases. The arbitration panel would have 2 months from the date of appeal to review the cases and come to conclusions.

3. After the QC Year

a. Payment error rate and CAPER calculations

After all cases have been finalized for a QC year, and States have agreed to the findings, FNS staff would compute, at the minimum, the following measures for each State:

- The State **payment error rate** for a given year would be calculated as the absolute value of the difference between the allotted benefit amount and the amount the household should have received (for cases in which this difference exceeds the tolerance threshold), divided by the total benefit amount among sampled cases subject to review. The payment error rate would be adjusted for nonresponse bias associated with incomplete cases.
- The State **CAPER** for the review year would be calculated by dividing the number of negative cases in error by the total number of cases subject to review.

FNS would also compute national versions of these rates. The national rates would need further adjustments from the State versions to account for sampling variation across States. These estimates would initially be calculated at the completion of the first 2-year QC cycle and then annually after the first complete cycle, with each year's estimates based on the most recent 2 years of data.

In addition to the State and national rates, FNS should compute some summary statistics about the nature of the review findings that may illuminate areas for potential program improvement. These measures should include identification of elements with the highest and lowest incidence of variance and analyses of the extent to which errors are attributable to clients (e.g., because of incorrect information provided by clients) or agencies (e.g., processing errors). Finally, FNS should assess the effectiveness of the strategy for identifying high-risk households when developing sampling plans for each QC cycle because the household characteristics associated with errors may change as new policies and procedures are implemented across the program.

Results for each of these calculations—error rates, analyses of sources and types of error, profiles of high risk cases—should be published in annual reports, similar to the QC annual report published in FY 2014 (USDA FNS, 2017).

b. Accountability

At least 6 months prior to each QC year, FNS would establish an error rate threshold and a CAPER threshold. States with annual rates below those thresholds would be deemed to be in compliance. States with rates above those thresholds for two consecutive QC cycles would be assessed a financial penalty. This structure—a fixed threshold known in advance—would provide States with a clear target for performance and could increase collaboration and sharing of best practices across States.

C. Staffing and Organizational Structure

Model A would require contributions from three groups: FNS, one or more contractors, and the States. This section describes the roles of FNS and the States and the particular staff needed for each. As described above, one or more contractors would be responsible for data collection from households, collateral contacts, and State eligibility and document imaging systems; tracking State policies; and providing sampling support.

1. FNS

FNS would lead and oversee all aspects of the QC process, including sampling, procuring and training contractors, making eligibility and benefit determinations based on data collected by contractors, establishing and managing data-use agreements with external databases needed for verifications, and liaising with the Office of Information Technology (table D1.4). As a result, 189 FTEs would be required for ongoing operations of the QC process. These estimates include only program staff and do not include OIT, human resources, or contracts management.

Table D1.4. FNS Functions Under Model A

Team	Estimated Number of FTEs
Statistics and data team. This team would be responsible for overseeing all work related to sampling, analysis, and estimation. This would include oversight of contractors as they develop sampling plans, receive sample frame data from the States, and select the samples. This team would also calculate payment error rates and associated measures, assess penalties, and publish an annual report.	7
Review team. This team's primary responsibility would be to review the case files assembled by the data collection contractors, complete the review forms, and make determinations about payment errors or case and procedural errors. The review team would also oversee the work of the data collection contractors. The study team recommends FNS structure the review teams such that each reviewer specializes in the policies of a small number of States. This team review would include administrative staff to support the review process.	158
Policy, communications, and training team. This team would lead communications with the States, especially about review results, payment error rates, and CAPERs. This role would include management of the State policy database and dialogue with States and reviewers about how policies are interpreted and implemented. The policy, communications, and training team would provide technical assistance to the States in understanding the policy implications of the results of their reviews and would provide QC-related training to States and reviewers as necessary. This team would also be responsible for the ongoing training needs of Federal QC staff. This training would include both the initial training of new staff members and ongoing trainings on revised policies and procedures or challenging review elements for staff.	9
Data-sharing agreement team. This team would manage all contracts and data-sharing agreements related to QC. The work would include acquiring and maintaining access to State SNAP systems and establishing, managing, and renewing data-sharing agreements with Federal agencies and commercial providers that maintain databases used during the QC process, such as those for SSA, ACF, DHS, and Equifax.	5
Information technology (IT) team. This person or team would be a liaison to the FNS Office of Information Technology staff responsible for operating and maintaining the QC IT infrastructure and would oversee the SNAP QCS operations and maintenance (O&M) contract.	1[a]
Arbitration panel. FNS would need to designate staff to serve on a panel of 12 arbitrators to review cases where States disagree with the findings; the panel would be composed of 4–6 State representatives and 6–8 FNS staff.	9[b]
Total FTEs	189

[a] This FTE estimate includes only labor time for program office liaisons to OIT. It does not include additional FTEs needed within OIT; for example, to help manage QC-related IT systems operation, maintenance, or security.

[b] This FTE estimate includes labor time of arbitration panel and time for other staff for oversight and support functions.

2. States

Although States would no longer be responsible for conducting QC reviews, they would still need to contribute to the review process. Table D1.5 outlines the responsibilities of the States in Model A; the estimated number of FTEs reflects the number of FTEs across all States each year (i.e., not per State).

Table D1.5. State Functions Under Model A

Function	Estimated Number of FTEs
Provide sample frames. Each month during a QC year, States would provide active and negative case sample frames to the sampling contractor.	9
Provide support to data collectors. Each State would need to appoint at least one QC liaison to serve as the primary point of contact within a State for the data collection contractors. This liaison would help coordinate logistics when a data collector needs to visit a State or local office in person, would facilitate access to State systems, and would provide any necessary documentation or other information on data and codes stored within those systems. The liaison would also serve as the primary point of contact for any questions about State policies and would provide the State policy contractors with the information they need and would provide any data matches from State databases that were not available in the case file.	18
Review and respond to QC findings. States would need to have SNAP managers available to review and respond to QC findings. These staff would also work with FNS to determine how penalty funds should be reinvested in the event their State exceeds the error rate or CAPER thresholds.	14
Provide representatives to serve on arbitration panel. Finally, States would need to designate staff to serve on a panel of 12 arbitrators to review cases where States disagree with the findings. The panel would be composed of four to six State representatives and six to eight FNS staff.	6
Total FTEs	47

Appendix D2. Model B Approach for a One-Tier SNAP QC System

This section presents Model B, a second example approach for implementing a one-tier system for SNAP QC. This model more closely resembles the current SNAP QC process in that all States would participate in QC each year and States would continue to draw the monthly samples. Under this model, FNS staff would perform the vast majority of the work in the QC process, with relatively fewer tasks outsourced to contractors in comparison with Model A. Similar to Model A, however, the reference period would focus on the certification month only, in lieu of the Comp 1/Comp 2 approach of the current system.

This appendix summarizes the procedural and organizational features of Model B. Section A provides an overview of its approach. Section B describes the procedural aspects of the model, and section C describes the staffing and organizational structure that would be needed. Administrative costs associated with Model B appear in appendix E.

A. Overview of Model B

Table D2.1 summarizes the Model B approach to a one-tier SNAP QC system. As with the current QC system, this proposed QC approach would include both active and negative cases; unless otherwise specified, the components and procedures described below apply to both types of cases. As with Model A, an enhanced version of SNAP QCS would provide the technological infrastructure for this system, as described in chapter 5.

Table D2.1. Overview of Model B

Component	Model B
Reference Period for Review	▪ Certification month only.
Sampling Approach	▪ Maintain sampling practices of current SNAP QC process, including annual participation of all States in QC. – Keep average sample sizes per State the same as current system (approximately 55,000 active cases and 40,000 negative cases sampled per year). – All cases would have equal probability of selection each month within each State.
Sampling Process	▪ States would submit monthly samples to FNS using a sampling plan provided by FNS.
State Policy Tracking	▪ FNS would work with each State to update a centralized database of State policies, options, and waivers.
Data Collection	▪ FNS staff would remotely gather as much case file information as possible; a contractor would gather any case file components that must be collected in person and upload these to SNAP QCS. ▪ ***Active cases only:*** FQCRs would conduct phone or videoconference interviews with households and collect verifications from collateral contacts and other sources.

Component	Model B
Error Determination	▪ FQCRs would analyze findings, make payment error determinations, and identify case and procedural errors. ▪ Reviewers would "rotate" States every 12 months to keep fresh eyes on States. ▪ ***Active cases only:*** Payments would be considered in error if they were more than the tolerance threshold greater or less than the correct payment amount; error calculation would be based on the certification month only. ▪ ***Negative cases only:*** Cases would be considered to be in error if the action taken were inappropriate, the reason for the action were incorrect, or the notice to the household were inadequate.
Quality Assurance	▪ A lead worker or supervisor would conduct a desk review of all cases. ▪ Any disagreements between the initial review and the second-party review would be settled by a third party at the supervisor level or higher.
Communication with States and Arbitration	▪ Findings would be communicated to the States through a summary memorandum of findings, plus read-only access to all cases in SNAP QCS. ▪ A 12-person panel of FNS staff would arbitrate cases in which States disagree with review findings. ▪ Each case would be reviewed by three members of the panel; these members would need to agree on the final determination. ▪ To minimize bias, for each error case a State disputes, the panel would also review at least one randomly selected case with similar characteristics that was contested.
Error Rate (***Active cases only***)	▪ State error rates would be calculated annually as the absolute value of dollars spent improperly divided by total dollars spent across all cases subject to review, adjusted for nonresponse bias in incomplete cases. ▪ The national error rate would be calculated annually as the absolute value of dollars spent improperly divided by total dollars spent across all cases subject to review; weighted to account for sampling variation across States and adjusted for nonresponse bias among incomplete cases.
Case and Procedural Error Rates (***Negative cases only***)	▪ State rates would be calculated annually as the number of cases in error divided by the total number of cases subject to review. ▪ The national rate would be calculated annually as the number of cases in error divided by the total number of cases subject to review, adjusted for variation in sampling rates across States.
Accountability	▪ States would receive financial penalties if they exceeded both a fixed error rate threshold and 105 percent of the national error rate for 2 or more consecutive years.

Important distinctions from Model A follow:

- All States would participate in QC each year, rather than in alternate years.
- States would conduct sampling each month internally and submit those samples to FNS rather than submitting sample frames for FNS to select the sample.
- All household interviews would be conducted by telephone or videoconference, without exceptions for households requesting in-person interviews or difficult to complete cases.

- Contractors would only be used to collect any case file contents that cannot be obtained remotely; FNS staff would perform all other work related to the QC process, including interviewing households and obtaining information from collateral contacts.
- Liabilities would be determined based on a similar structure as the current two-tier system, rather than based on a fixed error rate threshold each year.

As with Model A, Model B would still achieve the goals of the SNAP QC program (table D2.2).

Table D2.2. SNAP QC Goals Met by Model B

SNAP QC Goal	Model B
Systematic method of measuring the validity of the food stamp caseload	Model B would use a random sample of cases from each State to measure the validity of the caseload and as a basis for determining errors.
Basis for determining error rates	
Timely continuous flow of information on which to base corrective action at all levels of administration	Model B would provide a similar flow of information as the current two-tier system. However, given the time needed to review cases and process the findings, there would be a lag between when the error occurs and the when the QC finding could be used to make improvements; this is also a concern with the current two-tier process. If Model B were implemented, FNS should also support States in establishing rigorous quality assurance processes at the (re)certification stage to identify errors earlier in the process and make program improvements.
Basis for establishing State agency liability for errors that exceed the national performance measure	Model B would use the same strategy for establishing State agency liability for high error rates as the current system but would adjust the national performance measure in conjunction with the revised strategy for determining errors.

B. Procedures

In Model B, FNS would review cases from all 53 States each year. This section describes the procedures that would occur before the sample month, during the review process, and after the completion of the QC year.

1. Prior to the sample month

a. Sampling approach

Sampling active cases. The Model B sampling approach would not require substantial change from the current system of sampling approximately 55,500 households for national estimates.[57] The sample size would be similarly scaled for States with relatively small average monthly caseloads, as shown in table

[57] This approach would be similar to the current system, in which all States elect to use the reduced minimum sample size. The *FNS 311 Handbook* establishes two minimum sample sizes. The nonreduced minimum requires an annual sample of at least 2,400 active cases, while the reduced minimum requires an annual sample of at least 1,200 active cases. These minimums apply to States with an average monthly caseload of at least 60,000; a sliding scale is applied to smaller States, with an absolute minimum of 300 cases for both sample types. As of FY 2018, all States used the reduced minimum sample.

D2.3. Within each State, each household with a certification decision during the month would have an equal probability of being sampled that month.[58]

Table D2.3. Active Case Sample Size for States, by State Caseload Size

Average Monthly Caseload (*N*)	Annual Active Case QC Sample (*n*)
60,000+	1,200
10,000–59,999	$n = 300 + [0.018 (N - 10{,}000)]$
< 10,000	300

Maintaining the sampling status quo would have several advantages. This sampling approach would be straightforward and easy to implement; maintaining the same national sample size would provide FNS and other researchers a consistent level of precision in their analyses of SNAP populations and policies. A disadvantage of this approach, compared to the Model A approach of sampling households from only half the States per year, would be that it does not reduce administrative burden for FNS and would require substantially more resources to implement. This approach would also produce estimates with more statistical uncertainty than the Model A approach, because it does not allow for larger sample sizes in States with historically higher error rates.

Sampling negative cases. As in the current system, Model B would sample approximately 40,000 negative cases per year. As with active cases, the sampling approach would specify a minimum number of cases per State per year based on the average monthly caseload for that State (table D2.4). Within each State, each negative case would have an equal probability of being sampled each month.

Table D2.4. Negative Case Sample Size for States, by Average Monthly Reviewable Negative Caseload Size

Average Monthly Negative Reviewable Caseload (*N*)	Annual Negative Case QC Sample (*n*)
5,000+	800
500–4,999	$n = 150 + [0.144 (N - 500)]$
< 500	150

b. State policy tracking

FNS would work with each State to update a centralized database of State policies, options, and waivers. Throughout the year, reviewers would update the database as they learn of a policy change or nuance during the course of reviews, or when States alert FNS to a change or correction. This preemptive policy tracking method would ensure all parties reviewing cases within a State had current and consistent information on SNAP implementation.

[58] QC cases have an equal probability of selection within States but not across States. Because States have largely similar QC sample sizes despite variation in overall caseload sizes, households in smaller States have a higher probability of selection for QC than those in larger States.

2. Review Process

a. Sample selection

As in the current SNAP QC process, a State statistician would develop a sampling plan consistent with Federal regulations and approved by FNS. Each month, States would select samples of active and negative cases. The States would then submit the list of sampled cases to FNS.

b. Case assignment

In the current two-tier system, all cases are typically assigned to reviewers immediately after sampling, and an individual reviewer follows the case through from assignment to completion. However, in a one-tier system where a single pool of reviewers handles a much larger number of cases, cases could be assigned using a case-banking system, similar to how many States handle SNAP applications. In this model, different members of the staff could specialize in gathering case files, conducting interviews, and completing review forms, and after each stage is completed, the file could be made available to the next member of the review staff available to complete the next step. This type of approach takes advantage of economies of scale. To ensure a steady flow of work for review staff, each reviewer should be familiar with the policies and procedures in several States, and multiple reviewers should be knowledgeable about policies and procedures in each State. However, to ensure that reviewers maintain a fresh perspective, reviewers should rotate States every 12 months.

c. Data collection

Once the samples have been selected, review staff would begin collecting the necessary data. The process described in this section assumes FNS has direct access to most State systems, including document imaging systems, either remotely or in person.

Remote case file collection. FQCRs (merit personnel) would begin by gathering as many case files as possible remotely. This effort would include supplementary materials that may be stored in document imaging systems or other systems distinct from the primary MIS. At a minimum, completed case files would include the household's application from the certification month, the documents used to support that application, and indications of verifications from other State systems. Case files would be saved to SNAP QCS.

In-person case file collection. Not all State systems would be remotely accessible. Currently, not all case file information can be obtained from a centralized location in each State because some county offices continue to maintain paper files and some document imaging systems are offline. FNS is working to establish access to all State MIS, but in some cases, collecting the requisite case file information would mean going in person to the State or local office to use a workstation there. For these reasons, it would be necessary to gather some case file information in person. FNS should secure the services of a contractor to collect any case file information that must be obtained in person.

In-person data collection may vary based on the type of system and documents. In some cases, the data collection contractor may be able to log into a workstation located at the State office, extract the needed records, and upload them directly to SNAP QCS. In other cases, the information may need to be captured with screen shots rather than a direct download. Some information in State systems may be subject to restricted use and unavailable for download or screen shots; in those cases, data collectors may need to record the relevant information and upload those notes into SNAP QCS. Finally, in States

with paper case files or offline document imaging systems, data collection contractors would need to travel to local offices to scan the files or download the relevant documents.

Data matching. FQCRs would also use various Federal and commercial databases to verify aspects of the households' circumstances, for active cases only. See chapter 4 for more information on these recommended databases. FNS would request that States conduct matches on State verification systems for the certification month and provide documentation of those matches to the Federal reviewers for sampled cases, if those matches were not already a part of the case file.

Household interviews. For reviews of active cases, FQCRs would conduct an interview with the household via telephone call or videoconference. As with Model A, the goals of this interview would be to gather information on the household's circumstances during the certification month. This interview would need to gather enough information on all aspects of the household's circumstances to facilitate a determination of the household's eligibility and benefit level.

Federal reviewers or administrative support staff would begin the process of scheduling the interview by mailing information about the interview to the household using certified mail. This mailing would include information on the reason for the interview, what is expected of the household, and the potential consequences of not cooperating with the interview, along with a request to call a toll-free number to conduct or schedule the interview within the next 4 weeks.[59] To facilitate completion of cases and avoid missed interviews, this number would be used to reach designated interview staff available to conduct the interview at the time of the call or to schedule the interview for a later date. Staff should be available in evenings and weekends to answer calls to the line to accommodate households with work schedules preventing interviews during normal business hours, as well as households in Alaska, Hawaii, and Guam. If the household does not call this number within a week after the letter was mailed, the QC reviewer would call the household to conduct or schedule the interview. If, after 10 attempts to reach the household, the household is still unresponsive, the reviewer would mail another letter to the household via certified mail alerting that the case would be referred to the local agency for suspension.

All case file information would be centralized in such a way that any interviewer could interview any household; the household would not need to schedule an appointment with a specific interviewer. This case-banking approach would promote interview completion because a reviewer would always be available for a household interview. To allow an interviewer to easily conduct the phone interview "on demand," the reviewer initially assigned the case would prepare a face sheet in the case file summarizing information about the case relevant to the interview, including any missing or conflicting information that should be verified during the interview.

Households must also provide documentation of income and expenses, even for those elements for which documentation is not required when applying to participate, and they must provide contact information for a collateral contact that can confirm household composition. Households would be able to submit this documentation by texting or emailing a picture or by mailing a hard copy. Reviewers would work with households to ensure all necessary documentation is provided.

Collateral contacts. For reviews of active cases, FQCRs would also obtain verification of certain household circumstances from collateral contacts. In particular, reviewers would obtain confirmation of

[59] This mailing would be printed in all languages used by the household's State SNAP agency; FNS would either provide multilingual staff to conduct the interviews or use a service such as Language Line.

household composition from a third party familiar with the household. In the event a household interview could not be completed, or a household was unable to provide some verification, the reviewer would gather necessary information from collateral contacts, such as landlords, financial institutions, or employers. Documents received from collateral contacts would be added to the household's case file in SNAP QCS.

Data collection narrative. For each active case, reviewers and data collection contractors would complete a data collection narrative describing their efforts to complete the data collection. This narrative would include dates, times, and outcomes of all efforts to reach the household and collateral contacts; searches for information on the household in State systems and other databases; and notes about verifications that were viewed but could not be copied or imaged.

d. Payment error and case and procedural error determination

Reviewers would determine whether cases contain payment errors (for active cases) or case and procedural errors (for negative cases) once case files are complete. Given the complexity of SNAP policy and the wide variation between States, each reviewer should focus on a small number of States. However, to ensure each State has a fresh perspective on a regular basis, reviewers would rotate to a new set of States every 12 months.

Payment error. Once the case files, interview information, and supporting documentation have been gathered, reviewers would complete the Automated Form 380 in SNAP QCS with case record data (the information originally used to determine benefit allotment for the sample month) and the new data collected for the sample month, using this information to identify elements with variance between the two sets of data. The reviewers would also calculate a benefit allotment for the household based on the data collected for the sample month, and compare this amount to the actual issuance. A case would be determined to be in error if the certification month calculated benefit were more than the tolerance threshold less than or greater than the issued benefit.[60]

In instances where not all pieces of documentation could be obtained, reviewers would evaluate the case to determine whether an imputed conclusion could be deemed likely using the "likely conclusion" approach, as described in the *FNS 310 Handbook*. If so, the reviewer would complete the case without the missing documentation.

As in the current two-tier system, reviewers would not be able to complete all active cases. Some cases would be disposed of as incomplete because of missing documentation or noncooperative households. Other cases, in which the household has moved out of State, all members are deceased or institutionalized, or have been referred for investigation into possible intentional program violations, would be disposed of as not subject to review.

CAPER. The review process for negative cases would also be substantially similar to the process used by State reviewers in the current two-tier system. Reviewers would examine each case file to determine whether the action taken was appropriate; the reason for the action was correct; and the household received a clear, correct, and complete notification about the action. A case that is incorrect on any of those three elements would be considered incorrect overall.

[60] The tolerance threshold, $38 in FY 2018, is adjusted each year using the Thrifty Food Plan for the 48 contiguous States and District of Columbia.

e. Quality assurance

In Model B, a lead worker or supervisor would conduct a second-party desk review all active and negative cases.

f. Communication with States and arbitration

After all cases have been completed for a given month, FNS would share the results of the reviews with the States. States would have 1 month from this time to review the cases, ask for any clarifications, and appeal the findings.

When States appeal a finding, the case would be reviewed by a 12-member arbitration panel consisting of FNS staff. Each case would be reviewed by three members of the panel who must agree on the final decision. This design differs from that of Model A in that States would have no role in arbitration decisions.

For each case a State appeals, FNS would randomly select one case with similar characteristics that was not contested from the same certification month. The arbitration panel would review both those cases. The arbitration panel would have 2 months from the date of appeal to review the cases and come to conclusions.

3. After the QC Year

a. Payment error rate and CAPER calculations

After all cases have been finalized for the year, and States have agreed to the findings, FNS staff would compute, at the minimum, the following measures for each State:

- The State **payment error rate** for a given year would be calculated as the absolute value of the difference between the allotted benefit amount and the amount the household should have received (for cases in which this difference exceeds the tolerance threshold), divided by the total benefit amount among sampled cases subject to review. The payment error rate would be adjusted for nonresponse bias associated with incomplete cases.
- The State **CAPER** for a given year would be calculated by dividing the number of negative cases in error by the total number of cases subject to review.

FNS would also compute national versions of these rates annually. The national rates would need further adjustments from the State versions to account for sampling variation across States. In addition to the State and national rates, FNS should also compute some summary statistics about the nature of the review findings that may illuminate areas for potential program improvement. These measures should include identification of elements with the highest and lowest incidence of variance and analyses of the extent to which errors are attributable to clients (e.g., because of incorrect information provided by clients) or agencies (e.g., processing errors).

Results for each of these calculations should be published in annual reports, similar to the QC annual report for FY 2014 (USDA FNS, 2017b).

b. Accountability

Liabilities for poor performance in payment accuracy would be assessed the same way as for the current two-tier system. Penalties would be applied only when a State's error rate exceeds the threshold and is greater than a designated rate for at least 2 consecutive years. The designated rate is 6 percent under the current two-tier system but would need to be redefined in a one-tier system that relies solely on computing errors in the certification month; results from the pilot tests could be used to determine an appropriate rate.[61] The threshold would be relative to other States' performance for each year and would be set at 105 percent of the national performance measure. The amount of the liability each State would be—

*Penalty = Value of Issued Benefits * (Improper Payment Rate, Designated Rate) * 0.10*

C. Staffing and Organizational Structure

Model B would require contributions from FNS, a contractor, and the States. This section describes the roles of FNS and States and the particular staff needed for each. As described above, one or more contractors would be responsible for collecting case file data from State eligibility and document imaging systems that are not remotely accessible.

1. FNS

FNS would lead and oversee all aspects of the QC process, including sampling; collecting data from State systems, households, and collateral contacts needed for QC reviews; analyzing those data to make conclusions about the accuracy of cases; establishing and managing data-use agreements with external databases needed for verifications; and providing IT support to QC systems (table D2.5). As a result, 544 FTEs would be required for ongoing operations of the QC process.

Table D2.5. FNS Functions Under Model B

Team	Estimated Number of FTEs
Statistics and data team. This team would be responsible for conducting and overseeing all statistical related work. This would include developing the sampling plan for each year, overseeing the collection of samples from the States, calculating rates and measures, assessing penalties, and publishing an annual report.	9
Review team. This team's primary responsibility would be to obtain case file information, interview households, complete review forms, and make determinations about payment errors or case and procedural errors. FNS should structure the review teams such that each reviewer specializes in the policies of a small number of States. This team would include administrative staff to mail letters to QC households when needed, answer incoming phone calls, and conduct other tasks to support the review process.	510

[61] Pilot testing is recommended as a phase of implementation to ensure the best possible outcome. See chapter 6 for further details.

Team	Estimated Number of FTEs
Policy, communications, and training team. This team would lead communications with the States, especially about review results, payment error rates, and CAPERs. This role would include management of the State policy database and dialogue with States and reviewers about how policies are interpreted and implemented. The team would provide technical assistance to the States in understanding the policy implications of the results of their reviews and would provide QC-related training to States and reviewers as necessary. This task would include both the initial training of new staff members and trainings on revised policies and procedures or challenging review elements for staff.	9
Data-sharing agreement team. This team would manage all contracts and data-sharing agreements related to QC. Tasks would include acquiring and maintaining access to State SNAP systems and establishing, managing, and renewing data-sharing agreements with Federal agencies and commercial providers that maintain databases used during the QC process, such as SSA, ACF, DHS, and Equifax.	5
IT team. This team would serve as a liaison to the OIT staff responsible for operating and maintaining the QC IT infrastructure and would oversee the SNAP QCS O&M contract.	2[a]
Arbitration panel. This group of Federal staff would review any cases with errors that States appeal plus the same number of cases without errors.	15[b]
Total	544

[a] This FTE estimate includes only labor time for program office liaisons to OIT. It does not include additional FTEs needed within OIT; for example, to help manage QC-related IT systems operation, maintenance, or security.
[b] This FTE estimate includes labor time of arbitration panel and time for other staff for oversight and support functions.

2. States

Although States would no longer be responsible for conducting QC reviews, they would still supply monthly samples and would need to contribute to the review process (table D2.6). This section outlines the responsibilities of the States in Model B; the estimated number of FTEs reflects the number of FTEs across all States each year (i.e., not per State).

Table D2.6. State Functions Under Model B

Function	Estimated Number of FTEs
Provide sample files. States would select the sample each month and provide monthly active and negative case sample files to FNS.	17
Provide support to data collectors. Each State would need to appoint at least one QC liaison to serve as the primary point of contact within a State for the FQCRs and data collection contractors. This liaison would help coordinate logistics when a contractor needs to visit a State or local office in person, facilitate access to State systems, and provide any necessary documentation or other information on data and codes stored within those systems. The liaison would also serve as the primary point of contact for any questions about State policies and would provide any data matches from State databases that were not available in the case file.	42
Review and respond to QC findings. States would need to have SNAP managers available to review and respond to QC findings. These staff would also work with FNS to determine how penalty funds should be reinvested in the event their State exceeds the payment error rate or CAPER thresholds.	34
Total	93

Appendix E. Administrative Cost Model

This study examined the cost implications of converting the existing two-tier SNAP QC system to a one-tier system. This appendix details the cost model used to estimate the costs of administering the existing two-tier system and the study team's approach to estimating the cost implications of a one-tier system. The cost of a one-tier system would depend on the range of design options FNS could select, because they would determine the number of staff needed, the extent of travel required to conduct reviews, the amount of data that would need to be collected, and the extent to which functions could be outsourced, as described in chapter 3. In this appendix, the team uses the assumptions constructed for one-tier Model A and one-tier Model B (see appendix D) to present cost estimates of a one-tier model.

The cost model is based on data reported by the three States consulted for this study, their respective ROs, and the National Office. The model used these reported costs to estimate national costs for the entire QC program. To estimate the costs of Models A and B, the estimates of the costs of the existing QC system were then adjusted using assumptions about how each model would affect labor and nonlabor costs.

This appendix describes the cost model in detail, beginning with a description of how the estimate of the costs of the existing two-tier system were built from data reported by the States, ROs, and the National Office (section A). Section B discusses the assumptions used to generate cost estimates for annual operating costs of Models A and B—that is, the costs FNS could anticipate incurring annually if either model was fully implemented. Finally, section C discusses the startup costs associated with piloting and launching each of these models.

It should be noted that the cost estimates for Models A and B are specific to the assumptions for those models. Different combinations of one-tier design options would yield different cost estimates. The cost estimates presented here **reflect the estimates of the direct costs of administering SNAP QC only**. These cost estimates do not reflect the costs likely to be incurred by other supporting branches of USDA. For example, while the cost models assume a general "overhead" cost associated with increases in staff, these costs would understate the likely significant costs associated with hiring significant numbers of Federal QC reviewers (e.g., costs for human resources and IT) and expansion in contracting activities.

A. Costs of the Existing Two-Tier QC System

To estimate the costs of the existing two-tier system, the study team asked the three States consulted for this study (Minnesota, New York, and Oregon) to provide details about the labor and other costs associated with administering the SNAP QC program. Specifically, the States were asked to provide a roster of all staff positions that perform work related to QC reviews and management and oversight of SNAP QC. For each position, the States were asked to provide the following:

- Total number of staff in this position spending at least a portion of their time on SNAP QC
- Full-time equivalence (FTE) hours of staff in the position[62]

[62] FTE hours reflect each staff member's total employment with the State, not just the amount of time spent on QC. For example, if an individual works 80 percent time and spends 50 percent of time on QC, this individual is considered 0.8 FTE. However, when developing cost estimates, the study team considered only the portion of the FTE spent on QC. Therefore, only half of the cost of the 0.8 FTE is counted as QC costs.

- Annual full-time salary and benefits for the position
- Percentage of each position's total time spent on specific QC activities

Table E.1 lists the QC activities for which States were to provide staff time allocation.[63] For some positions, 100 percent of staff time was allocated over these QC-related activities; for other positions, only a portion of the staff time was allocated over these activities, with the rest of the position time allocated over non-SNAP QC activities (such as program integrity work for other assistance programs).

Table E.1. State QC Staff Activities Captured in Cost Data

QC Reviews	QC Management
▪ Conducting SNAP QC reviews ▪ Monitoring QC reviews ▪ Reviewer training	▪ Arbitration ▪ Sampling ▪ Error review committees ▪ Reviewer recruiting ▪ Legal, interagency, and regulatory affairs ▪ Systems and technology ▪ Other SNAP QC activities

In addition to these details regarding labor, the study team asked each State to provide estimates of overhead costs, including the following:

- Rent and utilities for space, prorated for QC staff
- IT support (e.g., workstations, servers, general software licenses) for QC staff
- Office equipment and supplies
- Travel costs
- Other nonlabor costs (e.g., expenses related to training)

For each State, the cost model estimated a per-FTE overhead loading factor. The model combined the total annual costs for rent, utilities, IT support, office equipment and supplies, and other nonlabor costs, then divided this overhead total by the number of FTE staff working on SNAP QC to generate a per-FTE overhead cost estimate.

This information was used to estimate each State's costs for review and management activities. The composite of staff salaries, benefits, and overhead load was multiplied by the amount of time spent on review and management tasks. For example, table E.2 demonstrates how the costs associated with QC reviewers were calculated. This example State has 11 QC reviewers. However, two of the reviewers work only 50 percent time, meaning the FTE number of reviewers in the State is 10. The average annual reviewer salary is $64,000, and the average annual benefits are $19,000. The State's overhead costs translate to $10,000 per FTE employee. As a result, the total annual cost of one FTE reviewer is $93,000. In this State, reviewers spend 90 percent of their time on review-related activities and 10 percent of their time on management activities. Therefore, the total review cost across all 10 FTE reviewers is $837,000 per year, and the total management cost is $93,000 per year.

[63] The initial intent was to estimate costs for each of the individual activities. However, because States account for time differently, any estimate of costs for individual activities would have been inconsistent among States. As a result, the model estimates costs for the broader categories of QC reviews and QC management only.

Table E.2. Example Cost Calculation for QC Reviewers

Position	(A) Total Staff	(B) Annual FTE	(C) Annual Salary per FTE	(D) Annual Benefits per FTE	(E) Overhead Costs per FTE	(F) Overhead-Loaded FTE Costs (C+D+E)	(G) Percent Time on Reviews	(H) Percent Time on Management	Review Costs (B)*(F)*(G)	Management Costs (B)*(F)*(H)
QC Reviewer	11	10	$64,000	$19,000	$10,000	$93,000	90%	10%	$837,000	$93,000

The study team also asked States to provide cost estimates for QC-specific expenses, including travel, QC-related IT systems, and verification data match fees. These nonlabor costs were excluded from the overhead factor because the overhead factor is used to spread overhead costs over all QC activities, while these costs were counted as costs of conducting QC reviews.

The model computed total costs for review and management activities as the sum of the overhead-loaded labor costs for each set of activities across all staff positions. For review costs, the total costs for travel, QC-related IT systems, and verification data were added to the labor-generated costs.

Table E.3 shows the total review and management costs per State. For example, in Minnesota, the total cost for reviews is approximately $1.1 million per year, and the total cost for managing QC is approximately $284,000 per year. Combined, the total QC cost for Minnesota is approximately $1.4 million per year, or about $1,260 per completed review. Across all three States, the average cost per completed review is $2,083.

Table E.3. Review and Management Costs per State

Cost Component	Minnesota	New York	Oregon	Average
Reviews				
Labor Generated	$1,010,438	$2,904,966	$1,419,764	$1,778,389
Travel, QC Systems and Data	$110,952	$210,120	$105,917	$142,329
Total, Reviews	$1,121,390	$3,115,085	$1,525,681	$1,920,719
Management	$284,399	$652,251	$296,863	$411,171
Total QC Costs	**$1,405,789**	**$3,767,337**	**$1,822,544**	**$2,331,890**
Completed QC Reviews	1,116	1,128	1,104	1,116
Total QC Costs per Completed Review	**$1,260**	**$3,340**	**$1,651**	**$2,083**

FNS collects official State Administrative Expense (SAE) data for QC and other activities (Form FNS-778). Data for FY 2017 suggest the average cost per QC review across all States is $2,500, significantly higher than the cost estimate among the three States consulted for this study. However, States have latitude in determining what costs to include when reporting official QC expenses, meaning official costs may not be comparable across States. In some but not all States, official QC costs include activities such as management evaluations and quality assurance teams. As a result, the costs of QC-specific activities per completed review are expected to be lower than the $2,500 estimated from SAE data.[64]

[64] The fact that SAE costs may overstate SNAP QC costs is one reason they were not used as the basis for the cost model. A second reason is that SAE costs do not identify the component costs of SNAP QC, such as the costs of conducting reviews versus the costs of managing the QC program.

This process was replicated at the RO and National Office levels. Three FNS ROs were asked to provide data on labor and nonlabor costs associated with supporting SNAP QC and conducting QC re-reviews. For labor costs, the ROs and National Office provided the Office of Personnel Management GS Pay Scale for each staff position. Salaries were estimated as "Step 5" for all GS positions and benefits were estimated as 30 percent of salaries. Overhead costs for rent, utilities, and technology were estimated using the General Services Administration's Cost per Person Model (CPPM).[65] The National Office provided data on labor and nonlabor costs associated with overseeing the SNAP QC program. In addition to overhead costs, National Office nonlabor costs included Federal costs for SNAP QCS and costs for access to verification data for Federal re-reviews.

State costs were combined with RO and National Office costs to compute the total cost of the QC program (table E.4). RO costs for conducting re-reviews were counted as review costs; all other RO and National Office costs were counted as management costs. All calculated costs were expressed according to the costs per completed QC review in the States and Regions for which data are available. Because the data come from only a subset of States and ROs, national costs are projected by multiplying the State and regional per-completed review costs by the total number of reviews completed in FY 2017 (46,375). The model combined these projected national costs of reviews with the National Office management costs to obtain a combined QC cost estimate of $108.6 million per year.

Table E.4. Calculation of Total QC Costs

Cost Component	Average Cost per Completed Review, Study Data	Projected Costs for 46,375 Completed Reviews ($000s)
States		
Reviews	$1,716	$79,585
Management	$367	$17,035
Total	**$2,083**	**$96,620**
Regions		
Re-Reviews	$129	$6,004
Management	$62	$2,858
Total	**$191**	**$8,862**
National		
Management	N/A	$3,090
Combined		
Reviews and Re-Reviews	$1,846	$85,589
Management	$496	$22,983
Total	**$2,341**	**$108,572**

B. Annual Operating Costs for the One-Tier QC Models

The annual operating costs for each one-tier QC model are based on the estimate of the costs of the existing two-tier system.[66] The cost model treated some costs as "variable"—that is, the costs would depend on the number of QC reviews. Variable labor cost assumptions were generated for three key labor categories: QC reviewers, QC supervisors, and QC managers. For these three positions,

[65] The Northeast RO costs were based on Boston, the Midwest RO costs were based on Chicago, the Western RO costs were based on San Francisco, and the National Office costs were based on Washington, DC.

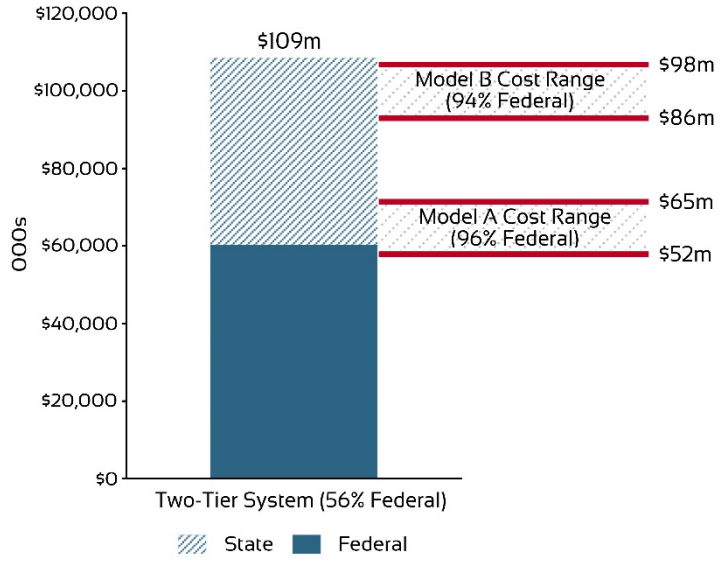
[66] Annual operating costs are defined as the costs FNS would incur if either of the example one-tier models was fully implemented. In addition to these annual costs, FNS would incur significant one-time startup costs; these startup costs are discussed in the next section.

assumptions were developed about each of the one-tier models that would affect the average time spent completing a QC review. All other labor costs were estimated using "fixed" assumptions; that is, instead of adjusting the time spent per review, the model estimated the total number of staff and total nonlabor costs for all other QC review and QC management activities. The model also generated nonlabor costs that were variable; that is, contingent on the number of reviews conducted.

This section presents the cost assumptions for the one-tier models. Because the cost estimates are sensitive to assumptions, both low- and high-cost assumptions are generated for each model.

Estimates of the total annual costs for Model A are between $52 million and $65 million (figure E.1). The total annual costs for Model B would likely be between $86 million and $98 million. These costs are lower than the total Federal and State costs for the current two-tier system. However, relative to Federal costs under a two-tier system, Federal costs under a one-tier system would be higher under Model B and potentially higher under Model A.

Figure E.1. Annual Operating Costs of Two-Tier and One-Tier QC Systems



1. Annual FNS Operating Costs for the One-Tier Models

The cost model assumed that for either one-tier model, FNS would need staff in 10 separate positions (table E.5), with the number of staff in each position contingent on which model is adopted. Salaries are estimated for each position using the OPM GS pay scale (assuming all staff are "step 5") and benefits at 30 percent of salary. The model also used the CPPM to generate low- and high-cost assumptions for overhead, including rent and IT,[67] and assumed most staff, including all QC reviewers, supervisors, and managers, would be located in the Washington, DC, area.[68]

[67] Low-cost CPPM estimates assume office space averages 50 square feet per person and $24 per square foot; high-cost CPPM estimates assume office space averages 80 square feet per person and $30 per square foot.

[68] RO liaisons would be located in each of their respective ROs. However, for budgeting simplicity, RO liaison costs were modeled using the same salary, benefit, and overhead assumptions as other Federal staff. Given the relatively small role RO liaisons would play in the one-tier models, this simplifying assumption would not have a meaningful effect on cost estimates.

Table E.5. FNS Staff Positions Required for One-Tier Models

Staff	GS Level	Salary	Benefits	Overhead Load (CPPM) Low	Overhead Load (CPPM) High
QC Managers	13	$109,900	$32,970	$6,697	$7,897
QC Supervisors	13	$109,900	$32,970	$6,697	$7,897
QC Reviewers	12	$81,548	$24,464	$6,697	$7,897
Director	15	$152,760	$45,828	$6,697	$7,897
Branch Chief	14	$129,869	$38,961	$6,697	$7,897
Statistician	12	$81,548	$24,464	$6,697	$7,897
Program Analyst	12	$81,548	$24,464	$6,697	$7,897
Arbitrator	13	$109,900	$32,970	$6,697	$7,897
Administrative Support	12	$81,548	$24,464	$6,697	$7,897
Regional Office Liaison	13	$109,900	$32,970	$6,697	$7,897

a. FNS costs of conducting reviews

FNS would incur almost all the costs associated with conducting QC reviews. For FNS review costs, the cost model assumed the time needed for QC reviewers, supervisors, and managers would be driven by the total number of reviews conducted each year. To estimate the total time and costs for conducting reviews, the model first computed the average number of reviews per FTE across the three States consulted for this study (table E.6). For these averages, the FTE represents the full-time equivalent labor associated with conducting reviews in each State (i.e., time for other management activities is excluded from these estimates).

Table E.6. Average Number of Completed Reviews per FTE on Review-Specific Activities, by Position

Reviews/FTE	Minnesota	New York	Oregon	Average
Completed reviews	1,116	1,128	1,104	1,116
Reviewer				
FTE staff	10	20	10	13
Reviews per FTE	112	57	110	93
Supervisor				
FTE staff	0.3	5.9	2.1	2.8
Reviews per FTE	3,720	193	526	1,479
Manager				
FTE staff	0.3	0.7	0.1	0.4
Reviews per FTE	3,720	1,694	11,040	5,485

The average number of reviews per FTE becomes the basis for estimating variable labor costs for a one-tier system. For each model, the average number of reviews per FTE was adjusted to reflect assumptions about how the model would affect the time needed to conduct reviews (table E.7). For example, under Model A, household data, including data from household interviews, would be collected by contractors. The study team estimates this would reduce the time reviewers need to complete a QC review by between 45 percent (for the low-cost adjustment) and 40 percent (for the high-cost adjustment). Other reductions in review time are made to reflect that reviewers would not travel and that the number of negative case reviews would be reduced. The models would lead to some increase in time per

completed review to account for the fact that second-party reviews would occur for all cases and that a full, independent review would occur for some cases.[69]

Table E.7. Adjustments to Reviews per FTE

Adjustment	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
Household Data Collected by Contractors	-45%	-40%	0%	0%
No Travel	-5%	-4%	-5%	-4%
Second-Party Review Conducted for 85 Percent of Reviews	+1%	+2%	+1%	+2%
Independent Review Conducted for 15 Percent of Reviews	+3%	+4%	n.a.	n.a.
Sample month determination	-4%	-3%	-4%	-3%
Reviewers Are Required To Be Expert in Multiple State Rules	0%	+1%	0%	+1%
Number of Negative Case Reviews Reduced by 33 Percent	-5%	-2%	n.a.	n.a.
Composite (Sum)	-55%	-42%	-8%	-4%

These adjustments were used to derive the number of staff needed for both low- and high-cost scenarios for each model (table E.8).[70] To estimate costs, the number of staff in table E.8 was multiplied by the salary, benefit, and overhead amounts shown in table E.5.[71] Table E.9 presents the low- and high-cost estimates for labor associated with QC reviewers, supervisors, and managers.

Table E.8. FNS FTEs Required per Completed Review for Models A and B

Staff Role	Original (Two Tiers)	Model A		Model B	
		Low Cost	High Cost	Low Cost	High Cost
Completed Reviews	46,375	23,188	23,188	46,375	46,375
Reviewers	499	114	146	457	477
Supervisors	31	7	9	30	30
Managers	7	5	7	25	26

Table E.9. Loaded Labor Costs for FNS Reviewers, Supervisors, and Managers for Models A and B

Staff Role	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
Reviewers	$12,805,002	$16,638,859	$51,501,436	$54,325,163
Supervisors	$1,066,601	$1,382,347	$4,305,618	$4,529,897
Managers	$747,835	$1,055,369	$3,758,873	$3,954,672
Total	**$14,619,438**	**$19,076,575**	**$59,565,927**	**$62,809,732**

[69] For second-party reviews, the study team assumed 85 percent of all QC reviews would receive a desk review by a second reviewer. However, because this practice already occurs for many QC reviews, the impact on time per review would be minimal. The study team also assumed 15 percent of QC reviews would receive a full, independent review lasting approximately 4 hours.

[70] For Model A, the number of QC managers derived from this methodology seemed unrealistically low; the study team assumed a minimum of at least five managers would be required to manage the QC process.

[71] The "low" overhead load was used for the low-cost estimate, and the "high" overhead load was used for the high-cost estimate.

In addition to labor costs, the costs of reviews also include significant nonlabor costs, such as the following:

- **Contract for generating QC samples.** In Model A, the cost model assumes a contractor would develop individual State sampling plans, collect data needed to pull monthly samples, and pull monthly samples. Because only half of States are in rotation per year under Model A, the contractor would work with 26 or 27 States per year. Under Model B, States generate their own samples, so a contractor would not be used.
- **Contract for collecting data on sampled households.** Under Model A, contractors would collect data on sampled households from State administrative systems and through household interviews and outreach to collateral contacts.[72] Under Model B, contractors would collect data only on sampled households from State administrative systems where remote access by Federal staff is not available.
- **SNAP QCS operations and management.** Under both Model A and Model B, the SNAP QCS system would need to be modified and improved to support a one-tier system. The cost model assumes these improvements (captured under startup costs) would increase the annual operations and management costs for SNAP QCS.
- **Contract with commercial data service provider(s).** Under both Model A and Model B, the cost model assumes FNS would enter into a contract with a commercial data service provider(s) and FNS would match sampled households to commercial databases to verify earnings and employment, incarceration, identity, and assets. Commercial data service providers charge per record match for each of these categories, and an individual household can be matched to up to five databases.[73] The model also assumes FNS QC reviewers would be selective in which households would be submitted for matching, and to which databases they would be matched. This can be accomplished, in part, by using a "waterfall" approach in which matches are first attempted in free or lower-cost databases, leaving more expensive commercial databases as a last resort.
- **Acquire NDNH data.** Under both Model A and Model B, the model assumes FNS would be able to access NDNH data to verify employment and earnings for many households.[74]

[72] For Model A, the cost model assumes a contractor can collect data for between $900 and $1,100 per case. This estimate is based in part on the assumption that data collection would reduce QC reviewer time by up to 40 percent, and the average cost per QC review in the three States consulted for this study is $2,083. Under a prior contract, Insight Policy Research staff collected data from a small sample of QC households at an approximate cost of $1,250 per household; the higher cost per case reflects that these cases were older on average (and hence had more outdated contact information) and had been previously disposed of as incomplete by both State and Federal reviewers.

[73] This model assumes the per-match cost will range between $15 and $18 per match. This estimate is based on the net price for "Verification of Employment for Government Services" from The Work Number's GSA Schedule 738X pricing documentation, which ranges from $16.59 to $17.55 per match.

[74] As described earlier in the report, this would likely require legislative authorization to permit Federal FNS staff access that is currently granted to State SNAP staff. Federal law provides that a State or Federal agency that receives NDNH information must reimburse the U.S. Department of Health and Human Services (HHS) for the costs of NDNH. HHS computes this fee based on access, frequency of matches, and user-specific costs related to performing the match. Cost estimates included in the cost model are approximate, based on costs incurred by States.

Table E.10 lists the specific low- and high-cost estimates and associated assumptions for each of these nonlabor costs.

Table E.10. Assumptions for Non-Labor Costs of QC Reviews for Models A and B

Cost	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
Contract for Generating QC Samples	$2,886,000 ▪ 26 State sampling plans developed per year at $15,000 per State ▪ 26 monthly State samples pulled at $8,000 per month per State	$4,394,000 ▪ 26 State sampling plans developed per year at $25,000 per State ▪ 26 monthly State samples pulled at $12,000 per month per State	N/A	N/A
Contract for Collecting Data on Sampled Households	$24,957,900 ▪ $900 per sampled case (27,731 cases sampled per year)	$30,504,100 ▪ $1,100 per sampled case (27,731 cases sampled per year)	$11,092,400 ▪ $200 per sampled case (55,462 cases sampled per year)	$16,638,600 ▪ $300 per sampled case (55,462 cases sampled per year)
SNAP QCS O&M Contract	$693,570 ▪ 15 percent increase over current SNAP QCS O&M contract	$753,800 ▪ 25 percent increase over current SNAP QCS O&M contract	$663,414 ▪ 10 percent increase over current SNAP QCS O&M contract	$723,725 ▪ 20 percent increase over current SNAP QCS O&M contract
Contract With Commercial Data Service Provider(s)	$208,688 ▪ 23,188 completed cases per year ▪ 40 percent of completed cases have at least one match ▪ Average number of matches for cases with a match is 1.5 ▪ $15 per match	$401,723 ▪ 23,188 completed cases per year ▪ 55 percent of completed cases have at least one match ▪ Average number of matches for cases with a match is 1.75 ▪ $18 per match	$417,375 ▪ 46,375 completed cases per year ▪ 40 percent of completed cases have at least one match ▪ Average number of matches for cases with a match is 1.5 ▪ $15 per match	$803,447 ▪ 46,375 completed cases per year ▪ 55 percent of completed cases have at least one match ▪ Average number of matches for cases with a match is 1.75 ▪ $18 per match
Acquire NDNH Data	$30,608 ▪ 23,188 completed cases per year ▪ 33 percent of completed cases have earnings ▪ $4 per case with earnings	$45,911 ▪ 23,188 completed cases per year ▪ 33 percent of completed cases have earnings ▪ $6 per case with earnings	$61,215 ▪ 46,375 completed cases per year ▪ 33 percent of completed cases have earnings ▪ $4 per case with earnings	$91,823 ▪ 46,375 completed cases per year ▪ 33 percent of completed cases have earnings ▪ $6 per case with earnings
Total	**$28,776,765**	**$36,099,615**	**$12,234,404**	**$18,257,594**

Combining the labor and nonlabor costs, Model A is estimated to cost between $43 and $55 million per year to conduct QC reviews, and Model B would cost between $70 and $82 million per year to conduct QC reviews. This reflects an average cost of $1,871 to $2,380 per completed review for Model A, and $1,520 to $1,776 per completed review for Model B. See table E.11.

Table E.11. Combined FNS Labor and Nonlabor Costs for Conducting Reviews for Models A and B

Item	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
Labor Costs	$14,619,438	$19,076,575	$59,565,927	$62,809,732
Nonlabor Costs	$28,776,765	$36,099,615	$12,234,404	$18,257,594
Total Costs	**$43,396,203**	**$55,176,189**	**$71,800,331**	**$81,067,326**
Completed Reviews	23,188	23,188	46,375	46,375
Total Costs per Completed Review	**$1,871**	**$2,380**	**$1,548**	**$1,748**

b. FNS costs of managing QC reviews

The cost model assumes the FNS costs of managing QC reviews come from the activities of all other FNS staff (i.e., excluding QC reviewers, supervisors, and managers). The model assumes the following staff would help manage SNAP QC:

- The **division director** would be involved in general oversight and communication with other FNS branches and with staff from OMB and Congress.
- The **branch chief** would have responsibility for all QC operations**.**
- **Statisticians** would advise on sampling strategy**.**
- **Program analysts** would coordinate with ROs and States, conduct analyses, write reports, manage IT and data contracts, and perform special projects.
- **Arbitrators** would conduct independent arbitration of individual QC cases disputed by States.
- **Administrative support** would coordinate allocation of SNAP QC cases and manage travel (when required).
- **RO QC liaisons** would work with States in their region to clarify policies and processes associated with the one-tier model.

The number of staff required for each position would depend in part on the one-tier model. Table E.12 presents the low-cost and high-cost assumptions for the number of FTE staff required for each position. Both models assume a large number of program analysts would be required to support the QC program (but the precise number is difficult to estimate). Both models would also require several arbitrators to review cases disputed by States. The number of program analysts, arbitrators, and administrative assistants required would be greater under Model B because Model B would review twice as many cases per year.

Table E.12. FNS FTEs Required per Completed Review for Models A and B

Staff Role	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
Division Director	0.25	0.25	0.25	0.25
Branch Chief	1	1	1	1
Statisticians	1	1	2	2
Program Analysts	11	17	12	18
Arbitrators	6	8	12	12
Administrative Assistants	3	4	5	7
RO Liaison	7	7	7	7

To estimate the FNS costs of managing SNAP QC, FTE assumptions were multiplied by the salary, benefit, and overhead amounts shown in table E.5.[75] Table E.13 presents the low- and high-cost estimates for labor associated with managing SNAP QC.

Table E.13. FNS Costs for Managing SNAP QC for Models A and B

Staff Role	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
Division Director	$51,321	$51,621	$51,321	$51,621
Branch Chief	$175,527	$176,727	$175,527	$176,727
Statisticians	$112,709	$113,909	$225,419	$227,819
Program Analysts	$1,239,803	$1,936,460	$1,352,513	$2,050,369
Arbitrators	$897,402	$1,206,136	$2,106,320	$2,120,720
Administrative Assistants	$338,128	$455,638	$563,547	$797,366
RO Liaison	$1,046,969	$1,055,369	$1,046,969	$1,055,369
Total	**$3,861,860**	**$4,995,860**	**$5,521,616**	**$6,479,991**

c. Total FNS SNAP QC costs

Table E.14 presents the total FNS costs for SNAP QC, including both review costs and management costs, under Model A and Model B. FNS operating costs for Model A would range between $47 and $60 million per year; FNS operating costs for Model B would range between $75 and $89 million per year.

Table E.14 Total FNS Costs for SNAP QC for Models A and B

Cost Component	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
Reviews	$43,396,203	$55,176,189	$71,800,331	$81,067,326
Management	$3,861,860	$4,995,860	$5,521,616	$6,479,991
Total	**$47,258,062**	**$60,172,049**	**$77,321,947**	**$87,547,317**

[75] The "low" overhead load was used for the low-cost estimate, and the "high" overhead load was used for the high-cost estimate.

2. Annual State Operating Costs for One-Tier Models

Under both Model A and Model B, States would incur costs associated with participating in SNAP QC. Because QC reviews would be conducted by FNS, State costs would be driven by the staff time needed to supply data and review QC findings. The following specific State positions would likely be required to support SNAP QC:

- **State program directors** would communicate with National Office and RO staff and monitor QC outcomes
- **Managers** would oversee reviews of FNS findings and any associated arbitration (in both models), as well as sampling (Model B)
- **QC liaisons** would communicate with FNS RO staff regarding QC policy and process and oversee providing FNS staff and contractors with access to necessary data
- **Data analysts** would work with FNS staff and contractors to provide access to data
- **IT support** would ensure State systems could be accessed by FNS staff and contractors

Table E.15 lists the salary, benefit, and overhead load estimates used for State staff in the cost model.

Table E.15. State Staff Positions Required for One-Tier Models

Staff Role	Salary	Benefits	Overhead Load (CPPM) Low	Overhead Load (CPPM) High
Program Director	$113,000	$33,900	$6,697	$7,897
Manager	$90,000	$27,000	$6,697	$7,897
QC Liaison	$80,000	$24,000	$6,697	$7,897
Data Analyst	$62,500	$18,750	$6,697	$7,897
IT Support	$90,000	$27,000	$6,697	$7,897

As with FNS costs, the study team developed assumptions for the number of FTE staff required to support QC in each State. The team assumed all time associated with the State QC liaison, data analyst, and IT support would reflect the costs of conducting QC reviews, while all time associated with the program director and manager would support managing QC. Table E.16 lists the FTE assumptions for State staff. FTE time required for each State appears first, followed by the total FTEs across States. Note that for Model A, where only half the States would participate in QC each year, the model assumes States would not incur QC-related costs in years they do not participate.

Table E.16. State FTEs Required for Models A and B

Staff Role	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
States Participating per Year	27	27	53	53
Per-State FTE				
QC Reviews				
QC Liaison	0.45	0.55	0.45	0.55
Data Analyst	0.45	0.55	0.45	0.55
IT Support	0.25	0.30	0.25	0.30

Staff Role	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
QC Management				
Program Director	0.10	0.10	0.10	0.10
Manager	0.25	0.25	0.25	0.25
Total FTE				
QC Reviews				
QC Liaison	12.2	14.9	23.9	29.2
Data Analyst	12.2	14.9	23.9	29.2
IT Support	6.8	8.1	13.3	15.9
QC Management				
Program Director	2.7	2.7	5.3	5.3
Manager	6.8	6.8	13.3	13.3

The total FTE assumptions in table E.16 were multiplied by the salary, benefit, and overhead amounts shown in table E.15.[76] Table E.17 presents the low- and high-cost estimates for State costs under Models A and B.

Table E.17 Total State Costs for SNAP QC for Models A and B

Staff Role	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
QC Reviews				
QC Liaison	$1,344,969	$1,661,670	$2,640,123	$3,261,798
Data Analyst	$1,068,556	$1,323,833	$2,097,536	$2,598,635
IT Support	$834,955	$1,011,666	$1,638,985	$1,985,862
Subtotal	$3,248,479	$3,997,169	$6,376,645	$7,846,295
QC Management				
Program Director	$414,712	$417,952	$814,064	$820,424
Manager	$834,955	$843,055	$1,638,985	$1,654,885
Subtotal	$1,249,667	$1,261,007	$2,453,049	$2,475,309
Total	**$4,498,146**	**$5,258,176**	**$8,829,694**	**$10,321,604**

3. Total Annual Operating Costs for the One-Tier Models

Table E.18 presents the annual operating FNS and State costs for administering SNAP QC for Models A and B. These range from about $52 million to $65 million for Model A, and from about $86 million to $98 million for Model B.

[76] The "low" overhead load was used for the low-cost estimate, and the "high" overhead load was used for the high-cost estimate.

Table E.18 Total FNS and State Costs for Administering Models A and B

Cost Component	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
FNS Costs				
Reviews	$43,396,203	$55,176,189	$71,800,331	$81,067,326
Management	$3,861,860	$4,995,860	$5,521,616	$6,479,991
Total	**$47,258,062**	**$60,172,049**	**$77,321,947**	**$87,547,317**
State Costs				
Reviews	$3,248,479	$3,997,169	$6,376,645	$7,846,295
Management	$1,249,667	$1,261,007	$2,453,049	$2,475,309
Total	**$4,498,146**	**$5,258,176**	**$8,829,694**	**$10,321,604**
Total Costs				
Reviews	$46,644,682	$59,173,358	$78,176,976	$88,913,621
Management	$4,812,393	$5,955,333	$7,974,665	$8,955,300
Total	**$51,756,208**	**$65,430,225**	**$86,151,641**	**$97,868,921**

C. Startup Costs for the One-Tier QC Models

To convert the existing two-tier QC system into a one-tier model, FNS would need to incur a series of startup costs. Two types of start-up costs are modeled: (1) one-time investments in IT software and infrastructure and (2) the costs of piloting and launching the one-tier system.

1. Investments in IT Software and Infrastructure

To support a one-tier QC model, FNS would need to invest in expanding and upgrading IT software and infrastructure. Specific investments would entail the following:[77]

- Build a database of State policies to ensure QC reviewers have access to up-to-date policy information for each State.
- Increase the capacity for MoveIT to handle larger transfers of data.
- Upgrade the functionality of SNAP QCS.
- Procure data storage capacity at a co-location facility.
- Build software to support secure client text and web uploading of client documentation.
- Upgrade video and telephone conference software to support client interviews (Model B only).
- Procure devices for scanning and uploading documents (Model B only).

Table E.19 presents the assumptions for initial investments required in IT software and infrastructure.

[77] See chapter 5 for additional details on IT infrastructure.

Table E.19 Cost Assumptions for Startup Investments in IT Software and Infrastructure

IT Startup Investments	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
State Policy Database	$200,000	$300,000	$200,000	$300,000
MoveIT Expansion	$50,000	$80,000	$50,000	$80,000
Increasing SNAP QCS Functionality	$350,000	$650,000	$350,000	$650,000
Data Storage	$20,000	$30,000	$20,000	$30,000
Client Document Transfer Software	$100,000	$250,000	$100,000	$250,000
Video/Telephone Conferencing Software	–	–	$25,000	$35,000
Scanning Devices	–	–	$75,000	$600,000
Total	**$720,000**	**$1,310,000**	**$820,000**	**$1,945,000**

2. Piloting and Launching the One-Tier System

For either model, FNS would incur significant costs piloting, refining, and launching the model. Chapter 6 discusses a five-phase implementation plan for a one-tier system. The first phase would involve laying the statutory groundwork and would be largely beyond FNS's control; phases 2 through 5 would be led by FNS. The study team developed assumptions about the costs of phases 2–5 for FNS and State staff time required to implement each phase. The same salary, benefit, and overhead assumptions presented in tables E.5 (for FNS staff) and E.15 (for State staff) were used to estimate the costs associated with staff time.

Table E.20 presents the startup costs for Model A. The total costs for phases 2–5 of the implementation are $15.6 million. The bulk of these costs occur in Phases 4 and 5, when FNS would be required to hire reviewers to pilot the Model A process (Phase 4) and prepare for rollout (Phase 5).[78] The cost model assumes the pilot would occur in four States.[79] Phase 4 includes costs to hire a contractor or contractors to pilot sampling and data collection procedures under Model A. The model assumes the data sampling and data collection contractor(s) would cost $1,000 per QC case over the course of the pilot.[80] Phase 4 also includes a contractor to perform a rapid learning evaluation. This contract is assumed to cover 2.5 FTE staff to conduct a rapid learning and improvement evaluation intended to learn from pilot efforts and refine and improve one-tier processes. The model assumes these FTE staff would work a total of 120 days over the course of the 2-year evaluation.

Table E.21 presents the startup costs for Model B. There are two main differences between the startup costs for Model A and Model B. First, in Model B, the costs of the data collection contract are assumed to be $300 per case, as opposed to $1,000 per case in Model A. Second, the number of reviewers hired in both Phase 4 and Phase 5 would be greater in Model B than Model A. Estimated total costs for the piloting and launch of Model B would be $24 million.

[78] For Phase 5, the number of reviewers required is assumed to be the midpoint of the low-cost and high-cost FTE assumptions.
[79] FNS may wish to pilot the process in more or fewer States, depending on the specific objectives of the pilot, which would increase or decrease the pilot costs accordingly.
[80] The cost model assumes that in each State, Model A would be piloted twice, with each pilot lasting 4 months. Each State pilot would include 100 QC cases per month. The total number of cases in the pilot would be equal to 2 pilots x 4 months x 4 States x 100 cases = 3,200 cases.

Table E.20. Startup Costs for One-Tier Implementation, by Phase, Model A

Staff Role	Phase 2[a]			Phase 3			Phase 4			Phase 5			Total
	FTE per Month	Months	Cost	FTE per Month	Months	Cost	FTE per Month	Months	Cost	FTE per Month	Months	Cost	
FNS Staff													
PAAD Director	0.2	9	$30,973	0.2	18	$61,946	0.2	24	$82,594	0.2	9	$30,973	$206,485
QC Branch Chief	0.3	9	$39,764	0.3	18	$79,527	0.3	24	$106,036	0.3	9	$39,764	$265,090
QC Statistician	0.3	9	$25,630	0.3	18	$51,259	1	24	$227,819	1	9	$85,432	$390,140
Program Analyst	6	9	$512,592	6	18	$1,025,185	12	24	$2,733,826	12	9	$1,025,185	$5,296,787
QC Managers	–	–	–	–	–	–	0.2	24	$60,307	6	2	$150,767	$211,074
QC Supervisors	0.6	9	$67,845	1.5	18	$339,226	1	24	$301,534	7	2	$175,895	$884,500
QC Reviewers	–	–	–	5	4	$189,849	5	24	$1,139,094	110	2	$2,088,339	$3,417,282
QC Liaison	–	–	–	0.2	18	$61,946	0.15	24	$45,230	1.4	6	$105,537	$212,713
State Staff													
Program Director	–	–	–	–	–	–	0.4	24	$123,838	–	–	–	$123,838
Manager	–	–	–	–	–	–	0.8	24	$199,835	–	–	–	$199,835
Supervisor	–	–	–	–	–	–	2	24	$447,588	–	–	–	$447,588
IT Support	–	–	–	–	–	–	1	24	$249,794	–	–	–	$249,794
Sampling and Data Contract	–	–	–	–	–	–	–	–	$3,200,000	–	–	–	$3,200,000
Rapid Learning Contract	–	–	–	–	–	–	–	–	$600,000	–	–	–	$600,000
Total Costs	–	–	**$676,803**	–	–	**$1,808,937**	–	–	**$9,517,494**	–	–	**$3,701,891**	**$15,705,125**

[a] Phase 1 would focus on laying the statutory groundwork for a one-tier QC system; because the activities in this phase would be largely out of FNS's control, administrative costs could not be estimated.

Table E.21. Startup Costs for One-Tier Implementation, by Phase, Model B

Staff Role	Phase 2[a]			Phase 3			Phase 4			Phase 5			Total
	FTE per Month	Months	Cost	FTE per Month	Months	Cost	FTE per Month	Months	Cost	FTE per Month	Months	Cost	
FNS Staff													
PAAD Director	0.2	9	$30,973	0.2	18	$61,946	0.2	24	$82,594	0.2	9	$30,973	$206,485
QC Branch Chief	0.3	9	$39,764	0.3	18	$79,527	0.3	24	$106,036	0.3	9	$39,764	$265,090
QC Statistician	0.3	9	$25,630	0.3	18	$51,259	1	24	$227,819	1	9	$85,432	$390,140
Program Analyst	6	9	$512,592	6	18	$1,025,185	12	24	$2,733,826	12	9	$1,025,185	$5,296,787
QC Managers	–	–	–	–	–	–	1	24	$301,534	22	2	$552,812	$854,346
QC Supervisors	0.6	9	$67,845	1.5	18	$339,226	3	24	$904,602	26	2	$653,324	$1,964,997
QC Reviewers	–	–	–	5	4	$189,849	20	24	$4,556,376	407	2	$7,726,854	$12,473,079
QC Liaison	–	–	–	0.2	18	$61,946	0.15	24	$45,230	1.4	6	$105,537	$212,713
State Staff													
Program Director	–	–	–	–	–	–	0.4	24	$123,838	–	–	–	$123,838
Manager	–	–	–	–	–	–	0.8	24	$199,835	–	–	–	$199,835
Supervisor	–	–	–	–	–	–	2	24	$447,588	–	–	–	$447,588
IT Support	–	–	–	–	–	–	1	24	$249,794	–	–	–	$249,794
Contracts													
Sampling and Data Contract	–	–	–	–	–	–	–	–	$960,000	–	–	–	$960,000
Rapid Learning Contract	–	–	–	–	–	–	–	–	$600,000	–	–	–	$600,000
Total Costs	–	–	**$676,803**	–	–	**$1,808,937**	–	–	**$11,539,071**	–	–	**$10,219,880**	**$24,244,692**

[a] Phase 1 would focus on laying the statutory groundwork for a one-tier QC system; because the activities in this phase would be largely out of FNS's control, administrative costs could not be estimated.

3. Total Startup Costs

Table E.22 presents the total startup costs associated with Models A and B. Startup costs would range between $16 million and $26 million over an estimated 8-year implementation period.

Table E.22 Total Startup Costs

Startup Cost	Model A		Model B	
	Low Cost	High Cost	Low Cost	High Cost
IT Software and Infrastructure	$720,000	$1,310,000	$820,000	$1,945,000
Piloting and Launching	$15,643,179	$15,643,179	$24,182,746	$24,182,746
Total	**$16,363,179**	**$16,953,179**	**$25,002,746**	**$26,127,746**

Appendix F. Sampling Simulation Analyses

In designing example models for a one-tier QC system, the study team sought to strike a balance between (1) ensuring a one-tier QC process yields data that are sufficiently robust and (2) minimizing the cost of a one-tier system. Both robustness and cost are driven largely by the size of the annual QC sample. This appendix explores how different approaches to sampling can affect the robustness of the QC data. First is a discussion about whether reviewing only half of the States each year—a core component of Model A—could lead to biased State and national payment error rates. Next is a discussion exploring how reducing the total sample size could affect the statistical uncertainty of State payment error rates, national payment error rates, and other estimates derived from QC data.

A. Reviewing Half of the States Each Year

A core component of Model A is to conduct QC reviews in only half of the States each year, alternating States reviewed from year to year. Under this approach, every State would be reviewed every 2 years. To this end, FNS would construct two groups of States, balancing the groups on State caseload size, geography, and historic error rates. Each year, FNS would construct national estimates by combining samples across the current and prior years. Thus, the total sample required for calculating error rates at the national and State levels could remain the same as in the current two-tier approach—approximately 55,500 active households for national estimates and 1,000 households per State. However, each year FNS would conduct only about 28,000 QC reviews—half the number of QC reviews conducted under the two-tier approach.

The central motivation for this design is to reduce both the effort and cost associated with conducting QC reviews each year. Cutting the annual sample in half would significantly reduce FNS expenses for a one-tier model. Before selecting this design, the study team assessed whether this approach could lead to biased estimates of State and national payment error rates. The conclusion was that the approach could mask some actual variation in State participation rates from year to year. However, if FNS is focused on using QC error rates to identify States that are consistently above a certain threshold over multiple years, the approach of alternating States would still provide useful, actionable information for FNS.

1. Effects on State Error Rates

Under Model A, State error rates would be generated only once every other year. In a sense, a State's error rate calculated for a given year becomes that State's error rate for that and the subsequent year. If State payment error rates are generally stable, little information would be lost by "skipping" error rate estimation every other year; the error rate in the calculated year would be a sufficient proxy for the error rate in the skipped year. However, if State error rates tend to fluctuate, FNS would lose key information about a State's payment accuracy every other year.

To explore the stability of State error rates, the study used data from the SNAP QC database. The QC database is an edited version of the raw datafiles generated from SNAP QC reviews. The database includes details on error determinations of each household with a completed QC review. It also includes information about household income, demographics, and other characteristics. Note, however, that the error information contained in the QC database does not exactly match the official error rates published by FNS in part because of edits made in the QC database development process and also because of

adjustments made by FNS. See Lauffer, Vigil, Tadler, and Wilcox-Cook (2018) for details about the QC database development process.

The study team estimated annual State payment error rates for 2006 through 2014 (table F.1). To estimate these rates, the team examined the proportion of households in each State each year that have a total error (as calculated by the QC reviewer) above that year's error tolerance threshold for determining error.[81] Household observations were weighted using the QC sampling weights.

Table F.1. Approximate Error Rates for All States, 2006–2015, Based on the QC Database

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Alabama	6.0	7.4	7.2	7.1	5.8	9.1	2.7	2.2	2.9	4.4
Alaska	8.8	10.2	11.7	10.9	3.4	3.1	2.0	1.0	1.7	1.0
Arizona	12.5	7.3	8.6	11.0	12.9	11.5	8.2	7.2	8.1	9.1
Arkansas	8.2	9.2	9.7	10.2	10.1	8.4	5.1	5.4	7.4	6.9
California	13.3	11.1	10.9	12.5	10.1	11.3	7.2	6.1	7.6	8.1
Colorado	11.2	13.3	8.9	9.5	9.7	10.9	7.8	9.7	8.8	7.5
Connecticut	7.9	8.7	9.9	10.0	10.6	10.2	7.3	8.9	8.8	2.4
Delaware	12.1	14.3	9.3	8.6	3.2	3.7	3.2	4.0	3.6	6.1
District of Columbia	9.3	9.4	7.0	5.9	5.9	6.8	5.2	8.2	9.8	14.1
Florida	9.9	3.4	1.2	6.4	0.6	1.8	0.8	1.1	0.9	0.9
Georgia	8.0	11.4	4.1	10.2	3.7	5.8	5.5	7.0	11.5	8.3
Hawaii	6.0	5.7	7.2	10.5	7.6	7.5	6.5	6.6	9.1	9.4
Idaho	7.6	6.4	4.0	6.9	6.7	5.2	3.2	1.9	2.9	3.2
Illinois	10.2	7.0	7.4	9.4	3.6	5.4	2.6	4.4	6.3	4.8
Indiana	11.6	11.8	13.7	17.5	5.1	6.1	4.4	5.4	6.3	6.6
Iowa	11.0	9.9	10.9	10.7	5.4	7.8	4.5	4.1	6.7	7.4
Kansas	8.1	6.2	4.2	9.3	7.8	8.9	5.3	4.1	2.1	2.3
Kentucky	8.5	7.3	8.0	9.7	7.0	6.8	4.9	6.6	7.4	7.0
Louisiana	10.1	9.3	7.8	12.8	7.8	6.6	1.9	1.5	2.2	1.5
Maine	13.6	12.5	9.7	10.2	7.6	6.8	3.2	3.7	4.0	4.3
Maryland	9.1	9.2	9.2	13.0	13.4	10.8	4.1	2.3	4.5	4.4
Massachusetts	6.5	6.6	6.8	7.3	8.0	8.5	5.1	3.6	6.0	7.8
Michigan	12.4	13.8	9.8	17.3	8.2	7.2	7.0	4.2	6.0	8.9
Minnesota	12.0	9.0	9.1	7.6	9.1	9.3	6.1	4.9	8.3	7.6
Mississippi	3.6	3.4	3.8	8.2	3.9	5.0	2.9	1.6	2.5	1.5
Missouri	5.1	4.9	15.1	14.9	10.6	12.3	7.8	2.0	1.5	1.2
Montana	8.3	11.4	5.6	8.7	6.8	5.7	3.6	9.0	8.5	5.7
Nebraska	4.5	2.8	4.2	7.1	4.0	6.4	4.0	3.3	5.5	3.9
Nevada	6.0	4.6	6.1	9.1	11.3	12.3	8.3	6.5	11.3	7.6
New Hampshire	8.5	7.0	3.8	7.9	9.0	10.5	5.6	4.8	5.8	5.9
New Jersey	4.4	7.0	7.0	7.6	7.0	6.6	4.7	0.8	1.4	2.6

[81] The tolerance threshold was $25 in 2006 through 2011, $50 in 2012 and 2013, $37 in 2014, and $38 in 2015 and later.

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
New Mexico	12.1	12.0	12.5	14.8	8.7	10.1	6.0	5.5	9.0	12.0
New York	5.6	7.2	6.9	6.3	7.9	7.3	6.3	5.7	6.7	4.4
North Carolina	3.5	3.5	4.1	9.7	5.2	5.9	4.1	6.6	8.6	9.4
North Dakota	7.4	5.3	7.3	5.9	8.2	6.8	3.0	4.4	1.7	5.5
Ohio	10.3	12.3	7.1	9.2	5.8	5.7	4.5	4.3	6.1	8.9
Oklahoma	9.7	8.5	9.6	10.6	7.9	6.8	5.9	5.0	6.8	5.2
Oregon	8.5	9.3	7.8	11.4	6.8	8.3	7.5	5.9	7.2	7.5
Pennsylvania	5.3	2.4	3.5	11.9	7.1	7.0	4.4	5.0	6.7	5.6
Rhode Island	6.9	7.5	6.3	9.6	10.9	13.1	8.5	8.8	7.3	4.8
South Carolina	9.0	8.6	10.9	13.1	11.3	5.8	2.4	1.8	0.4	2.5
South Dakota	4.3	3.1	2.9	6.0	3.6	4.3	2.4	1.8	2.0	2.0
Tennessee	6.7	6.9	5.0	7.1	7.2	7.0	4.0	1.8	1.4	1.8
Texas	10.3	12.4	13.7	21.9	5.9	7.4	6.2	3.0	1.9	2.5
Utah	8.4	7.1	8.6	10.2	10.4	9.4	3.9	3.0	5.2	4.2
Vermont	9.2	9.6	9.0	12.8	12.5	18.4	10.0	12.8	5.6	4.1
Virginia	7.5	8.7	8.5	12.2	8.7	4.1	2.2	0.6	0.3	4.6
Washington	3.5	5.2	5.7	7.1	7.2	5.4	4.6	2.1	0.3	1.0
West Virginia	9.0	12.4	11.7	11.9	13.6	10.9	7.6	7.0	6.5	9.1
Wisconsin	12.1	11.8	9.7	9.3	4.4	3.7	2.9	2.8	4.2	6.4
Wyoming	9.9	6.6	3.7	10.2	9.2	14.4	10.4	7.5	6.1	7.2

Table F.2 shows the absolute value of the annual percentage-point change in error rates for each State, each year between 2007 and 2015. For example, table F.1 shows Alabama's error rate changed from 6.0 percent in 2006 to 7.4 percent in 2007; this difference can be seen as a 1.4-percentage-point change in 2007 relative to 2006 in table F.2.

Table F.2. Absolute Value of Annual Percentage-Point Change in Error Rates for Each State, 2007–2015

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Alabama	1.4	0.2	0.1	1.4	3.3	6.3	0.5	0.7	1.5	1.7
Alaska	1.4	1.5	0.8	7.5	0.3	1.1	1.0	0.7	0.7	1.7
Arizona	5.2	1.3	2.4	1.9	1.4	3.3	1.0	0.9	0.9	2.0
Arkansas	1.0	0.5	0.5	0.1	1.7	3.3	0.2	2.0	0.5	1.1
California	2.2	0.2	1.6	2.4	1.3	4.1	1.1	1.5	0.4	1.6
Colorado	2.2	4.4	0.5	0.2	1.2	3.0	1.9	1.0	1.3	1.7
Connecticut	0.8	1.2	0.1	0.6	0.5	2.9	1.6	0.1	6.4	1.6
Delaware	2.2	5.0	0.7	5.4	0.5	0.4	0.8	0.4	2.5	2.0
District of Columbia	0.1	2.4	1.1	0.0	0.9	1.6	3.0	1.6	4.3	1.7
Florida	6.5	2.2	5.2	5.8	1.2	1.0	0.3	0.2	0.0	2.5
Georgia	3.4	7.3	6.1	6.5	2.2	0.4	1.6	4.5	3.3	3.9
Hawaii	0.3	1.5	3.4	2.9	0.1	1.0	0.1	2.4	0.3	1.3
Idaho	1.2	2.5	3.0	0.2	1.5	2.0	1.3	0.9	0.3	1.4
Illinois	3.1	0.3	2.1	5.8	1.8	2.8	1.9	1.8	1.5	2.3

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Indiana	0.2	1.9	3.8	12.4	1.0	1.7	0.9	0.9	0.3	2.6
Iowa	1.1	1.0	0.2	5.3	2.3	3.3	0.4	2.6	0.8	1.9
Kansas	1.9	2.1	5.2	1.5	1.1	3.6	1.2	2.0	0.2	2.1
Kentucky	1.2	0.6	1.7	2.6	0.2	1.9	1.7	0.8	0.4	1.3
Louisiana	0.8	1.4	4.9	5.0	1.2	4.7	0.4	0.7	0.8	2.2
Maine	1.1	2.8	0.5	2.6	0.8	3.5	0.4	0.3	0.3	1.4
Maryland	0.1	0.0	3.8	0.4	2.6	6.7	1.8	2.2	0.1	2.0
Massachusetts	0.0	0.2	0.5	0.7	0.5	3.4	1.5	2.4	1.8	1.2
Michigan	1.4	4.0	7.5	9.1	1.0	0.2	2.8	1.8	2.9	3.4
Minnesota	3.0	0.1	1.4	1.5	0.2	3.2	1.3	3.4	0.7	1.6
Mississippi	0.1	0.4	4.4	4.4	1.1	2.1	1.2	0.8	1.0	1.7
Missouri	0.2	10.2	0.3	4.2	1.7	4.5	5.8	0.5	0.3	3.1
Montana	3.1	5.7	3.1	1.9	1.0	2.1	5.4	0.5	2.8	2.9
Nebraska	1.7	1.4	3.0	3.2	2.5	2.5	0.6	2.2	1.6	2.1
Nevada	1.3	1.4	3.0	2.3	0.9	4.0	1.7	4.7	3.7	2.6
New Hampshire	1.5	3.2	4.1	1.2	1.4	4.9	0.8	1.1	0.1	2.0
New Jersey	2.6	0.0	0.6	0.6	0.5	1.8	3.9	0.6	1.3	1.3
New Mexico	0.1	0.5	2.3	6.1	1.4	4.1	0.5	3.4	3.0	2.4
New York	1.6	0.3	0.6	1.6	0.6	1.1	0.5	1.0	2.3	1.1
North Carolina	0.0	0.7	5.5	4.5	0.8	1.9	2.5	2.0	0.8	2.1
North Dakota	2.1	2.0	1.4	2.3	1.3	3.8	1.4	2.7	3.8	2.3
Ohio	2.0	5.2	2.2	3.4	0.1	1.2	0.2	1.8	2.8	2.1
Oklahoma	1.2	1.1	1.0	2.7	1.1	0.8	0.9	1.8	1.7	1.4
Oregon	0.8	1.5	3.7	4.7	1.5	0.8	1.6	1.2	0.3	1.8
Pennsylvania	2.9	1.1	8.4	4.8	0.1	2.6	0.5	1.7	1.0	2.6
Rhode Island	0.6	1.2	3.3	1.3	2.2	4.6	0.3	1.5	2.4	1.9
South Carolina	0.4	2.4	2.1	1.8	5.4	3.4	0.5	1.5	2.1	2.2
South Dakota	1.3	0.1	3.1	2.4	0.6	1.8	0.6	0.2	0.1	1.1
Tennessee	0.2	1.9	2.0	0.1	0.2	3.0	2.2	0.4	0.4	1.2
Texas	2.1	1.3	8.2	16.0	1.5	1.3	3.1	1.2	0.6	3.9
Utah	1.3	1.5	1.6	0.2	1.0	5.5	0.9	2.2	1.0	1.7
Vermont	0.4	0.7	3.9	0.3	5.9	8.4	2.9	7.2	1.5	3.5
Virginia	1.2	0.2	3.7	3.5	4.6	1.9	1.5	0.4	4.3	2.4
Washington	1.7	0.5	1.5	0.0	1.8	0.8	2.5	1.8	0.7	1.2
West Virginia	3.4	0.7	0.2	1.7	2.7	3.3	0.6	0.5	2.5	1.7
Wisconsin	0.4	2.0	0.4	4.9	0.7	0.8	0.0	1.4	2.2	1.4
Wyoming	3.3	2.9	6.5	1.0	5.2	4.0	2.9	1.4	1.2	3.2

Across all years, States ranged from having an average annual change of 0.9 percentage points to 4.3 percentage points. However, potentially because of changes in States' QC procedures over the 2006–2014 period, it appears the change in error rates observed between 2013 and 2014 may better represent error rate stability than the average change between 2006 and 2014. In 2014, half the States

had a change of less than 1.4 percentage points, and three-quarters of States had a change of less than 2.0 percentage points (table F.3). One-quarter of States had a change greater than 2.0 percentage points, and one State had a change of 7.2 percentage points.

Table F.3. Distribution of Percentage-Point Change in State Error Rates, 2013–2014

Distribution	Percentage Points
Minimum Change	0.1
25th percentile	0.7
50th percentile	1.4
75th percentile	2.0
95th percentile	3.4
Maximum Change	7.2
Average Change	1.6

This suggests that while many States have similar error rates from year to year, others do not. Whether this presents a significant obstacle to implementing Model A depends on two factors. First, the period examined with these data potentially reflects changes in States' QC procedures. These changes could likely affect the volatility of State error rates. It is possible that moving to a one-tier system would lead to less fluctuation in State error rates. If the rates are more stable under a one-tier system, then a single-year estimate could more accurately represent 2 years for a larger proportion of States.

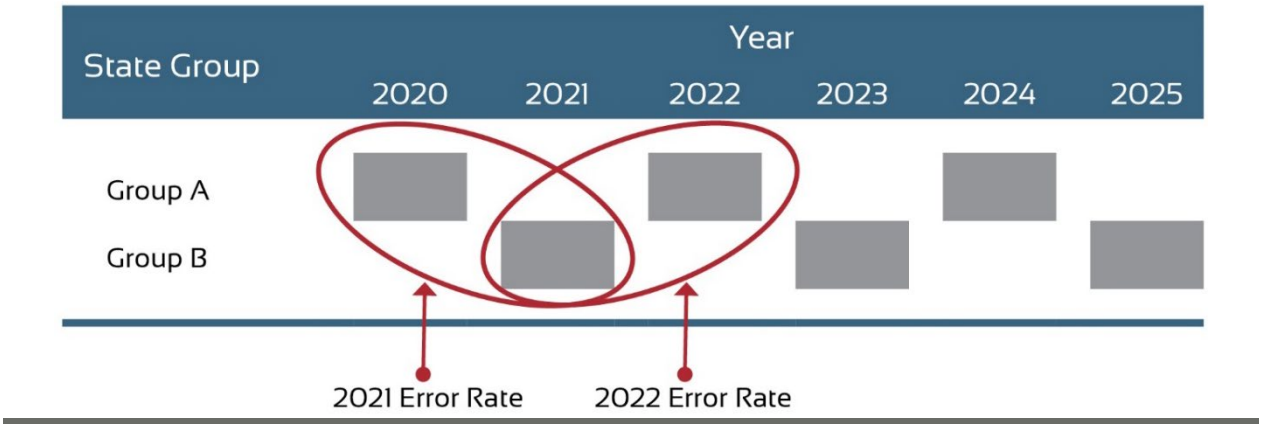
Second, whether the percentage point differences reflected in tables F.2 and F.3 are meaningful depends on how FNS will use error rates to monitor and manage State performance. If FNS uses error rates to identify States consistently above a given error threshold, then alternating States in and out of the QC reviews could still be a reliable methodology. For example, the alternating-States approach could still reliably determine if a State's error rate is greater than 5 percent over a 3-year period (two of which are estimated, one is not).

In developing Model A, the study team assumed a one-tier system would generate more stability in error rates. It was also assumed FNS would manage States based on multiyear trends in error rates.

2. Effects on National Error Rates

Under Model A, the annual national error rate would be calculated using the most current error rate estimate for each State. For example, States in Group A would be reviewed in 2020, 2022, and 2024, while States in Group B would be reviewed in 2021, 2023, and 2025 (see figure F.1). The 2021 national error rate would be computed using the 2020 and 2021 State samples, and the 2022 national error rate would be computed using the 2021 and 2022 samples.

Figure F.1. National Error Rates as a Running Average of 2 Years



To examine whether this approach could lead to biased national estimates, the study team simulated the approach using 2007–2015 data from the SNAP QC database. First, every State was assigned to either Group A or Group B through the following process, designed to approximate the proposed approach for grouping States:

- Within each FNS region, States were randomly assigned to either Group A or Group B. Thus, the initial groupings were balanced by region.
    1. The team then identified the 10 largest and 10 smallest States (with regard to SNAP participants). States were reassigned as needed to ensure both Group A and Group B had five large and five small States.
    2. The 10 States with the highest error rates in 2014 were identified. States were reassigned to groups to ensure both Group A and Group B had five high-error-rate States.

Once the groups were assigned, national error rates were estimated. As with the analysis of State error rates, national error rates were defined as the proportion of households with a total error (as calculated by the QC reviewer) above that year's error tolerance threshold for determining error; household observations were weighted using the QC sampling weights. For this analysis, two error rates were calculated each year. First, an approximate official rate was computed using households from all States for each year (table F.4). For example, the approximate official error rate for 2007 was based on the full QC sample across all States for 2007. Second, the split-sample was simulated by including current year households from one group and prior year households from the other. For example, the simulated split sample error rate for 2007 was based on 2007 error findings for households in Group A States and 2006 error findings for households in Group B States.

Table F.4. Simulation of Alternating State Contributions to National Error Rate

Rate	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate From Prior Year	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A
Rate From Current Year	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B
Simulated Split Sample Rate	7.47	8.02	9.16	7.95	7.04	6.39	4.86	4.70	4.81
Approximate Official Rate	8.43	7.96	11.05	6.99	7.18	4.89	4.21	5.15	5.28
Difference	-0.96	0.06	-1.89	0.96	-0.14	1.50	0.65	-0.45	-0.47

In most years, the difference between the simulated and the estimate of the official rate was less than 1 percentage point; in recent years, the difference was closer to half a percentage point. Given that States have been making changes to QC processes over recent years, it is possible a one-tier system could lead to more stability in national rates from year to year. This suggests that bias caused from the alternating sample approach could be minimal, and data from a QC sample based on alternating groups of States could still inform policies. However, before proceeding with an alternating sample approach, a more thorough assessment of the impact of this approach on all uses of SNAP QC data should be conducted.

B. Reducing Total QC Sample Size

This study examined how reducing the total QC sample would affect the precision of error rates and other estimates derived from SNAP QC data. With a smaller sample, estimates based on QC data would have less precision; the estimate of an error rate could be higher or lower based solely on which households are included in the sample. The smaller the sample, the more variability will be introduced into QC estimates. This includes estimates of national and State error rates and any estimates of SNAP household characteristics from QC data.

The study team examined how much additional variability could be introduced by reducing the SNAP QC sample. Using 2016 data from the SNAP QC database—which contains complete QC information on 46,595 households—the team simulated reducing the QC sample by the following proportions:

- 15 percent (resulting in a sample of approximately 39,600 households)
- 33 percent (resulting in a sample of approximately 30,800 households)
- 50 percent (resulting in a sample of approximately 23,300 households)
- 66 percent (resulting in a sample of approximately 15,400 households)

For each level of reduction, 200 replicate QC datafiles were created, with each file containing a different random subsample of the 2016 QC database. Estimates were then constructed based on each of the 200 replicate files. These replicate estimates help determine how much additional variation could be introduced into estimates based on QC data. For example, for the 15-percent level of reduction, 200 QC files were created, each file containing a different random subsample equal to 85 percent of the full 2016 database. Estimates were then generated using each of the 200 files, with examination of the distribution of those estimates relative to the estimate generated from the full file.

This analysis demonstrates the additional variability that could be introduced into QC-based estimates for each level of reduction. In effect, it shows the range of possible estimates that could be expected given a smaller sample. Importantly, this variability is relative to the estimate generated from the current sample size. Because the current estimate is also sample based, it bears a measure of uncertainty. The analysis examines the additional variability introduced by sample size reductions; it is not a measure of the total uncertainty associated with estimates generated from smaller samples.

This analysis examined how these smaller sample sizes would affect payment error rates. The SNAP QC database was used to calculate approximate official error rates. As with the analysis of splitting the QC sample by year (Section A), error rates were defined as the proportion of households with a total error (as calculated by the QC reviewer) above that year's error tolerance threshold for determining error; household observations were weighted using the QC sampling weights.

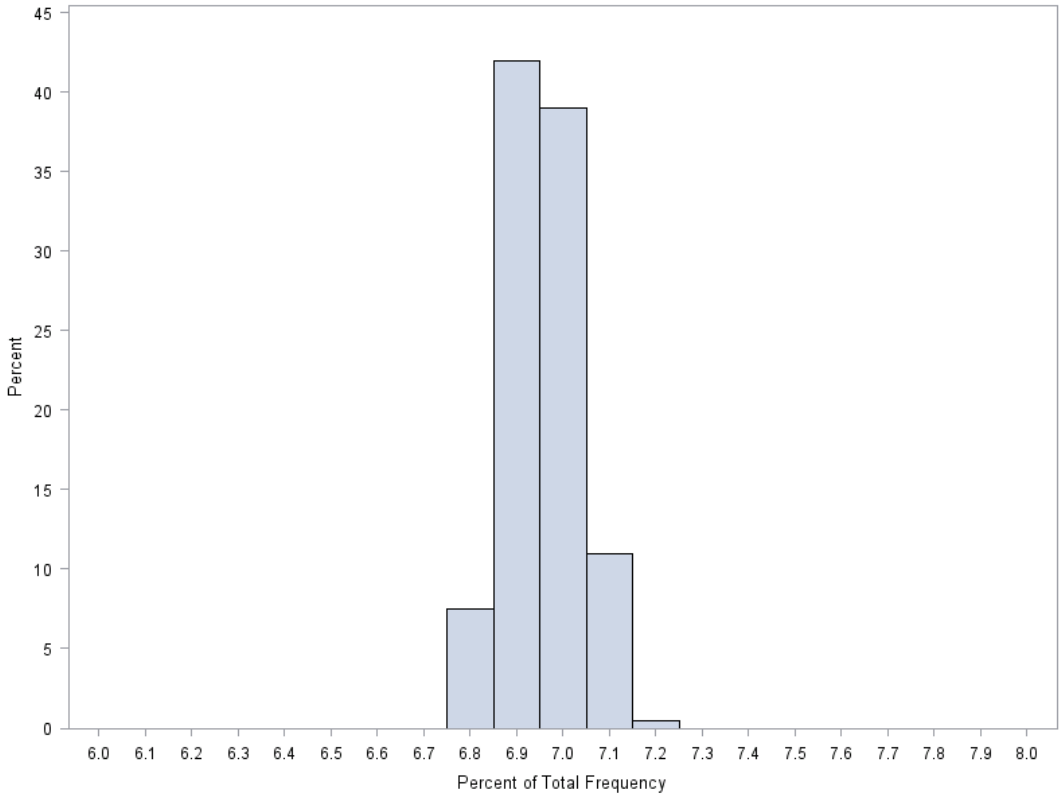
Neither of the two one-tier models presented in this report includes a reduction in sample size. This is because even a small reduction of 15 percent would introduce additional uncertainty in State error rates. For the States affected most, their estimated error rate could be meaningfully different—falling within a 2- to 3-percentage-point range—based solely on a 15-percent reduction in sample size. Larger sample size reductions create greater uncertainty. Ultimately, the decision of how much uncertainty can be tolerated rests with FNS; reductions in precision could be tolerated depending on what decisions will be made from QC data and the associated cost savings to be gained. Nevertheless, if FNS were to consider a sample size reduction, the study team recommends a reduction no greater than 15 percent.

Below is a discussion of how the different sample size reductions could affect estimates of national error rates, State error rates, and QC-based estimates of the characteristics of SNAP households.

1. Effects of a 15-Percent Reduction in Sample Size

The approximate official error rate based on 2016 data from the SNAP QC database was 7.0 percent. When the error rate is estimated based on 200 replicate files reflecting the 15-percent reduction, the error rates calculated range from 6.8 percent to 7.2 percent. Figure F.2 shows the frequency with which different error rates were generated from across the 200 replicate files. For example, more than 40 percent of the 200 files generated an error rate of 6.9 percent. An estimate of 7.1 percent occurred just over 10 percent of the time, and estimates further from the approximate official rate occurred with even less frequency. In short, reducing the sample size by 15 percent could result in national error rates that fall within a 0.4 percentage point range—with estimates being, at most, +/- 0.2 percentage points from the rate estimated using the current sample size.

Figure F.2. Distribution of Calculated National Error Rates From 200 Replicate Files With a 15-Percent Reduction in the QC Sample



This analysis also estimated error rates at the State level. Table F.5 presents the range of rates estimated over 200 replicate files with a 15-percent reduction in the QC sample. States are sorted by the difference between the smallest and the largest estimated error rate. For example, across 200 replicate files in North Dakota, the minimum estimated error rate was 5.8 and the maximum was 8.9, a range of 3.2 percentage points (or +/- 1.6 percentage points from the median). Fifty percent of the estimated error rates were between 7.2 (the 25th percentile) and 7.9 (the 75th percentile), for a range of 0.7 percentage points.

As would be expected, the States experiencing the largest impact on variance are those with small sample sizes (e.g., North Dakota, DC) and/or high error rates (e.g., California). These States have the largest range of simulated error rates. For these States, error rates based on a 15-percent sample reduction would likely fall within a 3-percentage-point range.

Table F.5. Distribution of Calculated State Error Rates From 200 Replicate Files With a 15-Percent Reduction in the QC Sample

State	Smallest Simulated Error	25th Percentile Simulated Error	Mean Simulated Error	75th Percentile Simulated Error	Largest Simulated Error	Difference Between 25th and 75th Percentile Simulated Error	Difference Between Smallest and Largest
North Dakota	5.8	7.2	7.5	7.9	8.9	0.7	3.2
District of Columbia	13.4	14.6	15.0	15.3	16.4	0.7	3.0
Wyoming	4.8	6.2	6.6	7.0	7.8	0.8	3.0
New Mexico	12.8	14.2	14.5	14.9	15.7	0.7	2.9
California	10.4	11.7	12.1	12.5	13.1	0.8	2.8
Hawaii	8.8	9.8	10.1	10.4	11.3	0.6	2.6
West Virginia	10.9	12.1	12.4	12.7	13.5	0.6	2.6
Alaska	4.3	5.6	5.9	6.2	6.9	0.6	2.5
Iowa	9.2	10.3	10.6	10.9	11.7	0.6	2.5
Virginia	11.3	12.2	12.5	12.9	13.8	0.7	2.4
Michigan	10.8	11.6	12.0	12.3	13.2	0.7	2.4
Montana	6.0	6.9	7.2	7.5	8.4	0.5	2.4
Maryland	7.9	8.8	9.2	9.5	10.3	0.7	2.3
Oregon	8.6	9.6	9.9	10.2	10.9	0.7	2.3
Wisconsin	7.2	8.0	8.3	8.5	9.5	0.5	2.3
Delaware	12.2	13.0	13.4	13.8	14.5	0.7	2.3
Nevada	8.4	9.4	9.7	10.0	10.6	0.6	2.2
Colorado	6.0	7.1	7.3	7.6	8.2	0.5	2.2
Connecticut	4.9	6.1	6.3	6.5	7.1	0.5	2.2
Arizona	7.1	8.0	8.2	8.5	9.2	0.5	2.1
Rhode Island	6.4	7.4	7.6	7.9	8.5	0.5	2.0
Indiana	8.0	8.8	9.0	9.3	10.0	0.5	2.0
Minnesota	9.4	10.1	10.4	10.7	11.4	0.5	2.0
Massachusetts	7.4	8.3	8.5	8.8	9.3	0.6	2.0
Georgia	7.2	7.9	8.2	8.4	9.2	0.5	2.0
New Jersey	3.7	4.7	4.9	5.1	5.6	0.4	2.0
Oklahoma	6.4	7.4	7.6	7.9	8.3	0.5	1.9
Utah	4.2	5.2	5.4	5.7	6.2	0.4	1.9
New York	5.6	6.3	6.6	6.8	7.6	0.5	1.9
Maine	5.7	6.5	6.8	7.0	7.6	0.5	1.9
Nebraska	4.3	5.2	5.4	5.6	6.2	0.4	1.9
Missouri	4.8	5.5	5.7	6.0	6.6	0.6	1.9
New Hampshire	4.9	5.6	5.9	6.2	6.8	0.6	1.8
North Carolina	6.8	7.5	7.8	8.0	8.6	0.4	1.8
Arkansas	6.9	7.7	7.9	8.1	8.7	0.4	1.8
Ohio	5.7	6.5	6.7	7.0	7.5	0.5	1.8

State	Smallest Simulated Error	25th Percentile Simulated Error	Mean Simulated Error	75th Percentile Simulated Error	Largest Simulated Error	Difference Between 25th and 75th Percentile Simulated Error	Difference Between Smallest and Largest
Alabama	5.0	5.7	6.0	6.2	6.8	0.4	1.8
Pennsylvania	4.2	4.9	5.1	5.3	5.8	0.4	1.7
South Carolina	4.0	4.7	4.9	5.1	5.6	0.4	1.6
Kentucky	6.6	7.2	7.4	7.7	8.1	0.5	1.5
Illinois	6.0	6.5	6.8	7.0	7.5	0.5	1.5
Vermont	1.4	2.3	2.5	2.7	2.9	0.4	1.5
Mississippi	3.2	3.9	4.1	4.3	4.7	0.4	1.5
Washington	2.9	3.5	3.6	3.8	4.2	0.3	1.4
Kansas	2.1	2.7	2.8	3.0	3.4	0.3	1.3
Texas	3.1	3.6	3.8	4.0	4.4	0.4	1.3
Idaho	3.1	3.7	3.8	4.0	4.3	0.4	1.2
Tennessee	2.2	2.6	2.8	2.9	3.3	0.3	1.1
Louisiana	0.9	1.4	1.6	1.7	1.8	0.3	0.9
Florida	1.1	1.5	1.6	1.8	1.9	0.3	0.8
South Dakota	0.4	0.9	1.0	1.2	1.2	0.3	0.7

Cutting the sample size by 15 percent would also affect national estimates generated from QC data. The impact of a 15-percent reduction would be minimal on national estimates. For example, the 2016 Characteristics report (Lauffer) estimates that 20.3 percent of households have a nonelderly disabled person. All the 200 simulations generated estimates close to that (all between 20.0 and 20.6). This pattern holds for other household statistics. However, it should be noted this analysis did not examine the impact on variance for these characteristics at the State level; as with error rates, the impact of a sample reduction on the variance of estimates of household characteristics would be greater at the State level. See table F.6.

Table F.6. Distribution of Calculated National Household Characteristics From 200 Replicate Files With a 15-Percent Reduction in the QC Sample

Household Characteristic	Official (Characteristics Report)	Simulated				
		Mean	St. Dev.	Min	Max	Range
Percent of Households With Disabled	20.3	20.3	0.1	20.0	20.6	0.6
Percent of Households With Children	42.9	42.8	0.1	42.5	43.2	0.7
Percent of Households With Earnings	31.9	31.9	0.1	31.4	32.2	0.8
Percent of Households With Elderly	21.8	21.8	0.1	21.4	22.1	0.7

2. Effects of a 33-Percent Reduction in Sample Size

The national error rate was also estimated based on 200 replicate files reflecting a 33-percent reduction. Across the 200 estimates, national error rates ranged from 6.6 percent to 7.3 percent (figure F.3).

Therefore, reducing the sample size by 33 percent would result in error rates that fall within a 0.8 percentage point range relative to the estimate based on the full sample.

Figure F.3. Distribution of Calculated National Error Rates From 200 Replicate Files With a 33-Percent Reduction in the QC Sample

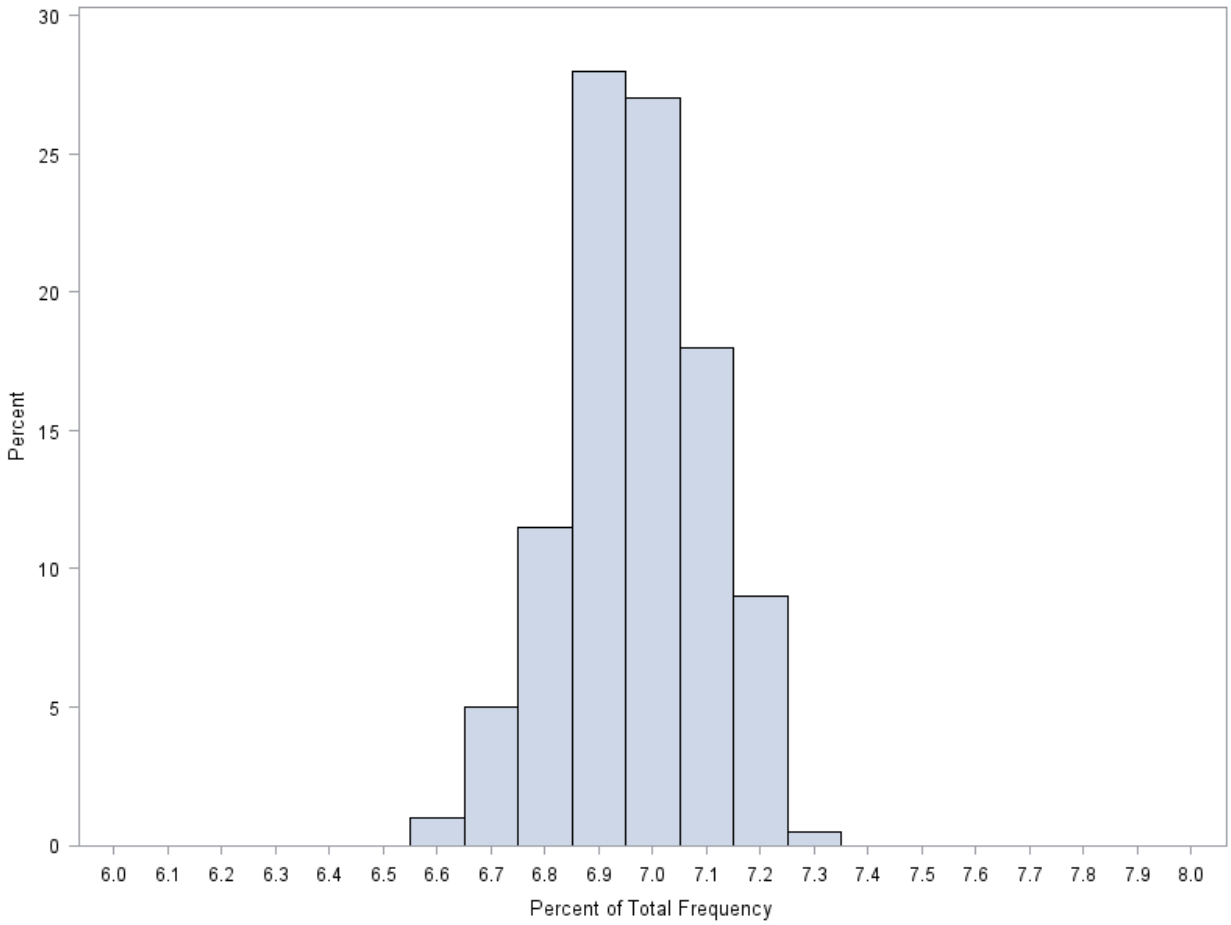


Table F.7 presents the range of State error rates estimated over 200 replicate files with a 33-percent reduction in the QC sample. As expected, the range of potential variance introduced by reducing the sample size 33 percent is greater than that introduced by a 15-percent reduction. For the States affected most, the error rates based on a 33-percent sample reduction would fall within a 4.0 to 5.4 percentage-point range.

Table F.7. Distribution of Calculated State Error Rates From 200 Replicate Files With a 33-Percent Reduction in the QC Sample

State	Smallest Simulated Error	25th Percentile Simulated Error	Mean Simulated Error	75th Percentile Simulated Error	Largest Simulated Error	Difference Between 25th and 75th Percentile Simulated Error	Difference Between Smallest and Largest
Virginia	10.3	12.1	12.5	13.1	15.7	1.0	5.4
North Dakota	4.6	6.8	7.5	8.3	9.9	1.5	5.3
Wyoming	3.8	5.9	6.6	7.3	8.9	1.4	5.1
District of Columbia	12.5	14.4	15.1	15.7	17.2	1.3	4.8
California	10.0	11.5	12.1	12.6	14.7	1.1	4.7
Iowa	8.4	10.2	10.7	11.2	13.1	0.9	4.7
New Mexico	12.4	14.1	14.6	15.1	16.9	1.1	4.5
Oregon	8.0	9.4	9.9	10.4	12.4	1.0	4.4
Alaska	3.5	5.4	5.9	6.5	7.9	1.0	4.4
Delaware	11.0	12.9	13.4	14.0	15.4	1.1	4.3
West Virginia	10.2	11.9	12.4	13.0	14.5	1.0	4.3
Michigan	9.7	11.4	11.9	12.4	13.9	1.0	4.1
North Carolina	5.9	7.2	7.7	8.2	10.0	0.9	4.1
Massachusetts	6.8	8.1	8.5	9.0	10.6	0.9	3.9
Hawaii	8.2	9.5	10.0	10.6	12.1	1.1	3.9
Arizona	6.4	7.7	8.2	8.8	10.2	1.0	3.8
Nevada	7.7	9.4	9.8	10.3	11.4	1.0	3.7
Missouri	3.6	5.3	5.7	6.2	7.3	0.9	3.7
Maryland	7.2	8.7	9.2	9.6	10.9	0.9	3.7
Montana	5.3	6.9	7.3	7.8	9.0	0.9	3.7
Minnesota	8.7	10.0	10.3	10.7	12.4	0.7	3.6
Indiana	7.2	8.6	9.0	9.4	10.8	0.8	3.6
New York	5.2	6.1	6.6	7.0	8.7	0.8	3.5
Connecticut	4.2	5.9	6.3	6.7	7.7	0.7	3.5
Colorado	5.4	6.9	7.4	7.8	8.9	0.9	3.5
Nebraska	3.6	5.0	5.4	5.8	7.1	0.7	3.5
Ohio	4.7	6.3	6.7	7.1	8.1	0.8	3.4
Rhode Island	5.6	7.1	7.5	8.0	9.0	0.9	3.3
Arkansas	6.2	7.5	7.9	8.3	9.6	0.8	3.3
Wisconsin	6.6	7.7	8.2	8.8	9.9	1.0	3.3
Georgia	6.6	7.8	8.2	8.6	9.9	0.8	3.2
Alabama	4.5	5.6	6.0	6.4	7.6	0.7	3.1
Illinois	5.3	6.5	6.8	7.2	8.4	0.7	3.1
Maine	5.2	6.4	6.8	7.1	8.0	0.7	2.9
New Hampshire	4.3	5.6	5.9	6.3	7.2	0.7	2.9
New Jersey	3.2	4.5	4.9	5.3	6.1	0.8	2.9

State	Smallest Simulated Error	25th Percentile Simulated Error	Mean Simulated Error	75th Percentile Simulated Error	Largest Simulated Error	Difference Between 25th and 75th Percentile Simulated Error	Difference Between Smallest and Largest
Oklahoma	6.3	7.2	7.6	8.0	9.1	0.8	2.8
Utah	4.1	5.1	5.5	5.8	6.9	0.7	2.8
Kentucky	6.2	7.1	7.5	7.9	9.0	0.8	2.7
Pennsylvania	3.5	4.8	5.1	5.5	6.1	0.7	2.6
Texas	2.5	3.5	3.8	4.1	5.0	0.6	2.5
South Carolina	3.7	4.6	4.9	5.3	6.2	0.7	2.5
Washington	2.4	3.3	3.7	4.1	4.8	0.8	2.4
Mississippi	2.9	3.7	4.1	4.4	5.3	0.7	2.4
Vermont	1.1	2.2	2.5	2.8	3.5	0.7	2.4
Kansas	1.7	2.6	2.9	3.1	3.9	0.5	2.2
Idaho	2.6	3.6	3.8	4.2	4.7	0.6	2.2
Tennessee	1.9	2.5	2.8	3.0	3.6	0.5	1.7
Florida	0.8	1.4	1.6	1.8	2.4	0.5	1.6
South Dakota	0.1	0.8	1.0	1.1	1.5	0.3	1.5
Louisiana	0.9	1.4	1.6	1.8	2.2	0.4	1.3

Cutting the sample size by 33 percent would also affect national estimates generated from QC data (table F.8). The impact of a 33-percent reduction would be greater than that of a 15-percent reduction. For example, while the estimates of households with nonelderly disabled persons fell within a range of 0.6 percentage points under a 15-percent reduction, under a 33-percent reduction, the rates would fall within a range of 0.9 percentage points around estimates calculated using the current sample. This pattern holds for other household statistics. Again, it should be noted the study did not examine the impact on variance for these characteristics at the State level; as with error rates, the impact of a sample reduction on the variance of estimates of household characteristics would be greater at the State level.

Table F.8. Distribution of Calculated National Household Characteristics From 200 Replicate Files With a 33-Percent Reduction in the QC Sample

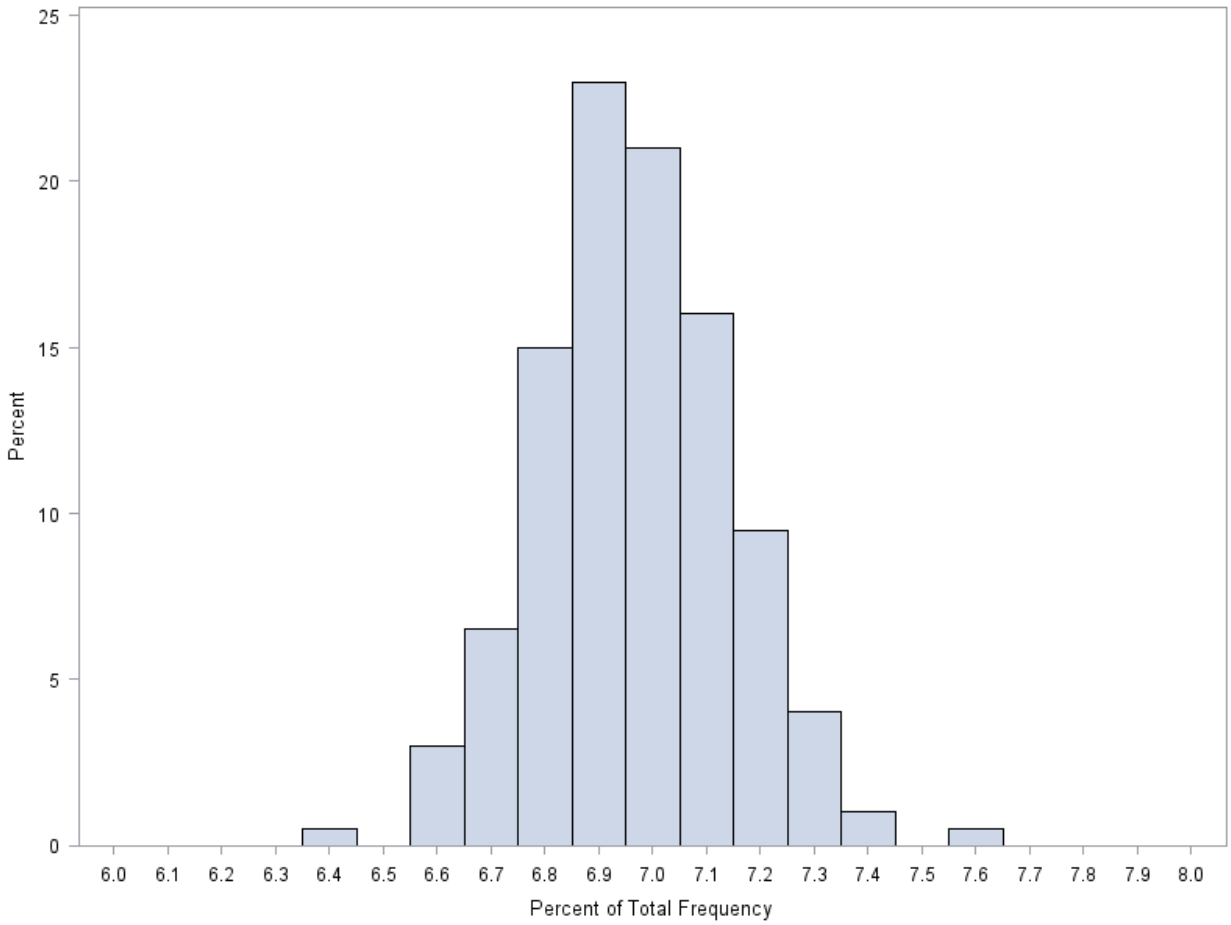
Household Characteristic	Official (Characteristics Report)	Simulated				
		Mean	St. Dev.	Min	Max	Range
Percent of Households With Disabled	20.3	20.3	0.2	19.9	20.8	0.9
Percent of Households With Children	42.9	42.8	0.3	42.2	43.4	1.2
Percent of Households With Earnings	31.9	21.8	0.2	21.1	22.3	1.2
Percent of Households With Elderly	21.8	31.9	0.2	31.4	32.5	1.1

3. Effects of a 50-Percent Reduction in Sample Size

The national error rate was also estimated based on 200 replicate files reflecting a 50-percent reduction. Across the 200 estimates, national error rates ranged from 6.4 percent to 7.6 percent (figure F.4).

Therefore, reducing the sample size by 50 percent would result in error rates that are +/- 0.6 percentage points from the rate estimated using the current sample size.

Figure F.4. Distribution of Calculated National Error Rates From 200 Replicate Files With a 50-Percent Reduction in the QC Sample



State-level error rates were also estimated. Table F.9 presents the range of rates estimated over 200 replicate files with a 50-percent reduction in the QC sample. As expected, the range of potential variance introduced by reducing the sample size 50 percent is greater than that introduced by a 33- or 15-percent reduction. For the States affected most, the error rates based on a 50-percent sample reduction would fall within a 7.0 to 8.9 percentage point range.

Table F.9. Distribution of Calculated State Error Rates From 200 Replicate Files With a 50-Percent Reduction in the QC Sample

State	Smallest Simulated Error	25th Percentile Simulated Error	Mean Simulated Error	75th Percentile Simulated Error	Largest Simulated Error	Range for Mid-50%	100% Range
Wyoming	2.5	5.8	6.7	7.8	11.4	2.0	8.9
North Dakota	2.8	6.1	7.2	8.3	11.5	2.1	8.7
California	7.7	11.2	12.1	13.0	15.5	1.8	7.8
Virginia	8.8	11.6	12.4	13.3	15.8	1.6	7.0
Delaware	10.0	12.5	13.3	14.1	16.9	1.6	7.0
Oregon	5.6	8.9	9.8	10.6	12.4	1.8	6.8
Michigan	9.4	11.1	11.8	12.6	16.0	1.5	6.6
New Mexico	11.2	13.8	14.6	15.4	17.4	1.6	6.3
Maryland	6.3	8.5	9.2	9.9	12.4	1.4	6.1
Massachusetts	5.2	7.9	8.5	9.0	11.1	1.2	5.9
West Virginia	9.7	11.6	12.5	13.3	15.6	1.7	5.9
Colorado	4.2	6.6	7.4	8.0	10.0	1.4	5.9
Minnesota	7.1	9.7	10.3	11.0	12.8	1.3	5.7
District of Columbia	12.7	14.3	15.2	16.1	18.4	1.7	5.7
Alaska	3.3	5.3	5.9	6.7	8.9	1.4	5.6
Indiana	6.3	8.6	9.1	9.7	11.7	1.1	5.5
Connecticut	3.4	5.7	6.3	6.8	8.9	1.1	5.5
Georgia	5.7	7.6	8.2	8.8	11.2	1.2	5.5
Missouri	3.3	5.0	5.7	6.3	8.6	1.3	5.3
Iowa	8.5	9.9	10.7	11.5	13.4	1.6	4.9
Arkansas	5.6	7.3	7.9	8.5	10.5	1.2	4.9
Hawaii	7.5	9.3	10.0	10.7	12.4	1.4	4.9
Ohio	3.9	6.1	6.7	7.3	8.8	1.2	4.9
Nevada	7.3	9.2	9.8	10.3	12.2	1.2	4.9
Nebraska	3.2	4.8	5.4	6.0	8.1	1.2	4.8
Oklahoma	5.4	7.0	7.6	8.2	10.2	1.2	4.8
Kentucky	5.1	6.9	7.5	8.0	9.9	1.1	4.8
Maine	4.4	6.3	6.7	7.2	9.1	1.0	4.8
Wisconsin	5.7	7.7	8.3	9.0	10.4	1.3	4.7
New Hampshire	3.4	5.3	6.0	6.5	8.0	1.2	4.6
Montana	5.1	6.6	7.2	7.7	9.7	1.1	4.6
New York	4.7	6.0	6.6	7.1	9.3	1.1	4.6
Arizona	5.7	7.6	8.2	8.9	10.2	1.3	4.5
Rhode Island	5.8	7.0	7.6	8.1	10.2	1.1	4.4
Alabama	3.9	5.5	6.0	6.5	8.2	1.0	4.4
Utah	3.5	4.8	5.4	6.0	7.7	1.1	4.2
North Carolina	5.7	7.3	7.8	8.3	9.9	1.0	4.2
New Jersey	2.7	4.4	4.8	5.2	6.9	0.8	4.1

State	Smallest Simulated Error	25th Percentile Simulated Error	Mean Simulated Error	75th Percentile Simulated Error	Largest Simulated Error	Range for Mid-50%	100% Range
Washington	1.3	3.1	3.6	4.0	5.4	1.0	4.1
Texas	1.8	3.3	3.8	4.2	5.7	0.9	3.9
Illinois	4.9	6.2	6.7	7.2	8.8	1.0	3.9
Pennsylvania	2.7	4.5	5.0	5.5	6.6	1.0	3.8
Vermont	0.5	2.1	2.5	3.0	4.3	0.9	3.8
South Carolina	3.1	4.4	5.0	5.5	6.7	1.0	3.7
Idaho	1.8	3.3	3.8	4.2	5.5	0.9	3.6
Mississippi	2.5	3.6	4.0	4.5	6.0	0.9	3.5
Tennessee	1.5	2.5	2.8	3.2	4.3	0.7	2.8
Kansas	1.5	2.6	2.9	3.3	4.1	0.7	2.6
Florida	0.3	1.4	1.6	1.8	2.7	0.5	2.4
Louisiana	0.6	1.3	1.6	1.9	2.7	0.6	2.1
South Dakota	0.1	0.7	1.0	1.2	2.0	0.5	1.9

Cutting the sample size by 50 percent would also affect national estimates generated from QC data (table F.10). The impact of a 50-percent reduction would mean key national statistics would fall within a range between 1.3 and 2.2 percentage points around estimates calculated using the current sample. Again, it should be noted the study did not examine the impact on variance for these characteristics at the State level; as with error rates, the impact of a sample reduction on the variance of estimates of household characteristics would be greater at the State level.

Table F.10. Distribution of Calculated National Household Characteristics From 200 Replicate Files With a 50-Percent Reduction in the QC Sample

Household Characteristic	Official (Characteristics Report)	Simulated				
		Mean	St. Dev.	Min	Max	Range
Percent of Households With Disabled	20.3	20.3	0.2	19.8	21.0	1.3
Percent of Households With Children	42.9	42.8	0.3	42.0	43.8	1.8
Percent of Households With Earnings	31.9	31.9	0.3	31.0	33.2	2.2
Percent of Households With Elderly	21.8	21.8	0.3	20.8	22.6	1.9

Source: Lauffer, 2016

4. Effects of a 66-Percent Reduction in Sample Size

The national error rate was also estimated based on 200 replicate files reflecting a 66-percent reduction. Across the 200 estimates, national error rates ranged from 6.4 percent to 7.6 percent (figure F.5). Therefore, reducing the sample size by 66 percent would result in error rates that fall within a 1.2 percentage point range relative to the estimate based on the full sample.

Figure F.5. Distribution of Calculated National Error Rates From 200 Replicate Files With a 66-Percent Reduction in the QC Sample

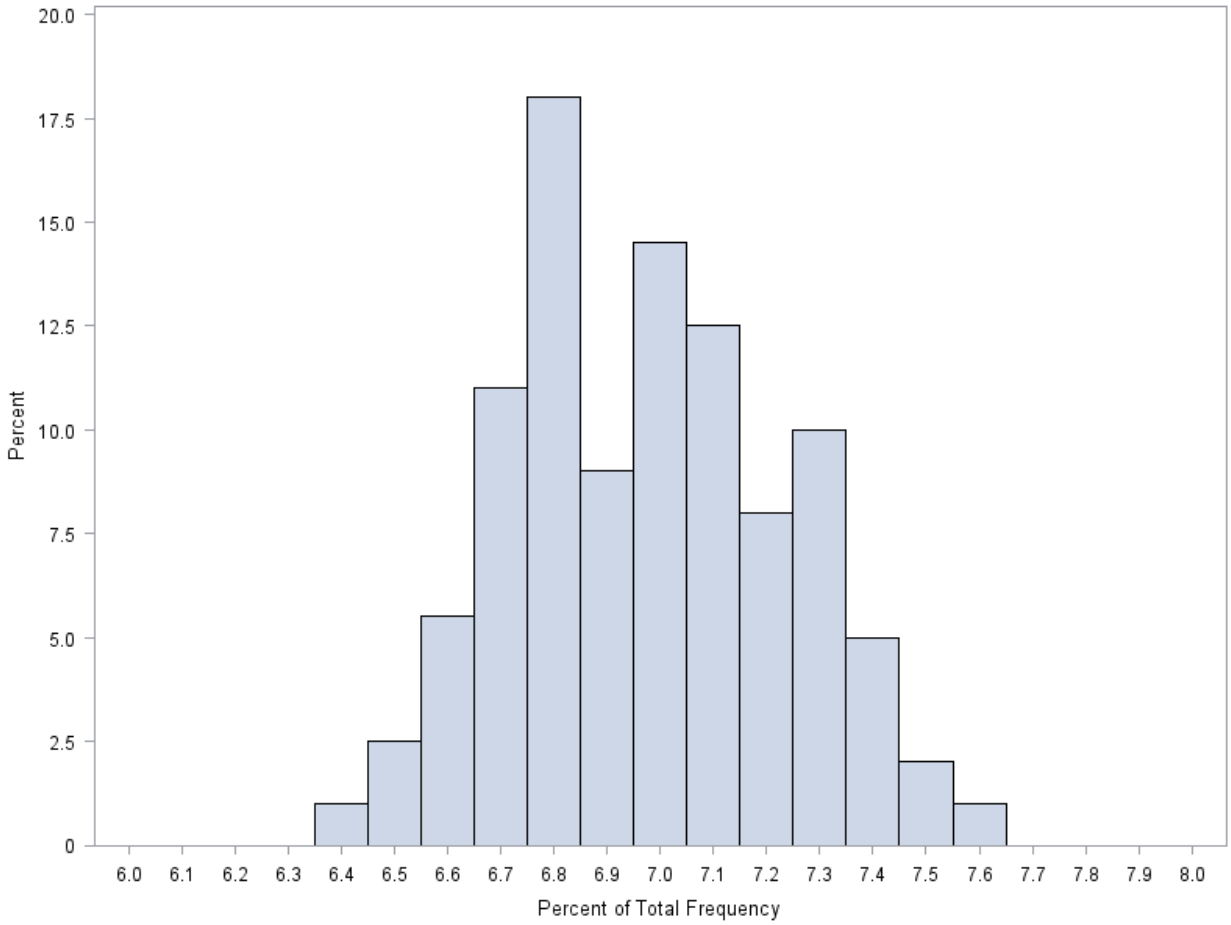


Table F.11 presents the range of State error rates estimated over 200 replicate files with a 66-percent reduction in the QC sample. For the States most affected, the error rates based on a 66-percent sample reduction would fall within a range of 8 to 13 percentage points.

Table F.11. Distribution of Calculated State Error Rates From 200 Replicate Files With a 66-Percent Reduction in the QC Sample

State	Smallest Simulated Error	25th Percentile Simulated Error	Mean Simulated Error	75th Percentile Simulated Error	Largest Simulated Error	Range for Mid-50%	100% Range
Wyoming	1.2	4.8	6.5	7.9	14.4	3.1	13.2
Oregon	5.0	8.8	9.8	10.8	16.7	2.0	11.7
Delaware	8.8	12.3	13.4	14.5	18.6	2.2	9.8
New Mexico	10.1	13.5	14.6	15.8	19.7	2.3	9.6
Montana	1.5	6.3	7.3	8.2	10.9	1.9	9.4
North Dakota	3.1	6.1	7.5	9.0	12.4	2.8	9.3
North Carolina	4.8	6.8	7.8	8.7	13.7	1.8	8.9

State	Smallest Simulated Error	25th Percentile Simulated Error	Mean Simulated Error	75th Percentile Simulated Error	Largest Simulated Error	Range for Mid-50%	100% Range
California	7.3	10.8	11.9	13.1	16.1	2.3	8.8
West Virginia	8.2	11.5	12.5	13.8	17.0	2.3	8.8
Iowa	5.8	9.5	10.6	11.6	14.5	2.1	8.7
Virginia	8.0	11.5	12.6	13.7	16.6	2.3	8.6
Alaska	2.2	4.7	5.9	7.1	10.5	2.4	8.3
Hawaii	6.1	9.3	10.1	11.1	13.9	1.8	7.8
District of Columbia	10.8	14.1	15.2	16.2	18.5	2.1	7.8
Nevada	6.6	8.8	9.8	10.8	14.2	2.0	7.7
Ohio	2.9	5.9	6.6	7.4	10.5	1.4	7.6
Michigan	8.5	11.2	12.1	13.0	16.1	1.8	7.6
Arizona	4.6	7.5	8.4	9.2	12.0	1.7	7.4
Arkansas	4.4	7.1	7.9	8.6	11.6	1.5	7.2
Missouri	2.3	4.8	5.8	6.8	9.4	2.0	7.1
Wisconsin	4.8	7.3	8.4	9.5	11.8	2.2	7.0
Colorado	3.9	6.6	7.3	8.1	10.8	1.6	7.0
New Hampshire	2.5	5.3	6.0	6.9	9.5	1.6	6.9
Massachusetts	4.7	7.7	8.5	9.2	11.6	1.5	6.9
Connecticut	2.8	5.6	6.4	7.2	9.6	1.7	6.8
Nebraska	2.2	4.7	5.4	6.1	8.9	1.5	6.7
Maryland	5.8	8.4	9.4	10.3	12.5	1.9	6.7
Georgia	5.2	7.5	8.3	9.1	11.8	1.5	6.6
Minnesota	7.5	9.5	10.3	11.1	14.1	1.7	6.5
Oklahoma	3.9	6.6	7.6	8.6	10.4	1.9	6.5
Indiana	6.1	8.1	9.0	9.8	12.4	1.7	6.4
Rhode Island	4.7	6.5	7.4	8.4	10.8	1.9	6.1
Alabama	3.2	5.1	6.0	6.7	9.3	1.6	6.1
Utah	2.1	4.7	5.5	6.2	8.1	1.4	6.0
South Carolina	2.0	4.2	4.9	5.6	7.9	1.4	6.0
New Jersey	2.0	4.1	4.9	5.6	7.9	1.5	5.9
Pennsylvania	2.4	4.5	5.1	5.8	8.3	1.2	5.9
Mississippi	1.1	3.5	4.1	4.8	7.0	1.3	5.9
New York	3.8	5.7	6.6	7.5	9.6	1.8	5.8
Kentucky	4.7	6.8	7.5	8.1	10.3	1.3	5.5
Illinois	4.0	6.0	6.9	7.7	9.4	1.6	5.4
Maine	4.3	6.1	6.9	7.7	9.5	1.6	5.2
Washington	1.2	2.9	3.6	4.4	6.3	1.5	5.1
Texas	1.2	3.1	3.8	4.5	6.0	1.4	4.8
Vermont	0.4	1.8	2.4	3.1	5.2	1.3	4.8
Idaho	1.5	3.3	3.8	4.4	6.2	1.1	4.7
Kansas	0.8	2.2	2.8	3.4	5.1	1.1	4.2

State	Smallest Simulated Error	25th Percentile Simulated Error	Mean Simulated Error	75th Percentile Simulated Error	Largest Simulated Error	Range for Mid-50%	100% Range
Tennessee	0.6	2.3	2.7	3.3	4.6	1.0	4.1
Florida	0.2	1.2	1.7	2.0	3.4	0.8	3.2
Louisiana	0.2	1.1	1.6	2.0	3.3	0.9	3.0
South Dakota	0.2	0.6	1.0	1.3	2.3	0.7	2.1

Cutting the sample size by 66 percent would also affect national estimates generated from QC data (table F.12). The impact of a 66-percent reduction would mean key national statistics would fall within a range between 2.0 and 3.2 percentage points around estimates calculated using the current sample. Again, it should be noted the study did not examine the impact on variance for these characteristics at the State level; as with error rates, the impact of a sample reduction on the variance of estimates of household characteristics would be greater at the State level.

Table F.12. Distribution of Calculated National Household Characteristics From 200 Replicate Files With a 66-Percent Reduction in the QC Sample

Household Characteristic	Official (Characteristics Report)	Simulated				
		Mean	St. Dev.	Min	Max	Range
Percent of Households With Disabled	20.3	20.3	0.4	19.2	21.2	2.0
Percent of Households With Children	42.9	42.8	0.5	41.5	44.6	3.2
Percent of Households With Earnings	31.9	31.9	0.5	30.5	33.0	2.5
Percent of Households With Elderly	21.8	21.7	0.4	20.3	22.9	2.6