MATHEMATICA Policy Research

REPORT

FINAL REPORT

Technical Documentation for the Fiscal Year 2016 Supplemental Nutrition Assistance Program Quality Control Database and the QC Minimodel

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I. INTRODUCTION

The Supplemental Nutrition Assistance Program (SNAP) is the largest of the domestic nutrition assistance programs administered by the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture (USDA), providing millions of Americans with the means to purchase food for a nutritious diet. During fiscal year (FY) 2016, SNAP served an average of 44.2 million people monthly and paid out $66.5 billion in benefits.[1]

In response to legislative adjustments to program rules and changes in economic and demographic trends, the characteristics of SNAP participants and households and their levels of participation in SNAP change over time. To quantify these changes or estimate the effect of adjustments to program rules on the current SNAP caseload, FNS relies on data from the SNAP Quality Control (QC) database. This database is an edited version of the raw datafile of monthly case reviews conducted by State SNAP agencies to assess the accuracy of eligibility determinations and benefit calculations for each State's SNAP caseload.[2]

This document describes how the raw data are cleaned and edited to create the SNAP QC database. It also describes how the QC Minimodel—one of FNS's SNAP microsimulation models—uses the SNAP QC database to simulate the effect of various policy changes to SNAP on current SNAP participants.

Chapter II provides an overview of the SNAP QC System, the resulting raw datafile, and the creation of the SNAP QC database. The overview, written for a non-technical audience, is designed to give analysts and new users of the data enough general information to analyze and interpret the results of SNAP QC data tabulations and policy change simulations from the QC Minimodel.

Chapter III describes the process for developing files for the SNAP QC database. We discuss the file development programs used to transform the raw data into the SNAP QC database, the algorithms used to edit the data for consistency, and the development of the sampling weights for the file.

Chapter IV provides a technical description of the procedures used to transform the SNAP QC database into the format required by the QC Minimodel and to document the QC-specific portions of the QC Minimodel.[3]

Chapter V contains the codebook for the FY 2016 SNAP QC database and explains how to use it. For each variable in the database, the codebook lists the variable name, the variable origin

[1] These estimates of 44.2 million participants and $66.5 billion in benefits come from FNS administrative records. They differ from the other estimates in this documentation, which come from the edited SNAP QC database, because this database is adjusted to exclude receipt of benefits by ineligible households and those receiving disaster assistance.

[2] This report refers to the original datafile as the raw datafile and the edited version as the SNAP QC database.

[3] Documentation of the generic portions of the QC Minimodel appears in the *2011 MATH SIPP+ Microsimulation Model: Programmer's Guide, Technical Description, and Codebook* (Schechter et al. 2014).

(whether it came from the raw datafile or was constructed), and a description (including all valid values of the variable).

Appendix A provides an assessment of the quality of selected variables in the FY 2016 SNAP QC database. Users should read this appendix before using the SNAP QC database because it recommends against the use of some variables and cautions against the use of others because of apparent miscoding, high prevalence of missing or unknown values, or small sample sizes. Appendix B describes automated edits to the raw data. Appendix C provides information on new and changed variables in the FY 2016 SNAP QC database. Appendix D presents the derivation of monthly sampling weights used in the SNAP QC file. Appendix E lists the State and region identification codes used in the file. Appendix F contains the parameter values used to determine SNAP eligibility in FY 2016, including gross and net income eligibility thresholds, deduction amounts, and maximum benefit amounts. Appendix G presents the QC review schedule—the coding form on which the raw data are originally recorded by the State QC System reviewers.

Key program changes since the previous fiscal year

In FY 2016, Illinois and New York expanded existing broad-based categorical eligibility (BBCE) policies, while Maine restricted its policy. Specifically, in January 2016, Illinois raised the gross income limit for households with no elderly individuals or individuals with disabilities from 130 to 165 percent of the Federal poverty guidelines. Similarly, in July 2016, New York raised the gross income limit for households with earned income from 130 to 150 percent of the Federal poverty guidelines. Conversely, in mid-November 2015, Maine made its BBCE policy more restrictive by adding an asset limit of $5,000 for households without children living with a parent or caretaker.

In addition, during FY 2016, Georgia and South Carolina implemented standard medical deduction demonstration programs, which use standard medical expense deduction amounts for households with medical expenses below a specified limit. The demonstration programs simplify the application process for qualifying households and may slightly increase eligibility and benefit amounts.

Key changes to the FY 2016 SNAP QC database

The contents of the FY 2016 SNAP QC database are very similar to the contents of the FY 2015 SNAP QC database, with a few minor changes. First, consistent with the FY 2014 and earlier files, the database includes person-level variables for up to 16 individuals, down from 29 in the FY 2015 file, which contained one household of that size. Second, we revised our algorithm to incorporate units in Texas that appeared to be SSI Combined Application Project (SSI-CAP) cases based on their household composition, certification periods, and benefit amounts, despite not being coded as receiving SSI. Third, we made minor changes to the individual disability indicator (DISi) algorithm; Section III.B and Appendix B provide more detail about these changes.

II. OVERVIEW OF THE SNAP QC DATABASE

The SNAP QC database is an edited version of the raw datafile generated by SNAP's QC System. The SNAP QC database contains detailed demographic, economic, and SNAP eligibility information for a nationally representative sample of approximately 47,000 SNAP units.[4] The data, produced annually, are well suited for tabulating characteristics of SNAP units and simulating the impact on current SNAP units of various policy changes to the program. Accordingly, the SNAP QC database is the source for FNS's annual report, "Characteristics of Supplemental Nutrition Assistance Program Households," and FNS's QC Minimodel, a microsimulation model that estimates the effect of proposed changes to SNAP on current participants. In this chapter, we provide an overview of the raw datafile and the processing and edits that convert the datafile to the SNAP QC database.

A. The QC System

The raw datafile is generated from the monthly reviews of SNAP cases conducted by State SNAP agencies as part of the QC System (SNAP-QCS). The primary objective of QC reviews is to assess the accuracy of eligibility determinations and benefit calculations. Participating units, or active cases, are reviewed to determine whether they are eligible for participation and receiving the correct benefit amount. Units that had their participation denied or terminated, or negative cases, are reviewed to determine whether the denial or termination was correct. The SNAP QC database is based on the sample of active cases drawn each month for the 50 States, the District of Columbia, Guam, and the Virgin Islands.

State QC reviewers review data in the active case file. They gather financial and demographic information from the sampled unit's case file, visit the household to re-interview the participants, and then determine whether the SNAP unit received the correct SNAP benefit amount. The review information is either uploaded or entered directly into the SNAP-QCS by State agencies. FNS regional offices conduct a Federal re-review of a subsample of each original State sample. Federal re-review data are also entered into the SNAP-QCS and used in conjunction with the State review data to calculate the official payment error rate for each State. States can be sanctioned or rewarded on the basis of their official payment error rates.

Most of the data in the raw datafile are the financial and demographic information collected during the review. The authorized benefit amount and eligibility status determined by the caseworker are also in the file, along with the error amount and eligibility status determined by the reviewer. The reviewer-determined entries are defined as follows:

- If the SNAP unit was eligible and the authorized benefit amount equaled the issued benefit, then the error amount is zero and the case finding is "amount correct."

[4] In this technical documentation, "SNAP unit" or simply "unit" refers to individuals who together are certified for and receive SNAP benefits. A household may contain multiple SNAP units and/or individuals who do not receive SNAP benefits. However, since QC sampling is done at the unit level, each record contains data on only one SNAP unit.

- If the SNAP unit was eligible and the authorized benefit amount varied from the issued benefit, then the difference between the two amounts is recorded as the error amount, and the case finding is either "overissuance" or "underissuance." Error amounts of $38 or less are not included in the calculation of State error rates.[5]
- If the reviewer determines that the SNAP unit was ineligible, then the issued benefit amount is recorded as the error amount and the case finding is "ineligible."

State QC reviewers also review the negative cases to decide whether proper procedures were used to deny or terminate a case. Because these cases are not participating in SNAP, they are not included in the SNAP QC database and QC Minimodel.

B. The raw datafile

While most participating SNAP units are subject to sampling in the active case file, certain types of units not appropriate for review are excluded. Specifically, the active case universe excludes the following types of cases:

- Dropped as a result of oversampling
- Listed in error as active cases, including, but not limited to:
  - Negative cases incorrectly included in the active case file
  - Cases that did not participate in SNAP for the sample month, including suspended cases and those that were eligible for zero benefits before any recoupments were made
  - Cases receiving restored benefits that were not otherwise participating
  - Cases receiving retroactive benefits for the sample month
- Receiving benefits for a disaster authorized by FNS
- Pending a hearing for an adverse action
- Under investigation for SNAP fraud (including those with pending fraud hearings)
- Where all members have died or moved outside the State
- Where no member could be interviewed because:
  - All members had been hospitalized, incarcerated, or placed in a mental institution and were expected to remain there for 95 days after the end of the sample month
  - Members could not be located

The sampling unit within the active universe is the SNAP unit as defined in an FNS-approved State manual. State sampling plans must conform to accepted principles of probability

[5] The Agricultural Act of 2014 (2014 Farm Bill) decreased the tolerance threshold from $50 to $37 for all active FY 2014 SNAP cases. The 2014 Farm Bill allows the threshold to be adjusted each year to account for inflation. As a result, the FY 2016 tolerance threshold was $38.

sampling. A State may use either a simple random sampling plan or a more complex sampling design that best meets its needs. FNS must approve all sampling designs, including simple random sampling.

The standard minimum annual State sample sizes range from 300 to 2,400 reviews depending primarily on the size of the monthly participating caseload. States must use the following guidelines when determining their standard annual QC sample sizes:

- If the average monthly caseload is under 10,000, the standard minimum sample size is 300 cases per year.
- If the average monthly caseload is 60,000 or greater, the standard minimum sample size is 2,400 cases per year.
- If the average monthly caseload is between 10,000 and 60,000, the standard minimum sample size is derived by the following formula:

  Standard minimum = 300 + 0.042 (N − 10,000),
  where N is the average monthly caseload.

A State may choose an optional minimum sample size if it agrees not to dispute later payment error rate findings and the associated sanctions on the basis of the precision of the estimates. Optional minimum sample sizes are determined as follows:

- If the average monthly caseload is under 12,942, the optional minimum sample size is 300.
- If the average monthly caseload is 60,000 or greater, the optional minimum sample size is 1,020.
- If the average monthly caseload is between 12,942 and 60,000, the optional minimum sample size is derived by the following formula:

  Optional minimum = 300 + 0.0153 (N – 12,941),
  where N is the average monthly caseload.

In FY 2016, all States chose to use the optional minimum sample size.

C. Creation of the SNAP QC database

We create the SNAP QC database from the raw datafile by following four steps: (1) preliminary processing, (2) data editing, (3) variable construction, and (4) weighting.

1. Preliminary processing

After first converting the raw datafile into a SAS file, we generate and inspect a series of quality assurance counts and frequency distributions for the values of each variable in the file. We assign missing value codes to data that are out of range, missing from the file, or coded as unknown in the source file. We remove the following records from that file that are:

- Coded as not subject to review (REVDISP = 2), incomplete (REVDISP = 3), or deselected due to oversampling (REVDISP = 4)
- Coded with review findings of ineligible (STATUS = 4)
- Missing all data except error and status information, identified as those coded with 0 case members (CERTHHSZ = 0)
- Found by the reviewer to be eligible but not qualifying for a positive benefit or identified as those with a benefit overissuance equal to or exceeding the recorded benefit (STATUS = 2 and RAWBEN <= AMTERR)

In Table II.1, we show the number of cases dropped from the FY 2016 edited file.

Table II.1. Number and percentage of cases sampled, dropped from the edited file, and included in the edited file, FY 2016

	FY 2016 SNAP QC sample	Percentage of cases sampled	Percentage of cases subject to review
Number of cases sampled	55,004	100.0	n.a.
Cases not subject to review	2,738	5.0	n.a.
Cases deselected to correct for oversampling	0	0.0	n.a.
Cases subject to review	52,266	95.0	100.0
Incomplete cases	4,966	9.0	9.5
Cases completed	47,300	86.0	90.5
Not eligible for SNAP	398	0.7	0.8
Not eligible for a positive benefit	217	0.4	0.4
Eligible for a positive benefit	46,685	84.9	89.3
Dropped due to unresolved inconsistencies	90	0.2	0.2
SNAP units in the final file	46,595	84.7	89.1

Source: FY 2016 Supplemental Nutrition Assistance Program QC sample.

2. Data editing

Consistent measures of SNAP unit size, income, and benefit level are critical to any analysis of SNAP units. However, data for these measures are not always consistent in the raw datafile. For instance, the sum of the income of each person in the unit may not equal reported unit-level gross income. Such inconsistencies may be rooted in the initial case record information or the data entry process. In the data-editing step, we resolve the inconsistencies described below. We drop the small number of SNAP units with unresolved inconsistencies from the edited file.

The overall strategy of the editing process is to ensure that certain relationships hold for all cases. The two most basic relationships are the following:[6]

[6] Households participating in the Minnesota Family Investment Program (MFIP) or an SSI-CAP are subject to different eligibility and benefit determination rules and have been edited accordingly.

- Net income must equal gross income minus the total deductions for which the unit is eligible, and it must not be negative.
- The SNAP benefit level must equal the maximum benefit for that unit size minus 30 percent of net income (or be set to the minimum benefit if appropriate), and it must not be negative.

In addition, several important relationships must hold for some final and intermediate variables. For example:

- Gross unit income must equal the sum of all countable person-level income amounts.
- The earned income deduction must equal the specified percentage (rounded down) of countable earned income.
- The excess shelter expense deduction must equal shelter costs above 50 percent of gross income minus all other deductions up to a cap. Units with elderly members or individuals with disabilities are not subject to the cap. Units with a homeless household shelter deduction will not have an excess shelter expense deduction.
- Total deductions must equal the sum of the following:
  - Standard deduction
  - Earned income deduction
  - Medical expense deduction
  - Excess shelter expense deduction or homeless household shelter deduction
  - Dependent care deduction
  - Child support payment deduction.[7]

In Chapter III, we describe the complex process by which we determine whether a case is internally consistent and, if not, perform needed edits.

3. Variable construction

We construct several variables from the reported data once the file. The major classes of constructed variables are unit-level countable income variables, SNAP eligibility and benefit determination variables, and characteristics flags.

- **Unit-level countable income variables.** The total SNAP unit income variable for each type of income (for example, Temporary Assistance for Needy Families [TANF] or Social Security) is constructed by summing the person-level income of that type over all individuals in the SNAP unit. The total SNAP unit gross income, earned income, and unearned income variables are constructed by summing all the appropriate unit income variables.
- **SNAP eligibility and benefit determination variables.** Variables used to determine eligibility and benefits—such as SNAP unit deductions, SNAP unit net countable

[7] In some cases, child support payments are excluded from gross income and not taken as a deduction.

income, and SNAP unit benefits—are constructed on the basis of SNAP unit countable income and unit demographic characteristics.

- **Characteristics flags.** Characteristics flags identify SNAP units with certain features, such as the presence of an elderly individual or an individual with a disability. In addition, we merge data from Census files to identify whether a SNAP unit resides in a metropolitan, micropolitan, or rural area.[8]

4. Weighting

We weight the observations in the raw QC file to ensure that the weighted totals match three adjusted SNAP Program Operations totals—the monthly number of SNAP units by State and stratum, the monthly number of SNAP participants by State, and the monthly total benefits issued by State. We adjust these totals by removing benefits issued in error and benefits issued through the SNAP disaster assistance program because the SNAP QC data do not include cases with either of these circumstances.[9] In Section III.C, we describe the derivation of the sampling weights in detail.

SNAP Program Operations totals are generated from FNS's National Data Bank and reflect actual levels of participation and benefit issuance. FNS also maintains information on the number of SNAP units and individuals receiving a disaster assistance benefit and the amount of those benefits. The rates of SNAP units receiving benefits in error are estimated from the raw QC datafile. In Table II.2, we compare the QC System sample-based estimates to aggregate program participation data for FY 2016.

Table II.2. Comparison of program data to edited SNAP QC database, FY 2016

Average monthly value	Program data	Adjustments for disaster assistance[a]	Adjustments for ineligible SNAP units	Edited SNAP QC database
Number of SNAP units	21,777,938	30,570	236,363	21,511,005
Number of participants	44,219,363	72,946	607,562	43,538,855
Value of benefits (dollars)	5,544,945,935	23,550,275	168,384,825	5,353,010,835
Average SNAP unit size	2.03	2.39	2.57	2.02
Average benefit per person (dollars)	125.40	_	277.15	122.95
Average benefit per household (dollars)	254.61	_	712.40	248.85

Source: FY 2016 SNAP Program Operations data and SNAP QC database.

[a]Adjustments are made for units and individuals who only receive disaster SNAP assistance and were not already receiving SNAP. Adjustments are made to benefits for disaster SNAP benefits issued to disaster SNAP units as well as to replacement benefits issued to qualifying, ongoing SNAP units. As a result, the average disaster SNAP benefit per person may not be calculated from the information in this table.

[8] A Micropolitan Statistical Area has at least one urban cluster of at least 10,000 but fewer than 50,000 people and includes adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.

[9] In FY 2016, about 367,000 units that were not previously on SNAP received disaster assistance in the form of SNAP benefits. These units and participating SNAP units with replacement SNAP benefits as a result of a disaster received a combined $282.5 million in benefits. As such, the adjusted total number of SNAP units and benefits is lower than indicated by Program Operations data by about 1 and 3 percent, respectively.

D. Final SNAP QC database

We create two versions of the SNAP QC database: a restricted-use version that includes all variables and a public use version that excludes REVNUM, COUNTYCD, LOCALCOD, AK_AREA, and URBRUR for privacy reasons. The first excluded variable is the QC review number, and the other four are geographic variables. In Chapter V, we provide a more detailed explanation of the variables in the file.

After we develop the SNAP QC databases, we create SAS, STATA, and SPSS versions that may be used to tabulate characteristics of SNAP units and a binary file that serves as the underlying database for FNS's QC Minimodel.

III. FY 2016 SNAP QC FILE DEVELOPMENT PROCESS

A. Developing the SNAP QC file

In this chapter and in Figure III.1, we describe the programs and data used in the development of the FY 2016 SNAP QC file.[10]

Step 1. Obtain data

We received the data from FNS on a CD in an ASCII (or text) format.

INPUT CD	File: FY2016 Record length 2,250 55,006 records	(ASCII file)

Step 2. Read in and prepare files

We converted to SAS format the specified fields from the raw FNS file, created the unique record identifier (HHLDNO), and corrected stratum codes to reflect FNS's updated specifications. We dropped records with an invalid State code from the file.[11]

PROGRAM NAME	10_SASIFY16.SAS	
INPUT FILE	FY2016	(ASCII; 55,006 records)
OUTPUT FILE	QCFY2016_1.SAS7BDAT	(55,004 records; 721variables)

Step 3. QA the data

We ran preliminary frequencies on the SAS file and examined them for data corruption, consistency across States and months, and the extent of missing and out-of-range data. In addition, we calculated means and compared them with means for the previous year.

PROGRAM NAMES	FREQS16.SAS FREQS16A.SAS CMP1516A.SAS	
INPUT FILE	QCFY2016_1.SAS7BDAT	(55,004 records; 721 variables)

Step 4. Set SNAP parameters

We obtained relevant SNAP values (parameters), including those for maximum and minimum benefit amounts, income screens, Minnesota Family Investment Program (MFIP) values, SSI Combined Application Project (SSI-CAP) values, and Standard Utility Allowance (SUA) amounts by State.[12] We entered them into a SAS format library, and used the formats for our program in Step 6.

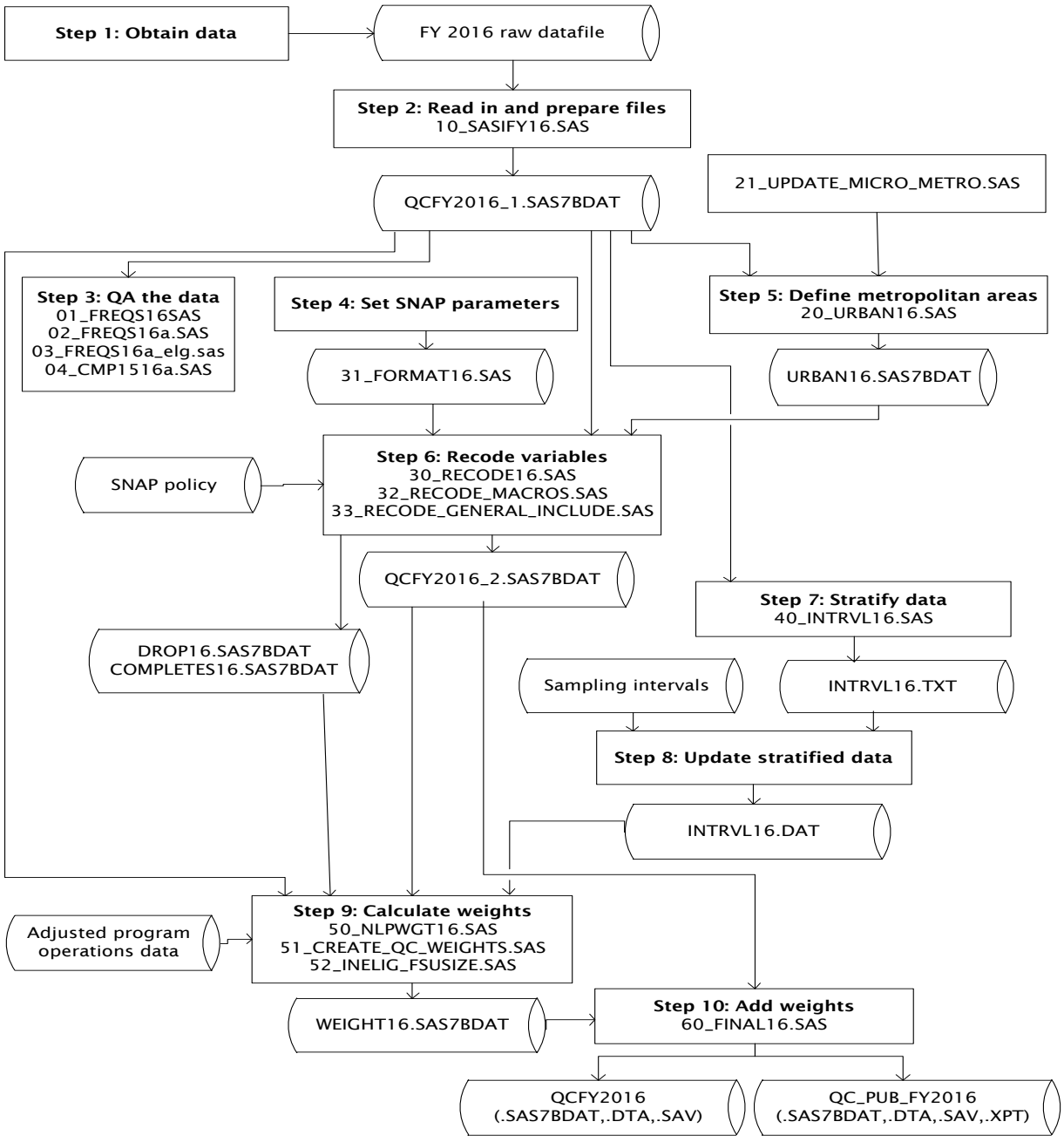
OUTPUT PROGRAM	31_FORMAT16.SAS

[10] Copies of the file development programs are available from FNS upon request.

[11] In FY 2016, we dropped from the file two records with invalid State code.

[12] SUAs are Standard Utility Allowances that States may use in place of actual utility costs to calculate a household's total shelter expenses. SUAs are mandatory in some States and optional in others.

Figure III.1. FY 2016 SNAP QC file development process



Step 5. Define metropolitan areas

We added geographic information to the file. Using the local agency code on the raw datafile, we assigned a county Federal Information Processing Standards (FIPS) code to each SNAP unit. We flagged unknown local agency codes for correction or addition to the concordance of local agency codes by county and State. We then merged each unit to the 2015 Census Bureau files of metropolitan and micropolitan areas by using State and county codes. We coded units as metropolitan or micropolitan, depending on their match to one of the Census files. Those not found in either file were coded as rural, except for those with State-wide local codes, which we coded as missing metropolitan status. Beginning in 2014, we assigned Alaska units with missing or unknown local agency codes a metropolitan status based on the unit's region (Alaska Urban, Alaska Rural I, or Alaska Rural II). We removed cases not subject to review and incomplete cases in the output files.

PROGRAM NAME	20_URBAN16.SAS	
INPUT FILES	QCFY2016_1.SAS7BDAT	(55,004 records; 721 variables)
	METRO2_15.TXT	(ASCII; 1,236 records; 4 variables) (Census 2015 Metropolitan File)
	MICRO2_15.TXT	(ASCII; 664 records; 4 variables) (Census 2015 Micropolitan File)
	FIPS_LAC.TXT	(ASCII; 5,142 records; 6 variables) (Concordance of local area codes, updated in 2016.)
OUTPUT FILE	URBAN16.SAS7BDAT	(47,300 records; 5 variables)

Step 6. Recode and standardize variables

We edited the file to resolve inconsistencies between variables within a unit and created several unit-level variables pertaining to SNAP affiliation, income deductions, shelter limit, benefit amount, assets, poverty status, and types of income. Unknown values (9-filled or 0 where a value should have been entered) were set to missing. The program detected inconsistencies between person-level income totals and reported totals and resolved them by using the procedure we detail below (see Section B, Obtaining file consistency). Units meeting all of the following conditions were written to the output file: (1) had a completed review; (2) found eligible by the QC reviewer; (3) contained at least one SNAP participant under review; (4) received a benefit amount of at least $1; and (5) passed the eligibility tests, flagged as categorically eligible, or identified as participating in MFIP or an SSI-CAP. Meeting these conditions, together with the sample reductions in Step 5, completed the sample selection for the final datafile (46,595 records).

PROGRAM NAME	30_RECODE16.SAS	
INPUT FILES	QCFY2016_1.SAS7BDAT	(55,004 records; 721 variables)
	31_FORMAT16.SAS	(Format library)
	URBAN16.SAS7BDAT	(47,300 records; 5 variables)
OUTPUT FILES	QCFY2016_2.SAS7BDAT	(46,595 records; 1,580 variables)
	COMPLETES16.SAS7BDAT	(47,300 records; 1,582 variables)
	DROP16.SAS7BDAT	(90 records; 1,581 variables)

Step 7. Stratify data

We created a file containing State name, FIPS code, and stratum, with one record per State/stratum combination.

PROGRAM NAME	40_INTRVL16.SAS	
INPUT FILE	QCFY2016_1.SAS7BDAT	(55,004 records; 721 variables)
OUTPUT FILE	INTRVL16.TXT	(ASCII; 53 records, 4 variables)

Step 8. Update stratified data

We edited the INTRVL16.TXT file by hand to add sampling interval information (obtained from FNS) for each State/stratum combination and saved the edited file as INTRVL16.DAT.[13]

INPUT FILE	INTRVL16.TXT	(ASCII; 53 records; 4 variables)
OUTPUT FILE	INTRVL16.DAT	(ASCII; 53 records, 4 variables)

Step 9. Calculate weights

As described later in Section III.C, we calculated a weight for each SNAP unit that had a complete review, excepting those units that were dropped from the edited file because of unresolved inconsistencies.

PROGRAM NAME	50_NLPWGT16.SAS	
INPUT FILES	QCFY2016_1.SAS7BDAT	(55,004 records; 721 variables)
	QCFY2016_2.SAS7BDAT	(46,595 records; 1,580 variables)
	INTRVL16.DAT	(ASCII; 53 records, 4 variables)
	FY16_ADJUSTED.XLSX	(Excel spreadsheet containing FNS Program Operations data adjusted for disasters)
	COMPLETES16.SAS7BDAT	(47,300 records; 1,582 variables)
	DROP16.SAS7BDAT	(90 records; 1,581 variables)
OUTPUT FILE	WEIGHT16.SAS7BDAT	(47,210 records; 27 variables)

Step 10. Add weights

We merged the file containing weights with the edited SNAP QC file to produce the final FY 2016 SNAP QC files. QCFY2016 is for internal use and includes all variables. QC_PUB_FY2016 is for public use and excludes REVNUM, COUNTYCD, LOCALCOD, AK_AREA, and URBRUR for privacy reasons.

PROGRAM NAME	60_FINAL16.SAS	
INPUT FILES	QCFY2016_2.SAS7BDAT	(46,595 records; 1,580 variables)
	WEIGHT16.SAS7BDAT	(47,210 records; 27 variables)

[13] No States had a stratified sample in the FY 2016 SNAP QC file.

OUTPUT FILES[14]	QCFY2016.SAS7BDAT	(46,595 records; 819 variables)
	QC_PUB_FY2016.SAS7BDAT	(46,595 records; 812 variables)
	QCFY2016.DTA	(46,595 records; 819 variables)
	QC_PUB_FY2016.DTA	(46,595 records; 812 variables)
	QCFY2016.SAV	(46,595 records; 818 variables)
	QC_PUB_FY2016.SAV	(46,595 records; 811 variables)
	QC_PUB_FY2016.XPT	(46,595 records; 812 variables)

After developing the final QCFY2016 SNAP QC files, we create two hierarchical binary files using this file:

1. The file MATHPC.BIN is generated for the QC Minimodel with SAS missing values coded to negative values.

PROGRAM NAME	MINIQC16.SAS	
INPUT FILE	QCFY2016.SAS7BDAT	(46,595 records; 819 variables)
OUTPUT FILE	MATHPC.BIN	(46,595 unit records; 102,898 person records)

2. The file QC2TPL16.BIN is used to produce tables with Table Producing Language (TPL) software. These tables are included in the annual Characteristics Reports. The program also creates a codebook for the TPL software. SAS missing values were coded to negative values. Additional unit-level recodes were created for use in table generation.

PROGRAM NAME	20_QC2TPL16.SAS	
INPUT FILE	QCFY2016.SAS7BDAT	(46,595 records; 1,313 variables)
OUTPUT FILES	QC2TPL16.BIN	(46,595 unit records; 102,898 person records)
	QC2TPL16.CBK	

B. Obtaining file consistency

As mentioned under Step 6 above, we performed selected editing of the reported data. We followed the procedures below to obtain a high degree of consistency between related variables in the data while maintaining the integrity of the database. Some of the procedures do not apply to SNAP units in MFIP or participating in an SSI-CAP. We present the editing procedures for MFIP and SSI-CAP units after outlining the standard editing procedures. For details on specific data-cleaning procedures, please refer to Appendix B.

[14] The SPSS version omits the variable "statename" due to inconsistencies in the way SPSS treats such variables.

1. Standard editing procedures

Step 1. Eliminate case records that are incomplete or are for SNAP units that do not qualify for a benefit.

- Those with incomplete reviews (REVDISP not equal to 1)
- Those with no case members (CERTHHSZ = 0)
- Those found ineligible by the QC reviewer (STATUS = 4)
- Those with an overissuance that is equal to or greater than the reported benefit (STATUS = 2 and RAWBEN <= AMTERR)
- Those with unknown eligibility (STATUS is missing)

Step 2. Obtain a preliminary count of the number of people in the SNAP unit.

Step 3. Recode missing information to SAS missing values.

- Any field coded with an out-of-range value is set to missing value of .A (for example, a 0 in the SNAP case affiliation code).
- Any field coded as unknown (filled with 9s) is set to missing value of .B. The one exception is the SNAP case affiliation code (FSAFILi) where the 9s remain to signify a valid person.
- Any constructed field that cannot be determined because of missing values is set to missing value of .C (for example, total assets).
- For units participating in months for which they are not certified, CERTMTH is set to missing value of .D.
- For MFIP and SSI-CAP units, variables not relevant in the benefit determination are set to missing value of .E.

Step 4. Finalize the unit size. We use the SNAP case affiliation flags for each person in the unit to construct a measure of the number of members in the SNAP unit under review. A person is considered a member of the SNAP unit if his or her affiliation code (FSAFILi) is equal to 1.

Step 5. Determine unit totals and indicator variables. Examples of totals include the number of elderly individuals (FSNELDER), children (FSNKID), and non-elderly individuals with disabilities (FSNDIS). Examples of indicators include citizenship status of the unit head (NONCIT_HEAD) and categorical eligibility status (CAT_ELIG) of the unit.

Step 6. Initialize FY 2016 values (for example, standard deduction, shelter cap, maximum benefit).

Step 7. Reconcile duplicated amounts of wages (WAGESi), Social Security income (SOCSECi) and Supplemental Security Income (SSIi). If a unit contains multiple individuals with equivalent WAGESi and either equivalent SOCSECi amounts or SSIi amounts, we check whether the sum of unduplicated income amounts is equal to RAWGROSS. If so, we assume that the QC reviewer incorrectly reported each individual's income for all members of the unit.

We try to reconcile the duplicated amounts by using work registration status (WRKREGi) and age. For example, if two non-elderly members have identical WAGESi and SOCSECi, and one is coded as being exempt from work registration due to a disability and the other is not, we assign the SOCSECi income to the former (and set WAGESi to 0) and the WAGESi income to the latter (and set SOCSECi to 0).

Step 8. Calculate earned and unearned incomes for those inside the unit and others in the household by adding up person-level income amounts.

- Earned income variables are wages (WAGESi), self-employment income (SLFEMPi), and other earned income (OTHERNi).
- Unearned income variables include:
  - Contributions (CONTi)
  - Court-ordered child support payments (CSUPRTi)
  - Deemed income (DEEMi)
  - State diversion payments (DIVERi)
  - Educational grants/scholarships/loans (EDLOANi)
  - Earned income tax credit income (EITCi)
  - Energy assistance income (ENERGYi)
  - Foster care payments (FOSTERi)
  - State general assistance (GAi)
  - Other government benefits (OTHGOVi)
  - Other unearned income (OTHUNi)
  - Social Security income (SOCSECi)
  - Supplemental Security Income (SSIi)
  - TANF (TANFi)
  - Unemployment compensation (UNEMPi)
  - Veterans' benefits (VETi)
  - Workers' compensation (WCOMPi)
  - Subsidized earned income (WGESUPi)

Step 9. Reconcile reported person-level income amounts with reported unit-level income and deduction variables. All household members reported on the file (not just unit members) are initially considered in the process of reconciling person and unit-level income. Any person-level income amount that is found to not count toward the benefit calculation is set to 0. To reconcile any differences between the person and unit-level income amounts, we perform the following steps sequentially, and stop when we resolve inconsistencies:

9a. **Does the child support income match the child support payment deduction?** For units in which child support income and child support expenses are the same, we determine whether the exclusion of either will allow us to replicate the reported unit-level gross income or net income. We set to 0 any child support income or deductions that are not used.[15]

9b. **Does the sum of person-level income match the unit-level gross income?** We compare earned and unearned income for the unit and the household to determine whether any combination is equal to the reported unit-level gross income. We check in the following order: (1) all unit income; (2) all unit income plus unearned income from outside the unit; (3) all unit income plus earned income from outside the unit; and (4) all household income.[16] At each stage, we check to see if child support expenses have been excluded from the unit-level gross income. If person-level sums and the unit-level gross income are equal at any stage, we set any income not used to 0.

9c. **Does the sum of person-level unearned income and earnings implied by the earned income deduction match the unit-level gross income?** We compare unearned income for the unit and the household plus the amount of earnings implied by the reported earned income deduction with the reported unit-level gross income to determine whether any combination is equal. We check in the following order: (1) unit unearned income and (2) household unearned income. At each stage, we check to see if child support expenses have been excluded from the unit-level gross income. If reconciliation is made, we adjust earnings to satisfy the earned income deduction (adjusting existing earnings proportionately or, in the event of no person-level earnings, adding to the householder's other earned income). We set all other income to 0.

9d. **Is gross income not recorded?** If the reported unit-level gross income is 0 and the benefit is less than the maximum benefit for a unit of this size, we set the unit-level gross income to the sum of the person-level income values for the household.

9e. **Is the benefit consistent with having no income?** If the reported unit-level gross income is 0 and the benefit is equal to the maximum benefit for a unit of this size, we set the person-level income values for the household to 0.

9f. **Is gross income unreasonably high?** If the reported unit-level gross income is out of range (in this case, greater than three times the net income screen for a unit of this size) and no person-level income value is out of range, we set the unit-level gross income to the sum of the person-level income values for the household.

9g. **Is person-level income consistent with deductions and unit-level net income?** We compare combinations of earned and unearned income for the unit and the household less calculated total deductions to the reported unit-level net income. The calculated total deductions vary for each combination because the shelter deduction depends on household income while the earned income deduction depends on total earnings. We check in the

[15] States may exclude child support expenses from gross income rather than consider them a deduction. For units excluding it from gross income, we verify that gross income minus child support expenses is at or below 130 percent of the Federal poverty guidelines.

[16] "Unit" income is income associated with participating household members. We allow a $5 difference to account for potential rounding differences.

following order: (1) all unit income less total deductions, (2) all unit income plus unearned income from outside the unit less total deductions, (3) all unit income plus earned income from outside the unit less total deductions, and (4) all household income less total deductions. If reconciliation is made, we set any income types not used to 0 and recalculate unit-level gross income.

9h. **Are person-level unearned income and earnings implied by the earned income deduction consistent with deductions and unit-level net income?** We check unearned income for the unit and the household plus the amount of earnings implied by the reported earned income deduction to determine whether any combination equals the reported unit-level net income plus calculated total deductions. We check in the following order: (1) unit unearned income and (2) household unearned income. If reconciliation is made, we adjust earnings to satisfy the earned income deduction (adjusting existing earnings proportionately or, in the event of no person-level earnings, adding to the householder's other earned income). We set any income types not used to 0.

9i. **Do unit-level income values agree with no errors reported?** If no errors are reported (AMTERR = 0) and the unit-level income values agree (gross income = net income + total deductions), we adjust the person-level income to agree with the unit-level values. We first adjust person-level earnings proportionately to agree with the earned income deductions. If any further adjustments are needed, we adjust person-level unearned income values proportionately. However, we adjust SSI values only if SSI is the only unearned income or the amount of other unearned income is not enough to reconcile the unit.

9j. **Do earnings agree with the reported earned income deduction but exceed the reported unit-level gross income?** If earnings agree with the reported earned income deduction but exceed the unit-level reported gross income, we recalculate the gross income, setting to 0 any person-level income not used. If unit earnings agree, we set all income outside the unit to 0. If household earnings agree, we set any unearned income outside the unit to 0. Beginning in FY 2015, if the unit reports no earnings, has deemed income (FSDEEM), has an earned income deduction equal to 20 percent of FSDEEM (within $5), and includes an individual outside the unit, we change the deemed income to wages. If the deemed income was reported by someone outside the unit, the wages remain with that person. If the deemed income was reported by someone inside the unit, we move the wages to someone outside the unit. If more than one individual is outside the unit, we give it to the first individual outside the unit that satisfies one of the following conditions (in order): individual is (1) the household head (RELi = 1), (2) the spouse of household head (RELi = 2), (3) the first non-elderly adult, (4) the first individual.

9k. **Are person and unit-level income amounts still inconsistent?** If we still have not resolved incomes, we make the person-level incomes equal the reported unit-level gross income as follows. If the reported earned income deduction indicates zero earnings, we set to 0 any person-level earnings. If the reported earned income deduction indicates earnings no greater than the reported gross income, we proportionately adjust all person-level earnings to satisfy the earned income deduction. Otherwise, we proportionately adjust all person-level earnings. If additional adjustments are needed, we proportionately adjust all person-level unearned income values.

Step 10. Calculate final SNAP unit income totals (for example, gross, net, TANF, and SSI).

Step 11. Create remaining flags and variables.

Step 12. Calculate the benefit.

Step 13. If the calculated benefit does not match the raw benefit, adjust the dependent care deduction, excess shelter expense deduction, or medical expense deduction if doing so results in a matching benefit. In some SNAP units, we can reconcile initial differences between the calculated benefit and the raw benefit by performing the following steps sequentially and stopping when we resolve inconsistencies:

13a. **Does the calculated benefit match the raw benefit?** We define a SNAP unit as having a matching benefit if it meets one of the following conditions:

1. QC reviewers recorded a payment error and (1) the calculated benefit is within $5 of the raw benefit adjusted for the error amount, or (2) the calculated benefit is within $5 of the unadjusted raw benefit, and the error element is not indicated to be the dependent care deduction, the shelter deduction, or the Standard Utility Allowance.
2. QC reviewers recorded no payment errors and the calculated benefit is within $5 of the raw benefit.

13b. **Does adjusting the dependent care deduction result in a matching benefit**? If a unit has a dependent care deduction that is not consistent with dependent care costs, we make the deduction match the expenses if doing so results in meeting one of the following conditions:

3. QC reviewers recorded a payment error and the calculated benefit is within $5 of the raw benefit adjusted for the error amount.
4. QC reviewers recorded no payment errors and the calculated benefit is within $5 of the raw benefit.

For each condition, we check with and without allotment adjustments.

13c. **Does adjusting the excess shelter expense deduction result in a matching benefit?** We try setting the amount of utility expenses equal to an SUA amount or to 0.[17] We try different SUA amounts in the following order: (1) Heating and Cooling SUA (HCSUA), (2) Limited Utility Allowance (LUA), (3) utilities equal 0, (4) telephone allowance, and (5) a single-element SUA. We set the amount of utility expenses equal to an SUA amount or to 0 if doing so results in meeting one of the following conditions:

[17] Many States employ more than one SUA to accommodate units with different types of utility expenses. The HCSUA generally includes all utilities, including telephone service. The LUA is used for units that do not have heating and cooling expenses separate from rent but have at least two other utility expenses. The LUA generally includes all other utilities, including telephone service. A telephone allowance is used for units with telephone expenses but without any other utility expenses. Some States also use a one-utility standard, for units with a single utility expense such as electricity. In addition, a few States use combinations of individual standards for different utility expenses. Hawaii, for example, employs individual utility standards for electricity, telephones, sewage, trash, and water.

1. QC reviewers recorded a payment error and the calculated benefit is within $5 of the raw benefit adjusted for the error amount.
2. QC reviewers recorded no payment errors and the calculated benefit is within $5 of the raw benefit.
3. QC reviewers recorded no payment errors and the calculated shelter deduction is within $5 of the raw shelter deduction.
4. For SNAP units in New York, QC reviewers recorded no payment errors, utilities equal the HCSUA, and the unit is coded as using an HCSUA.[18]

For each condition, we check with and without allotment adjustments. FY 2016 SUA values by State are provided in Appendix F, Table F.7.

13d. **Does setting the medical expense deduction to 0 for a standard medical deduction demonstration participant result in a matching benefit?** For participants in standard medical deduction demonstration States,[19] we set the medical expense deduction, medical expenses, and the standard medical deduction demonstration flag to 0 if doing so results in meeting one of the following conditions:

1. QC reviewers recorded a payment error and the calculated benefit is within $5 of the raw benefit adjusted for the error amount.
2. QC reviewers recorded no payment errors and the calculated benefit is within $5 of the raw benefit.

13e. **Redo the income reconciliation, if necessary.** If we modified a deduction to match the computed benefit (Steps 13b, 13c, or 13d) and used deductions in the income reconciliation (Step 9), then we redo the income reconciliation with new deduction values, repeating all steps beginning with Step 9.

Step 14. Drop units whose calculated benefit is less than $1.

Step 15. Perform automated edits to reconcile remaining inconsistencies. Appendix B provides details.

Step 16. Update categorical eligibility. A unit is categorically eligible for SNAP if any of the following is true:

- The QC reviewer recorded the unit as categorically eligible.

[18] New York's computer system automatically generates an SUA for certain units. Consequently, we do not require a matching net income or a matching shelter deduction for New York SNAP units, as long as the unit is coded as using an HCSUA.

[19] By the end of FY 2016, standard medical deduction demonstrations were operating in Alabama, Arkansas, Georgia, Idaho, Illinois, Iowa, Kansas, Massachusetts, Missouri, New Hampshire, North Dakota, Rhode Island, South Carolina, South Dakota, Texas, Vermont, Virginia, and Wyoming.

- The unit meets the standards for expanded categorical eligibility in its State. (See Appendix B for information on State expanded categorical eligibility policies.)
- The unit is pure cash public assistance (PA); that is, either (1) everyone in the unit has person-level income from TANF, GA, or SSI; (2) the unit has TANF income and every adult has person-level income from TANF, GA, or SSI; or (3) the unit contains only children and at least one has person-level income from TANF. Because TANF income is not reported on the file for the most MFIP units, we code all MFIP units as pure PA.

Step 17. Determine eligibility. For units that are not identified as categorically eligible, we assess whether each unit would pass the applicable Federal asset and income tests.

- Units without an elderly member or individual with a disability must have a monthly gross income at or below 130 percent of the Federal poverty guidelines (Appendix F).[20] Beginning in FY 2016, if a unit's gross income exceeds gross income limit by $1 or less and the net income and benefit amounts match the raw net income and benefit amounts, we reduce the unit's gross income by $1 so it will pass the gross income test.
- Units must have a net monthly income at or below 100 percent of the Federal poverty guidelines (Appendix F).[21]
- Units without an elderly member or an individual with a disability must have total countable assets of $2,000 or less. Units with an elderly member or individual with a disability are allowed up to $3,250 in countable assets. (See next section for exceptions.)

We retain in the file only units that are either categorically eligible or pass the applicable income and asset tests.

2. State variations to editing procedures

Below, we detail the State-specific editing procedures that we use to model State SNAP rules. These rules include higher asset limits (Section 2a), MFIP (Section 2b), SSI-CAP with standard benefits and standard shelter expenses (Section 2c), and standard medical deduction demonstrations (Section 2d).

a. Asset limits in States with broad-based categorical eligibility polices

Most states with a BBCE policy do not include an asset test as part of their BBCE criteria. However, three States (Idaho, Michigan, and Texas) have an asset limit of $5,000 for BBCE units and Nebraska has a financial asset limit of $15,000 for BBCE units.

[20] States may exclude child support expenses from gross income rather than consider them a deduction. For units excluding it from gross income, we check that gross income minus child support expenses is at or below 130 percent of the Federal poverty guidelines.

[21] This test is not performed on SNAP units identified as participating in MFIP or an SSI-CAP demonstration in a State using standard benefits.

b. Minnesota Family Investment Program units

MFIP is Minnesota's TANF program, open to low-income families with children.[22] MFIP calculates participants' food assistance and cash assistance benefits together; consequently, the SNAP benefit calculation differs from the Federal formula. Both the maximum food assistance portion and maximum cash assistance portion of the MFIP benefit are based on unit size and are higher for families with earnings (see Appendix F, Table F.8). To calculate the benefits, countable income is subtracted from the combined maximum food portion and cash portion, or the "transitional standard." If a unit has earned income, an earnings deduction is applied, and the remaining countable income is subtracted from the "family wage level," which is 10 percent higher than the transitional standard. If the total benefit amount is less than or equal to the maximum food portion, the unit receives only food assistance. If the benefit is greater than the maximum food portion, the unit receives the remainder of the benefit as cash assistance. MFIP units receive no income deductions other than the earnings deduction. The earnings deduction rate for MFIP participants was 50 percent in FY 2016.

Because of the way the SNAP benefit is calculated under MFIP, Minnesota does not record the full TANF benefit amount on the QC data nor do we attempt to calculate it. For some MFIP units, Minnesota records a $1 TANF benefit as an indicator that the unit received a cash TANF benefit. We code all MFIP units as pure PA regardless of whether they have a reported cash TANF benefit.

Below, we describe the calculation of the food portion of the benefit and differences in the general editing procedures that reconcile unit-level income with person-level income. (See Appendix F for FY 2016 cash and food portion values.)

1. **Flag units that are MFIP participants.** Recognizing that not all MFIP participants receive a cash benefit, we first attempt to identify MFIP-participating units. We flag units in Minnesota as MFIP participants if they have one of the following characteristics:[23]

   - The unit has person-level TANF income for SNAP unit members, unless the SNAP benefit on the raw datafile appears to have been calculated using regular SNAP rules.
   - The unit has children and the benefit, adjusted for errors, matches the MFIP table of benefits for this unit size.
   - The unit has children, positive person-level earnings, and a positive reported earned income deduction, where the reported earned income deduction was 50 percent in October 2015 through September 2016 of the person-level earnings.

[22] More information is available from Minnesota's Department of Human Services website (http://www.dhs.state.mn.us/).

[23] MFIP's unit composition rules differ from regular SNAP rules. Specifically, SSI and TANF recipients living in the same household are treated as separate SNAP units. Consequently, if a Minnesota unit of more than one person had both SSI and TANF income, we set the affiliation code of the SSI recipient to unknown (99).

2. **Reconcile reported person-level income amounts with reported unit-level income and deduction variables.** The procedure for reconciling person-level income amounts with unit-level income and deductions is the same as for all other SNAP units except in the following cases:

   - We begin reconciling person-level income to unit-level gross income by excluding TANF from unearned income. At each step in reconciling to unit-level gross income described above, if person-level incomes with TANF excluded do not equal the unit-level gross income, we try including TANF income to determine whether its addition allows us to reconcile to unit-level gross income.[24] The final calculated gross income includes any TANF income initially included in the raw datafile.
   - We do not attempt to reconcile MFIP participants' person-level income with reported unit-level net income, because net income is not used in the same way for the MFIP benefit as it is in the Federal program. We code the calculated net income variable as missing for all MFIP units.

3. **Calculate the earned income deduction.** For MFIP units, we calculate the earned income deduction as 50 percent of earnings in October 2015 through September 2016.

4. **Calculate the final deductions.** We code all deductions except the earned income deduction and total deduction as missing (.E) for MFIP participants.

5. **Food benefit calculation.** We determine the benefit based on unit characteristics:

   - If the unit has no income, then the benefit is the food portion for the unit size.
   - If the unit has only earned income, the benefit is the minimum of the food portion and the difference between the family wage level (the income threshold for units with earnings) and net earnings, but never less than 0.
   - If the unit has only unearned income, the benefit is the minimum of the food portion and the difference between the transitional standard (the income threshold for units without earnings) and net unearned income, but never less than 0.
   - If the unit has both earned and unearned income, we subtract net earned income from the family wage level and compare the difference with the transitional standard. We then subtract unearned income from the smaller of the two (to ensure that the wages were high enough to merit the full increase to the family wage level). The benefit amount is the minimum of this difference or the food portion, but never less than 0.
   - For one- and two-person SNAP units, we set the benefit amount to the higher of the calculated benefit or the minimum Federal SNAP benefit.

[24] With the cash portion of the benefit calculated at the same time as the food portion of the benefit, we do not expect TANF income to be included in a unit's total gross income. However, in some unit records, TANF income is included and we accept it as verification that the recorded gross income is correct.

c. SSI-Combined Application Project units

In FY 2016, 17 States—Arizona, Florida, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, South Dakota, Texas, Virginia, and Washington—had SSI-CAP demonstrations. In addition, one other State (New Mexico) had ongoing SSI-CAP units even though the State discontinued its SSI-CAP demonstration in March 2014.[25] These demonstration projects aim to streamline procedures for providing SNAP benefits to certain units eligible for both SNAP and SSI. Most provide participants with a standard benefit, while three provide a standard shelter expense. SSI-CAP participation in these States is generally limited to one-person elderly units with SSI and no earned income.

In the next two sections, we describe the 18 programs and our procedures for identifying and editing SSI-CAP units for the SNAP QC database. Most of the SSI-CAP units identified have reported data that are consistent with program rules. In some cases, however, we identify units as participating through an SSI-CAP even though some of their reported data is inconsistent with program rules. We flag SSI-CAP units with consistent data as SSI_CAP = 2; those with some inconsistent data as SSI_CAP = 3. Beginning in FY 2015, we modeled State opt-out rules by setting SSI_CAP = 0 for potential SSI-CAP units with reported data that are inconsistent with some SSI-CAP program rules and high reported medical expenses (FSMEDEXP > $200).

3. SSI-CAP programs with a standard benefit

The States listed in Table III.1 operate programs that provide participants with a standard "high" or "low" benefit, based on whether participants' shelter expenses fall above or below a State-determined threshold. Because net income and deductions are not used in calculating benefits for SSI-CAP households, we set the final values of these variables to missing (.E).[26] More specifically, the variables set to missing for SSI-CAP participants in States with standard SSI-CAP benefits include:

- Net income (FSNETINC)
- Total deductions (FSTOTDED)
- Standard deduction (FSSTDDED)
- Medical expense deduction (FSMEDDED)
- Earned income deduction (FSERNDED)
- Dependent care deduction (FSDEPDED)
- Child support payment deduction (FSCSDED)
- Homeless household shelter deduction (HOMELESS_DED)
- Excess shelter expense deduction (FSSLTDED)
- Standard Utility Allowance (SUA1 and SUA2)

[25] New Mexico SSI-CAP households may remain on the program through their certification period. The last New Mexico SSI-CAP benefits were issued in June 2017.

[26] The raw variables indicating the actual costs are usually retained.

Table III.1. SSI-CAP programs with standard benefits

State	Start date	Unit composition	Age	Allowed income	Shelter amounts	Benefit calculation
Arizona (AZSNAP)	February 2009	Living alone	65 or older	Unearned	$0 to 99; $100 to 199; $200 to 299; $300 or more	Table F.9
Kentucky (KYSAFE)	2007	Living alone or married	60 or older	Earned and unearned	**One person:** Less than $200; $200 or more **Two people:** Less than $108; $108 or more	Table F.10
Louisiana (LaCAP)	2007	Living alone	60 or older	Earned and unearned	$0 to 100; $101 to 399; $400 to 699; $700 or more	Table F.11
Maryland (MSNAP)	July 2010	Living alone	60 or older	Unearned	Less than $506 $506 or more	Table F.12
Michigan (MiCAP)	April 2009	Living alone	18 or older	No income	Less than $1,000 $1,000 or more	Table F.13
Mississippi (MSCAP)	October 2001*	Living alone	No age requirement	Unearned	**SSI only:** Less than $392; $392 or more **SSI and other unearned income:** Less than $392; $392 or more	Table F.14
New Jersey[1] (NJ SNAS)	May 2009	Living alone	65 or older	Unearned	**October 2015 – May 2016:** Less than $316; $316 or more **June 2016 – September 2016**: Less than $564; $564 or more	Table F.15
New Mexico (NMCAP)	June 2009	Living alone or married	22 or older	Unearned	Less than $315 $315 or more	Table F.16
New York (NYSNIP)	March 2003*	Living alone	No age requirement	Earned and unearned	**SSI only:** Positive utility costs (high/low rent), no utility costs (high/low rent), no shelter costs **SSI and other unearned income:** Positive utility costs (high/low rent), no utility costs (high/low rent), no shelter costs	Table F.17
North Carolina (NCSNAP)	August 2005	Living alone	65 or older	Earned and unearned	Less than $150 $150 or more	Table F.18
Pennsylvania (PACAP)	2007	Living alone	18 or older	Unearned	**SSI only:** Less than $196; $196 or more **SSI and other unearned income:** Less than $196; $196 or more	Table F.19
South Carolina (SCCAP)	October 1995*	Living alone	No age requirement	Unearned	**SSI only:** $290 or less; $291 or more: SSI only **SSI and other unearned income:** $290 or less; $291 or more	Table F.20
South Dakota (SD IN)	January 2010	Living alone or married	18 or older	Earned and unearned	**No earnings:** Individuals or couples with shelter expenses less than $690 or $690 or more and medical expenses over $35 or $35 or less **Earnings:** Individuals or couples with shelter expenses less than $690 or $690 or more and medical expenses over $35 or $35 or less	Table F.21
Texas	September 2002*	Living alone or married	50 or older	Earned or unearned	**October 2015 – March 2016:** Less than $289; $289 or more **April 2016 – September 2016:** Less than $400; $400 or more	Table F.22
Virginia	August 2006	Living alone	65 or older	Unearned	Less than $500 $500 or more	Table F.23

* We began modeling the SSI-CAP program in FY 2004.

[1] Although the FY 2016 SNAP QC data contain households that meet the State's SSI-CAP composition criteria, none of them had a reported benefit equal to one of the program's standard benefit amounts. Therefore, the FY 2016 SNAP QC data do not contain any households flagged as participating in this State.

We use the following process to identify, recode, and assign benefits to households participating in standard benefit SSI-CAP programs:

Identifying units. We identify as SSI-CAP participants all individuals meeting the eligibility criteria, outlined for each State in Table III.1 with a recorded benefit adjusted for errors equal to any of the SSI-CAP standard benefit amounts for that State (see Appendix F, Tables F.9–F.23).

Recodes for units. In addition to setting calculated net income and all calculated deduction variables to missing, if the sum of individual incomes does not equal the raw gross income, we set the sum of individual incomes equal to the (RAWGROSS) by adjusting individual incomes proportionately, as necessary.

Benefit calculations for units. We set the final calculated benefit equal to the standard SSI-CAP benefit corresponding to the unit's rent/mortgage expenses (RENT) value or total shelter expenses (FSSLTEXP) and unit size.

Table III.2 identifies States with alternate or specific characteristics for identifying, recoding, and calculating benefits for SSI-CAP units.

Table III.2. States with special rules for identifying, recoding, and calculating benefits for SSI-CAP units

State	Identifying units	Recodes for units	Benefit calculations
Arizona	X		
Kentucky	X		
Louisiana	X		
Mississippi	X	X	X
New Jersey	X		
New Mexico	X		
New York	X		X
Pennsylvania			X
South Carolina	X	X	X
South Dakota	X		X
Texas	X	X	
Virginia	X		

Identifying units

In addition to the criteria listed in Table III.1, we identify as SSI-CAP participants units with a certification period of 24 months in New Jersey; 36 months in Arizona, Kentucky, and Virginia; and 36 or 39 months in Louisiana.

In New York, the certification period for NYSNIP is four years with interim contact at the end of two years. We identify as NYSNIP participants one-person units that receive SSI benefits and belong to one of the following groups:[27, 28]

- Units with a recorded benefit adjusted for errors that matches an NYSNIP benefit, and the benefit amount is consistent with the presence of unit income other than SSI, adjusting for the NY SSI supplement of $87
- Units with a recorded benefit adjusted for errors that matches an NYSNIP benefit and medical expense and excess shelter expense deductions are both coded as 0
- Units with a certification period exceeding four years

Married couples in Kentucky, New Mexico, and South Dakota may participate in SSI-CAP, but each individual must meet the eligibility criteria and be treated as a member of the same SNAP unit. Only married couples in which both individuals are SNAP participants and report receiving SSI benefits are identified as SSI-CAP participants.

In Texas, at least one person must be age 50 or older and receiving SSI benefits. SNAP-CAP treats elderly SSI participants independently of other household members. All other household members apart from the first elderly SSI participant are edited to be outside of the unit. In FY 2016, we learned that QC reviewers in Texas do not include information on SSI receipt for SSI-CAP units on the raw file. Thus, we revised our algorithm to incorporate units in Texas that appeared to be SSI-CAP cases based on their household composition, certification periods, and benefit amounts, despite not being coded as receiving SSI.

QC reviewers in Mississippi and South Carolina attempt to work backward from the standard benefit to make income and deductions consistent with the benefit for MSCAP and SCCAP participants. Most MSCAP and SCCAP units follow a consistent pattern in terms of income and recorded shelter expenses. Additional units follow a similar pattern (see Appendix F, Table F.14 for MSCAP benefits and income patterns and Appendix F, Table F.20 for SCCAP benefits and income patterns). If one of the following conditions is true, we flag as MSCAP or SCCAP participants one-person units that report receiving SSI benefits and have no reported earned income:

- The recorded benefit adjusted for errors equals an MSCAP or SCCAP standard benefit, and the recorded gross income or recorded net income is consistent with that benefit according to the pattern followed in most units (allowing the recorded utility amount for MSCAP or rent/mortgage amount for SCCAP to be inconsistent).[29]

[27] New York requires NYSNIP participants to be living alone (not just forming one-person SNAP units) and provides data on the QC datafile that are sufficiently detailed for us to identify households consisting of just one person.

[28] Because so few NYSNIP eligible units have allotment adjustments, we do not check for units where the recorded benefit plus or minus the allotment adjustment would equal an NYSNIP standard benefit.

[29] If the recorded benefit equals the minimum benefit, we require both gross income and net income to be consistent with the pattern.

- The recorded benefit adjusted for errors equals a standard benefit, and the recorded utility amount equals the MSCAP SUA or standard rent/mortgage amount for SCCAP (allowing the recorded gross and net income to be inconsistent).
- The recorded utility amount equals the MSCAP SUA, or the recorded rent/mortgage amount equals the standard rent/mortgage amount for SCCAP, and the recorded gross income or recorded net income equals one of the income amounts consistent with the pattern (allowing the benefit to be inconsistent).[30]

Recodes for units

In Mississippi and South Carolina, we set calculated net income and all calculated deduction variables to missing as described earlier, and perform the following recodes for units identified as MSCAP or SCCAP participants:

- **Shelter expenses.** For most MSCAP participants, QC reviewers record the utility expenses as the MSCAP SUA. For units where this was not the case, we recode the utility expense values (UTIL). In addition to a utility expense, some QC reviewers recorded a rent or mortgage value for MSCAP units. We recode this value (RENT) as 0 because the MSCAP SUA reflects combined shelter expenses, including rent/mortgage.

  For most SCCAP participants, QC reviewers record the utility expense value as the South Carolina HCSUA value and rent/mortgage as the standard SCCAP rent amount. We recode utilities (UTIL) and rent/mortgage (RENT) for SCCAP units that do not follow this pattern.
- **Income.** In most MSCAP and SCCAP units, the raw gross income equals either the maximum SSI benefit for eligible individuals or the maximum SSI benefit plus $20, reflecting the $20 unearned income disregard for SSI. We recode the raw gross income (RAWGROSS) of MSCAP and SCCAP units that do not follow this pattern. We set the sum of individual incomes equal to the raw gross income (RAWGROSS) by adjusting individual incomes proportionately, as necessary.

In Texas, after setting calculated net income and all calculated deduction variables to missing as described earlier, we perform the following recode for units identified as SNAP-CAP participants:

- **SNAP participation and unit size.** According to SNAP-CAP rules, married couples may participate in the program but are treated as separate units. If a unit consists of a married couple, both partners are age 50 or older, and the unit is coded as SNAP participants and receives a SNAP-CAP standard benefit, we keep the first person as an eligible member of the SNAP case under review (FSAFILi = 1) and recode the other as "Eligible SNAP participant in another unit, not currently under review" (FSAFILi = 2). We adjust the variable indicating unit size accordingly (FSUSIZE).

[30]Because so few MSCAP- and SCCAP-eligible units have allotment adjustments, we do not check for units in which the recorded benefit plus or minus the allotment adjustment would equal an MSCAP or SCCAP standard benefit.

- **Income.** In SNAP-CAP units that originally had more than one individual coded as a SNAP participant, we reset raw gross income (RAWGROSS) equal to the sum of the individual incomes assigned to the one individual who remains a SNAP participant (FSAFILi = 1). In other SNAP-CAP units, we reconcile individual incomes with the original gross income.

Benefit calculations for units

In Mississippi, we set the final calculated benefit equal to the standard SSI-CAP benefit that corresponds to the utility (UTIL) and raw gross (RAWGROSS) values in Appendix F, Table F.14.

In New York, for NYSNIP units with a recorded benefit that matches an NYSNIP benefit, we set the calculated benefit equal to the recorded benefit. For NYSNIP units with a recorded benefit that does not match an NYSNIP benefit, we calculate the benefit based on NYSNIP rules.

In Pennsylvania, we set the final calculated benefit equal to the standard SSI-CAP benefit that corresponds to the unit's rent (RENT) and presence or absence of unearned income other than SSI, as listed in Appendix F, Table F.19.

In South Carolina, we set the final calculated benefit equal to the standard SSI-CAP benefit that corresponds to the rent (RENT) and raw gross (RAWGROSS) value listed in Appendix F, Table F.20.

In South Dakota, we set the final calculated benefit equal to the standard SSI-CAP benefit that is consistent with unit size, shelter expenses (FSSLTEXP), presence or absence of earned income (FSEARN), and presence or absence of medical expenses (FSMEDEXP) as listed in Appendix F, Table F.21.

4. SSI-CAP programs with a standard shelter expense

The States listed in Table III.3 operate programs that assign participants a standard "high" or "low" shelter expense, and then calculate the unit benefit on the basis of actual income, the standard deduction, the SUA, and the standard shelter expense. Because net income and a few deductions are used to calculate a benefit for SSI-CAP participants in these States, we retain the variables in the file. However, we do not use other deductions for the benefit calculation and set them to missing (.E). The variables we set to missing for SSI-CAP participants in these States include:

- Medical expense deduction (FSMEDDED)
- Earned income deduction (FSERNDED)
- Dependent care deduction (FSDEPDED)
- Child support payment deduction (FSCSDED)
- Homeless household shelter deduction (HOMELESS_DED)

In addition, we recode the SUAs to differentiate SSI-CAP units from other units that received the same SUA by setting SUA1 to 9 ("Other"). Like SSI-CAP units with a standard

benefit, when we set calculated deductions to missing, the raw variables indicating the actual costs are usually retained.

Units with earnings are not eligible to enroll in SSI-CAP programs in these States. However, after a unit participates, it may have earned income for up to three consecutive months without losing eligibility.

Table III.3. SSI-CAP programs with standard shelter expenses

State	Start date	Unit composition	Age	Allowed income	Shelter amounts
Florida (SUNCAP)	April 2005	Living alone	18 or older	Earned and unearned	$305 or less More than $305
Massachusetts (BAYSTATE CAP)	February 2005	Living alone	18 or older	Earned and unearned	Less than $450 $450 or more
Washington (WASHCAP)[1]	December 2001*	Living alone	18 or older	Unearned	Less than $300 $300 or more

* We began modeling the SSI-CAP program in FY 2004.

[1]QC reviewers use a special local agency code for WASHCAP units whose applications were processed in an SSA office. We identify as WASHCAP participants all units meeting the criteria outlined in the table above and flagged with this special local agency code.

We use the following process to identify, recode, and assign benefits to households participating in SSI-CAP programs with a standard shelter expense:

Identifying units. We identify as SSI-CAP participants all individuals meeting the eligibility criteria outlined in Table III.3 who have recorded rent/mortgage amounts equal to any of the standard rent/mortgage allowances for that State.

In Massachusetts, if the recorded rent/mortgage amount is not equal to the standard allowance, we calculate the benefit assuming that the standard allowance was used. If this calculated benefit matches the raw benefit, we recode the rent/mortgage amount to be the standard allowance, and flag the unit as a BAYSTATE CAP participant.

Recodes for units. In addition to setting the deductions not used in the benefit calculation to missing as described above, we perform the following recode for units identified as participants:

- **Shelter expenses.** When necessary, we recode utilities of units in Massachusetts and Washington to equal the State's HCSUA or LUA for one-person units.
- **Income.** We reconcile individual incomes with gross income in SSI-CAP units by using the same process as in non-CAP units.

Benefit calculation for units. We use the regular SNAP benefit calculation. Benefits are based on actual income, the standard deduction, the standard shelter amount, and the SUA. The standard shelter amount is determined by the unit's actual monthly shelter expenses, excluding utilities. Appendix F, Table F.24 lists benefit calculations for all States with a standard shelter expense SSI-CAP program.

d. Standard medical deduction demonstration programs

Eighteen States have programs to standardize medical expense deduction amounts when units' medical expenses fall within a specified range (see Appendix F, Table F.4). In these States, if a unit with an elderly member or individual with a disability incurs medical expenses less than or equal to the State threshold, the unit receives a medical expense deduction equal to the threshold minus $35. Units with medical expenses greater than the threshold receive a medical expense deduction equal to actual medical expenses, minus $35. To achieve cost neutrality, most States reduced the HCSUA for the entire caseload. The HCSUA modeled for these States in the SNAP QC database reflects the adjustments. Table III.4 lists the States.

Table III.4. States with standard medical deduction demonstrations

State	Start date (of current waiver)	Cost neutrality
Alabama	October 2014	HCSUA was reduced by $6.
Arkansas	November 2011	HCSUA was reduced by $4.
Georgia	October 2015	HCSUA was reduced by $6.
Idaho	November 2013	HCSUA was reduced by $8.
Illinois	June 2011	The standard deduction was reduced by $7. The SNAP QC database does not reflect this reduction.
Iowa	October 2012	HCSUA and limited utility allowance were reduced by $5.
Kansas	January 2011	HCSUA was reduced by $8.
Massachusetts	April 2013	HCSUA was reduced by $6.
Missouri	September 2011	HCSUA was reduced by $10.
New Hampshire	June 2015	HCSUA was reduced by $6.
North Dakota	April 2013	HCSUA was reduced by $10.
Rhode Island	October 2012	HCSUA was reduced by $7.
South Carolina	November 2015	HCSUA was reduced by $4.
South Dakota	May 2013	HCSUA was reduced by $9.
Texas	October 2012	HCSUA and limited utility allowance were reduced by $2.
Vermont	December 2013	HCSUA was reduced by $12.
Virginia	October 2011	HCSUA was reduced by $3.
Wyoming	January 2012	HCSUA was reduced by $7.

C. Derivation of sampling weights

The SNAP QC file's sampling weights are derived to reflect State and national caseload totals from SNAP Program Operations data after adjustments for receipt of disaster assistance benefits and benefits issued in error. They are intended to match monthly target levels of SNAP households, participants, and benefits.

To derive monthly weights, we first calculate preliminary weights that sum to the monthly number of SNAP units by State and stratum, as reflected in the adjusted SNAP Program

Operations data. The tables in Appendix D list the preliminary monthly weights (HWGT) and their derivation for each State and stratum. We create the preliminary weights using these six major steps, presented in Tables D.4–D.15:

1. In States that distributed disaster SNAP benefits, we lower the Program Operations counts in the months of the disaster by the number of SNAP units receiving benefits because of the disaster (but not already participating SNAP units who receive additional benefits) (Column e).
2. For the States with stratified samples, we apportion the adjusted Program Operations counts across the strata according to the percentage of the sample that is in that stratum in that month (Column f).[31]
3. We calculate the disqualification rate by State and stratum by first identifying all disqualified SNAP units, which are those that the reviewers found "ineligible" (coded as STATUS = 4) or "eligible" but not qualifying for a benefit (coded as STATUS = 2 with the error amount at least as large as the full benefit). The number of disqualified SNAP units divided by the number of SNAP units with completed reviews is the "disqualification" rate[32] (Column i).
4. We lower the Program Operations counts of SNAP units by the disqualification rate calculated in Step 3 to derive the final adjusted Program Operations totals (Column j).
5. We remove any additional SNAP units that do not appear to be eligible for SNAP either because they do not pass the asset or income tests and are not categorically eligible or because they do not qualify for a positive benefit. Removing these households does not affect disqualification rates or the total number of weighted units (Column k).
6. We calculate a preliminary weight for each SNAP unit by State and stratum by dividing the final adjusted Program Operations count by the remaining number of SNAP units on the file (Column m).

After deriving the preliminary weights, we use a nonlinear programming (NLP) technique to create final weights that produces estimates that match adjusted Program Operation monthly totals of units, participants, and benefits. Participant totals are adjusted by the number of individuals in units removed in Steps 1 and 4 above. Benefit totals are adjusted by benefits issued to units that were removed and by additional disaster benefits issued to units receiving regular SNAP benefits. The NLP algorithm incrementally changes the original weight until the three adjusted Program Operation monthly totals are matched, with the additional restriction that the final weights will not be less than 10 percent of the preliminary weights. The resulting monthly weights are no longer identical to the preliminary weights or identical among units sampled in the same month, State, and stratum.

[31] Column omitted from Appendix D tables due to space limitations but available upon request. No States had a stratified sample in the FY 2016 SNAP QC file.

[32] The numerator of FNS' error rate includes units that received too much or too little in benefits in addition to the units included in the disqualification rate numerator.

To calculate standard errors, we first create 500 sets of replicate weights by drawing 500 random samples from the SNAP QC data and repeating the weighting methodology described above. Because the replicate weights are based on a random sample of raw SNAP QC data, there are occasionally instances when the NLP algorithm cannot find weights that match all three Program Operations totals within a certain State and month. When this happens, the algorithm attempts to match only the unit and individuals control totals for that particular State and month. If the algorithm cannot find weights that match both control totals, the replicate weights are set equal to the preliminary weights (calculated in Step 6, described above) for that particular State and month. We use the 500 replicate weights to calculate standard errors.

The edited SNAP QC file contains two weight variables: (1) the monthly weight (HWGT) (2) and the full-year weight (FYWGT). HWGT is used for tabulations in specific months. If a tabulation is for a period longer than one calendar month, the average monthly value for the time period can be obtained by dividing HWGT by the number of months being analyzed. Tabulations of average monthly values for the entire fiscal year can be obtained by using FYWGT, which is HWGT divided by 12.

IV. DEVELOPMENT OF THE 2016 QC MINIMODEL

The QC Minimodel—one of FNS's SNAP microsimulation models—uses the SNAP QC database to simulate the impact of various policy changes to SNAP on current SNAP participants. The QC Minimodel, which is written in Fortran 90, uses a series of algorithms, organized in the SNAP Module (FSTAMP), to simulate eligibility, benefits, and participation in SNAP. Some of the FSTAMP routines are specific to the SNAP QC database while others are database-independent. This chapter provides a technical description of the procedures specific to the SNAP QC database that are used to transform characteristics of SNAP units in that database into the data elements that conform with inputs used with the database-independent algorithms of FSTAMP. The database-independent algorithms are documented in the *2011 MATH SIPP+ Microsimulation Model: Programmer's Guide, Technical Description and Codebook* (Schechter et al. 2014).

A. Create MATH-style version of SNAP QC database

1. Introduction

The QC Minimodel requires a binary file in a particular format (MATH™ style)[33] as input. This section describes the procedure used to create the binary file from the SAS version of the SNAP QC database. A two-step process is required to generate the final binary file in the MATH format: (1) create a binary file from the SAS dataset, and (2) run a tally using the binary file from Step 1 to finalize the binary file for use with the QC Minimodel.

2. User parameters

None.

3. Programmer's guide

a. Input file for Step 1

QCFY2016.SAS7BDAT	Final SNAP QC database, in SAS format.

b. Output files from Step 1

MATHPC.HDR	ASCII header file that describes the record layout of the database file, MATHPC.BIN.
MATHPC.BIN	QC database file in a hierarchical format (household record and then person records for individuals in the household).

c. Program for Step 1

MINIQC.SAS

[33] MATH stands for Micro Analysis of Transfers to Households.

d. Output variables for Step 1

The variables are the same as those in the final SNAP QC database.

e. Input files for Step 2

MATHPC.HDR	From Step 1.
MATHPC.BIN	From Step 1.

f. Output files from Step 2

MATHPC.HDR	ASCII header file that describes the record layout of the database file, MATHPC.BIN, in final MATH format.
MATHPC.BIN	QC database file, in a hierarchical format (household record then person records for individuals in the household), in final MATH format.

g. Program for Step 2

The QC Minimodel TALLY subroutine creates:

- Person-level seeds SEEDP to be used with the random number generator.
- Variables FSDEPDED, FSNDIS, FSNONCIT, FSNABAWD, FSALLPA, and FSASTEST.

h. Output variables for Step 2

The variables are the same as those in the SNAP QC database, plus the newly created variables.

4. Technical description of procedures

The following is a brief description of the procedures used to create a MATH-style version of the SNAP QC database.

a. Create preliminary binary file

We create a hierarchical file in standard binary format that contains one household-record per household in the SNAP QC database. Within each household, we create one person-record for each person represented in the SNAP QC database and then convert proprietary SAS missing data codes as follows:

.	-1	(blank on raw QC file)
A	-2	(coded by Mathematica as out of range)
B	-3	(coded by QC reviewer as unknown)
C	-4	(unable to construct variable)

D -5 (household participating in month not certified)

E -6 (MFIP and SSI-CAP units, variable not relevant in benefit determination)

b. Create preliminary header file

We edit by hand the MATHPC.HDR file so that its record layout matches the output statement in MINIQC.SAS.

c. Create final binary and header files

The model tracks, updates, and writes out the final header file, illustrated below.

```
     MATHPC.BIN  FILE NAME
     09/12/2017  CREATION DATE
    10:18:43.48  CREATION TIME
         FY2016  BASE YEAR
         FY2016  YEAR AGED TO
            avg  SIMULATION MONTH
          46595  HOUSEHOLD COUNT
QC MINI  MODEL   LABEL
        2016.00  MODEL VERSION
```

Using the output database from MINIQC.SAS, we run a QC Minimodel TALLY subroutine to generate the final version of the QC Minimodel database. This program:

- Renames unit-level variable FSDEPDED to HDEPDED (because FSDEPDED is reserved as a MATH model variable name).
- Deletes the variable SEEDP and generate a new person-level SEEDP that is compatible with the MATH model random number generator MATHRAND.
- Create a person-level baselaw variable FSNDIS (the number of non-elderly individuals with disabilities in the unit) on the unit head's record, by summing over individuals in the unit with DISi = 1. Set FSNDIS to '0' for all other individuals.
- Create a person-level baselaw variable FSNONCIT (the number of noncitizens in the unit) on the unit head's record, by summing over individuals in the unit with CTZN > 2. Set FSNONCIT to '0' for all other individuals.
- Creates a person-level baselaw variable FSNABAWD (the number of adults without disabilities age 18 to 49 in childless units) on the unit head's record, by summing over individuals in the unit with NDISCA = 1. Set FSNABAWD to '0' for all other individuals.
- Creates a person-level baselaw variable FSALLPA from the unit-level PURE_PA and set it to '0' for all, or '1' for the unit head if PURE_PA = 1.
- Ensures the asset test result FSASTEST = 1 for all units.

B. QC-specific portion of the QC Minimodel

1. Introduction

The QC Minimodel software is segregated into database-independent (generic) and database-specific components. In this section, we document the QC-specific portion of the model.

2. User parameters

The QC Minimodel contains the following model-specific user parameters:

- SHELCAP1 is the shelter limit for the contiguous U.S., Alaska, Hawaii, Guam, and the Virgin Islands.
- MN_BEN is a table by SNAP unit size with entries for the food portion amounts and the cash portion amounts required for calculating the benefit for MFIP participants.
- MNERNDED is the value used for calculating the earnings deduction for MFIP participants.
- The following flags allow us to exclude the specified participants from a policy change simulation:
  - XMN_FIP excludes MFIP participants.
  - XSCAP_AZ excludes AZSNAP participants.
  - XSCAP_FL excludes SUNCAP participants.
  - XSCAP_KY excludes KYSAFE participants.
  - XSCAP_LA excludes LaCAP participants.
  - XSCAP_MA excludes BAYSTATECAP participants.
  - XSCAP_MD excludes MSNAP participants.
  - XSCAP_MI excludes MiCAP participants.
  - XSCAP_MS excludes MSCAP participants.
  - XSCAP_NC excludes NCSNAP participants.
  - XSCAP_NJ excludes NJSNAP participants.
  - XSCAP_NM excludes NMCAP participants.
  - XSCAP_NY excludes NYSNIP participants.
  - XSCAP_PA excludes PACAP participants.
  - XSCAP_SC excludes SCCAP participants.
  - XSCAP_SD excludes SD IN participants.
  - XSCAP_TX excludes SNAP-CAP participants.
  - XSCAP_VA excludes VaCAP participants.
  - XSCAP_WA excludes WASHCAP participants.

- DOSTAT allows us to include or exclude table statistics in the standard summary tables

For a list of generic FSTAMP user parameters, see documentation for the database-independent portion of the SNAP model (FSTAMP) in the *2011 MATH SIPP+ Microsimulation Model: Programmer's Guide, Technical Description and Codebook* (Schechter et al. 2014).

3. Programmer's guide

a. Input files

MATHPC.PRM	User parameter file (text file).
MATHPC.HDR	ASCII header file that describes the record layout of the database file, MATHPC.BIN.
MATHPC.BIN	SNAP QC database file in standard binary form, in a hierarchical format: household record, and then person records for individuals in the household.[34]

b. Output files

MATHPC.HDR[35]	ASCII header file that describes the record layout of the output database file, MATHPC.BIN.
MATHPC.BIN	SNAP QC database file in standard binary form, in a hierarchical format (unit record, and then person records for individuals in the unit).
MATHPC.TAB	Summary tables (text file).
MATHPC.OUT	Debug file.

c. Programs

i. Subroutines

db_fs_counts	Increments debug counters and prints totals to MATHPC.OUT file.
db_fs_hh_definers	Creates variables that describe fixed characteristics of the SNAP household, such as the geographic indices used in the income screens and benefit calculations. If needed, the replicate weight file is opened, the replicate weight array is allocated, and the weights are read.

[34] Individuals on the file include SNAP participants plus nonparticipating household members whose income was considered in the eligibility and benefit determinations of the SNAP unit under review.

[35] Note that MATHPC.HDR and MATHPC.BIN are created only when the WRFILE is set to T (true).

db_fs_display_partic_debug	Dummy routine for generic code compatibility.
db_fs_asset	Counts database-specific assets for SNAP units; since the SNAP QC database contains a reported value for unit countable assets, the routine only computes the asset limit.
db_fs_unit	Identifies which household members belong to which SNAP unit and determines whether a person is categorically excluded from any SNAP unit.
db_fs_locate_vars	Locates the database-specific input variables.
db_fs_parm_array_sizes	Sets the size of database-specific arrays.
db_fs_readparm	Reads database-specific user parameters from parameter file.
db_fs_validate_parm	Validates the user parameters using database-specific criteria.
db_fs_participation	Determines whether or not eligible units participate.
db_fs_display_debug	Prints database-specific debug about SNAP units and their eligibility determination.
db_fs_vars	Creates SNAP unit summary variables (for example, FSGRINC, FSNETINC).
db_fs_calc_benefit	Computes the benefit for participants in State programs with nonstandard benefit calculations.
db_fs_calc_pure_pa	Calculates FSALLPA, the pure PA flag.
db_fs_set_fsgrtest	Recomputes gross income test for units with child support expenses.
db_fs_save_generic_vars	Dummy routine for generic code compatibility.
db_fs_display_summ_debug	Dummy routine for generic code compatibility.
db_fs_table_b	Dummy routine for generic code compatibility.
db_fs_prob_distr_tab	Dummy routine for generic code compatibility.
db_fs_calc_categ_elig	Dummy routine for generic code compatibility. Placeholder for any new BBCE coding.
db_fs_display_partic_debug	Dummy routine for generic code compatibility. Placeholder for any new participation algorithm debug.

ii. Modules

fs_dbdefine	Common storage for database-specific household definer variables.
fs_dblocs	Common storage for database-specific variable locations.
fs_dbparm	Common storage for model-specific parameters. The standard medical deduction demonstration program parameters are also stored here.
fs_dbwork	Common storage for some working variables.

d. Output variables

None. The database-independent portion of the MATH FSTAMP model creates all output variables.

4. Technical description of procedures

The primary purpose of the SNAP QC-specific model algorithms is to use SNAP QC-specific data elements to construct the variables needed by the database-independent portion of FSTAMP. Sections a, b, and c refer to code that is executed in the initialization phase (KEOF=1). The remaining sections refer to code executed in the processing phase (KEOF=2).

a. Set parameter array sizes

i. Purpose

Certain parameters or features of the models are generic across the models, but vary in form or shape from model to model. In this section we set the database-specific elements. For example, all model use the maximum benefit parameters, but the number of regions where the maximum benefit is specified varies from model to model (seven regions in the QC Minimodel).

ii. Specification

Deflation parameters. These are usually set to 1.0 (no deflations) in the QC Minimodel:

```
defl_gen = 1.0
defl_VEH = 1.0
```

State loops. There is no looping over states in the QC Minimodel. These parameters control looping:

```
start_kist = 1
end_kist = 1
gen_array_size = 1
```

Database-specific parameter dimensions for the QC Minimodel:

```
num_benmax_region   = 7
num_benmin_region   = 7
```

```
num_depmax_region   = 5
num_screen_region   = 3
num_shelcap_region  = 5
num_standded_region = 5
max_nbr_asset_states = 57
```

b. Validate user parameters

i. Purpose

Although not SNAP QC-specific, two of the generic FSTAMP user parameters must have certain values for the QC Minimodel: BASELAW and FS_VARS.

ii. Specification

The QC Minimodel does not support BASELAW = ‘ ’ (baselaw eligibility simulation), because the baselaw simulation is determined by the SNAP QC file editing process rather than by FSTAMP (although the results of the SNAP QC file editing algorithms match the results of the FSTAMP algorithms exactly). For new baselaw runs, a new file created with WRFILE = T should be saved, and policy change simulations can be run off this baselaw by setting BASELAW = the suffix of the variables from the new baseline and setting FS_VARS = BASELAW+1. For example, if baselaw variables have a suffix of “1” a new policy change simulation is created with FS_VARS = 2 and saved as a new baseline. The new file now has two sets of variables, one with suffix = “1” and the other with suffix = “2”. To use the new baseline in a policy change simulation, point INDIR to the new file and set BASELAW = “2” and FS_VARS = “3”.

FS_VARS = 1 is not allowed, because the variables with a suffix of “1” are always on the file. The original “suffix 1” variables are always needed by the DBVARS routine for imputing medical, shelter, and child support expenses, and countable assets (when the unit composition is not that of the original unit). Users who change the “suffix 1” set of variables on the file should make sure that they understand the impact on the DBLOCS, DBDEFINE, and DBVARS calculations.

Certain parameters must stay constant from plan to plan in a multi-plan run. These include:

DOSTATS
XMN_FIP
XSCAP_xx, where xx is the state abbreviation of a state with an SSI_CAP program.

A fatal error will be issued if the model detects a variation in any of these parameters from plan to plan.

c. Locate the input variables used and the output variables created

i. Purpose

During KEOF = 1, before processing household records, obtain pointers to variables needed as input to the database-specific model algorithms.

ii. Specification

Use the LOCVAR supervisor routine to obtain and store locations for the following variables:

AGE	FOSTER	HOMEDED	SOCSEC
AK_AREA	FSAFIL	HOMELSDED	SSI
CAT_ELIG	FSASSET 1	MED_DED_DEMO	SSI_CAP
CONT	FSCSDED	MINIMUM_BEN	STATE
CSUPRT	FSMEDEXP	MN_FIP	TANF
CTZN	FSNDIS 1	NDISCA	UNEMP
DEEM	FSNELDER 1	OTHERN	VET
DIS	FSNKID 1	OTHGOV	WAGES
DIVER	FSSLTEXP	OTHUN	WCOMP
DPCOST	FSUN 1	PURE_PA	WGESUP
EDLOAN	FSUSIZE 1	RACETH	WRKREG
EITC	FSVEHAST	RCNTACTN	YRMONTH
EMPRG	FYWGT	REL	
ENERGY	GA	SEX	
EXFSCSDED	HDEPDED	SLFEMP	

d. Construct household definer variables

i. Purpose

For each household, we create household definer variables that are used in subsequent calculations.

ii. Specification

If statistics are selected, we open the replicate weight file and read in the weights for each household. We set WGT to FYWGT. We set geographic indicators for the 48 contiguous United States plus the District of Columbia, Alaska, Hawaii, Guam, and Virgin Islands. GEOG_DED indexes the standard deduction, dependent care deduction, and shelter deduction arrays; GEOG_SCRN indexes the gross and net income screen arrays; GEOG_BEN indexes the maximum benefit array; and GEOG_POV indexes the POVMONTH array.

```
select case (state%ihhld)
    case(15)                        !! hawaii
        geog_ded = 3
        geog_scrn = 3
        geog_ben = 5
    case(2)                         !! alaska
        geog_ded = 2
        geog_scrn = 2

select case(l_ak_area%ihhld)
    case(1)                         !! alaska rural i
        geog_ben = 3
    case(2)                         !! alaska rural ii
        geog_ben = 4
    case default
        geog_ben = 2                !! alaska urban is default
```

```
    end select
     case(66)                          !! guam
          geog_ded = 4
          geog_scrn = 1
          geog_ben = 6
     case(78)                          !! virgin islands
          geog_ded = 5
          geog_scrn = 1
          geog_ben = 7
     case default
          geog_ded = 1
          geog_scrn = 1
          geog_ben = 1
end select

geog_pov = geog_scrn

region = region_lookup(state%ihhld)

fstate = state%ihhld
```

We set skip_hh_flags for MN_FIP and SSI_CAP units according to the "skip" parameters, which vary by State.

We assign SNAP reporting status, FS_REPORTER, and set it to true for all units.

We assign the household's dependent care and child support payment deductions and shelter and medical expenses to a set of working variables that are used in policy change simulations that change the original household composition. Note that when imputing these expenses and dependent care deductions within a simulation, the values for the original household must be used even if a new baselaw has been previously constructed. Also, we set original assets and original unit counts and flags.

```
orig_fsmedexp = I_original_fsmedexp%ihhld
orig_fssltexp = I_original_fssltexp%ihhld
orig_fsdepded = I_original_fsdepded%ihhld
orig_fscsded  = I_original_fscsded %ihhld

orig_fsuhead = 0
do ip = 1, ctprhh
if (I_original_fsun%iper(ip) == ip) orig_fsuhead = ip
end do
orig_fsusize  = I_original_fsusize %iper(orig_fsuhead)
orig_fsnkid   = I_original_fsnkid  %iper(orig_fsuhead)
orig_fsnelder = I_original_fsnelder%iper(orig_fsuhead)
orig_fsndis   = I_original_fsndis  %iper(orig_fsuhead)
orig_fsasset  = I_original_fsasset %iper(orig_fsuhead)
orig_kids_lt15 = 0
hhtanf = 0
do ip = 1, ctprhh
if (I_tanf%iper(ip) > 0) hhtanf = hhtanf + tanf%iper(ip)
if (I_original_fsun%iper(ip) == 0) cycle
if (I_age%iper(ip) < 15  .and. age%iper(ip) >=  0)  orig_kids_lt15  = orig_kids_lt15  + 1
end do
```

e. Construct SNAP unit

i. Purpose

We use the "FSUN 1" code to construct the SNAP unit. We make sure that every SNAP unit has a head.

ii. Specification

We assign FSUN (SNAP unit number) to each person in the household:

```
do ip = 1, ctprhh
    fsun(ip) = I_original_fsun%iper(ip)
end do
```

We identify units that no longer have a head due to a policy change simulation, and assign them a new head:

```
do ip = 1,ctprhh
    if (fsun(ip) == 0) cycle
    if (fsun(fsun(ip)) /= fsun(ip)) then
        do jp = ip+1,ctprhh
            if (fsun(jp) == fsun(ip)) fsun(jp) = ip
        end do
        fsun(ip) = ip
    end if
end do
```

f. Create SNAP unit summary variables

i. Purpose

We summarize characteristics of each SNAP unit by adding the countable income of all household members and counting various types of people in the unit (such as number of elderly members and number of children).

ii. Specification

For each unit, we aggregate the countable income of all members in the household. Gross income is the sum of all earned and unearned income. When appropriate, we exclude child support expenses from the gross income. (There are separate values that indicate expenses to be subtracted before the gross income test (EXFSCSDED) and from expenses to be subtracted before the net income test (FSCSDED).

We loop over all individuals in the household:[36]

```
do ip = 1, ctprhh
    !--------  WELFARE Support  (Note: missing income values are coded as < 0)
    if (I_tanf%iper(ip) > 0) fstanf(iunit)  = fstanf(iunit) + I_tanf%iper(ip)
    if (I_ssi %iper(ip) > 0) fsssi (iunit)  = fsssi (iunit) + I_ssi %iper(ip)
    if (I_ga  %iper(ip) > 0) fsga  (iunit)  = fsga  (iunit) + I_ga  %iper(ip)
```

[36] All individuals in the household include all individuals in the SNAP unit under review, plus individuals outside the unit that contribute income to the unit.

```
        !---------  Earnings
        if (I_wages %iper(ip) >0) fsearn(iunit) = fsearn(iunit) + I_wages %iper(ip)
        if (I_othern%iper(ip) >0) fsearn(iunit) = fsearn(iunit) + I_othern%iper(ip)
        if (I_slfemp%iper(ip) >0) fsearn(iunit) = fsearn(iunit) + I_slfemp%iper(ip)

        !---- Other unearned income
        if (I_eitc%iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_eitc%iper(ip)
        if (I_othgov%iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_othgov%iper(ip)
        if (I_socsec%iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_socsec%iper(ip)
        if (I_unemp %iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_unemp%iper(ip)
        if (I_vet %iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_vet%iper(ip)
        if (I_wcomp %iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_wcomp %iper(ip)
        if (I_edloan%iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_edloan%iper(ip)
        if (I_csuprt%iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_csuprt%iper(ip)
        if (I_deem  %iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_deem  %iper(ip)
        if (I_cont  %iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_cont  %iper(ip)
        if (I_othun %iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_othun %iper(ip)
        if (I_diver %iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_diver %iper(ip)
        if (I_wgesup %iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_wgesup %iper(ip)
        if (I_energy %iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_energy %iper(ip)
        if (I_foster %iper(ip) > 0)  fsgrinc(iunit) = fsgrinc(iunit) + I_foster %iper(ip)

    end do ! end of person loop

        fsgrinc(iunit) = fsgrinc(iunit) + fsearn(iunit) + fsssi(iunit) + fsTANF(iunit) + fsga(iunit)
        fsgrinc(iunit) = fsgrinc(iunit) - exfscsded%iper(iunit)

    end do ! end of unit loop
```

For each unit, we loop over individuals and count members with various characteristics:

- Total members
- Number of adults and number of female adults (those with missing age are included as adults)
- Number of children, number of school-aged children, number of toddlers (children under age 2), and number of children older than toddlers
- Number of elderly members
- Number of noncitizens
- Number of ABAWDs
- Number of disabled members

```
do iunit = 1, ctprhh
      do ip = 1, ctprhh
            if (fsun(ip) /= iunit) cycle   ! cycle if person not in the SNAP unit
                  fsusize(iunit)  = fsusize(iunit) + 1
               if (I_age%iper(ip) > max_kid_age .or. I_age%iper(ip) < 0) then
                        fsnadult(iunit)  = fsnadult(iunit) + 1
                        if (sex%iper(ip) == 2) femadults = femadults + 1
               else
                  fsnkid(iunit)  = fsnkid(iunit) + 1
                  if (I_age%iper(ip) >= min_school_age)  fsnk5t17(iunit) = fsnk5t17(iunit) + 1
                  if (I_age%iper(ip) < max_toddler_age) then
                        fndeplt2(iunit) = fndeplt2(iunit) + 1
```

```
            else
                fndepge2(iunit) = fndepge2(iunit) + 1
            end if
          end if

        if (I_age%iper(ip) >= min_elderly_age) fsnelder(iunit) = fsnelder(iunit) + 1
        if (I_ctzn%iper(ip) > 2) fsnoncit(iunit) = fsnoncit(iunit) + 1
        if (I_NDISCA%iper(ip) == 1 .AND. I_fsafil%iper(ip) == 1) fsnabawd(iunit) =
    fsnabawd(iunit) + 1
        if (I_dis%iper(ip) == 1) fsndis(iunit) = fsndis(iunit) + 1

    end do ! end of person loop

end do ! end of loop over all fs units in the household
```

We identify SNAP units headed by a single female. This is not used for any eligibility determination. It is used for summary counts only (Gainer/Loser tables).

```
if (fsnadult(iunit) == 1 .and. femadults==1 .and. fsnkid(iunit) >0) fsngmom(iunit) = 1
```

g. Impute assets, shelter expenses, medical expenses, homeless household shelter deduction, and child support expenses when SNAP unit is not the original SNAP unit

i. Purpose

Asset and expense data recorded on the SNAP QC database pertain to the actual SNAP unit sampled by the QC System. However, the QC Minimodel has the capability to simulate SNAP units with compositions that are different from the composition of the original SNAP unit by removing individuals with certain characteristics from the original SNAP unit.

The QC system records countable income at the person-level for every household member whose income is used to determine the SNAP unit's eligibility. However, asset and expense data are recorded only at the unit level for the original SNAP unit. Thus, the QC Minimodel uses the original SNAP unit's asset and expense data, along with algorithms described below, to impute expenses and assets for any simulated SNAP unit that has a composition different from that of the original SNAP unit.

Many different algorithms could be used to impute assets and expenses in simulations that involve changes to SNAP unit composition. The best algorithm to use depends on the type of policy change to be simulated. The algorithms described below have been incorporated into the QC Minimodel because they have been used for numerous policy change simulations requested by FNS. These algorithms will work well for many types of simulations, but they are not designed to be generally applicable.

ii. Specification

Countable assets. For all simulated SNAP units, the QC Minimodel assigns the countable assets of the original SNAP unit:

```
fsasset (iunit) = orig_fsasset
```

While the value of countable assets is kept constant when the unit composition changes, the removal of certain individuals from the SNAP unit may mean that a different asset limit is

applicable, thus resulting in some units losing asset eligibility. For example, the removal of elderly members or individuals with disabilities from the SNAP unit would lead to a lower asset limit.

Shelter expenses. For all simulated SNAP units, the QC Minimodel assigns shelter expenses equal to the product of the number of individuals in the unit and the per capita shelter expenses of the original SNAP unit:

```
fssltexp(iunit) = nint( orig_fssltexp * float(fsusize(iunit)) / orig_fsusize )
```

In reality, a household's shelter expenses are assigned to each SNAP unit in the household, based on the share of shelter expenses actually *paid* by each member of each SNAP unit. Although the SNAP QC data contain no information regarding which individuals are responsible for paying shelter expenses, one could impute payment responsibility based on income; a person with 65 percent of a household's income would be assumed to be responsible for paying 65 percent of the household's shelter expenses. Again, the best imputation depends on the type of policy change to be simulated.

Medical expenses. The QC Minimodel imputes medical expenses based either on the number of elderly members or individuals with disabilities in the original unit. If the original unit contains no elderly individuals and no individuals with disabilities, then a medical expense deduction is not allowed—either in the original SNAP QC file editing process or in any QC Minimodel simulations. In policy change simulations, the medical expense is prorated by the ratio of elderly individuals and individuals with disabilities in the policy change simulation relative to the number of elderly individuals and individuals with disabilities in baselaw:

```
if (orig_fsmedexp > 0) then
    if (orig_fsnelder + orig_fsndis > 0) then
        fsmedexp(iunit) = nint (real (orig_fsmedexp * (fsnelder(iunit) + fsndis(iunit)) )
                                                    / (orig_fsnelder + orig_fsndis))
    end if
else
    fsmedexp(iunit) = 0
end if
```

In addition, we identify units participating in standard medical deduction demonstration programs in the 18 States with such demonstrations. See Appendix F, Table F.4 for more detail on the standard medical deduction amounts for these States:

```
do i = 1, num_med_demo
   if (fstate == med_demo_state(i) .and. fsmedexp(iunit) > 0 .and. l_yrmonth%ihhld >=
              med_demo_date(i) ) then
           if (fsmedexp(iunit) <= (med_demo_thres(i)-35)) fsmedexp(iunit) = med_demo_min(i)
   end if
end do
```

Child support expenses. The QC Minimodel imputes the child support expenses of the original unit to the head of the original unit. The child support payment deduction is equal to the child support expenses.

```
  if (orig_fscsded > 0 .and. fsun(orig_fsuhead) == iunit)  fscspded(iunit) = orig_fscsded
```

For a policy change simulation, we assign child support expenses to the simulated SNAP unit that contains the head of the original unit. If the head of the original unit does not belong to any of the newly simulated units, then the child support expenses are not used.

Homeless household shelter deduction. The QC Minimodel assigns the homeless household shelter deduction attributed to the original unit to all simulated SNAP units within the household.

```
if (I_homeded%ihhld == 3) then
    fshomeDED(IUNIT) = I_homeIsded%ihhld
end if
```

Recompute gross income test. In the QC Minimodel, the gross income test is recalculated for units with child support expenses:

```
if (fscspded(iunit) > 0 .and. fsgrinc(iunit) - fscspded(iunit) <= GROSS_SCREEN(IUNIT)) then
    FSGRTEST(IUNIT) = 1
end if
```

h. Select participants

i. Purpose

After eligibility is determined for a SNAP unit in the household, the model must simulate whether or not the unit decides to participate. In the QC Minimodel, we simulate all SNAP-eligible units on the file as participants because every household on the file did in reality participate in SNAP. We believe that this all-eligible-units-participate rule is reasonable in most cases. On the other hand, if a large reduction in SNAP benefits is simulated, the user may want to make some out-of-model adjustments to account for eligible SNAP units that may not continue to participate. If a baselaw eligible unit is simulated to have a zero benefit under a policy change simulation, the unit is treated as ineligible in the simulation results.

ii. Specification

```
do iunit = 1, ctprhh
            fspart(iunit) = 0
            if (fsun (iunit) /= iunit) cycle        !  not the SNAP unit head
            if (fsben(iunit) > 0) fspart(iunit) = 1  !  all eligible units participate
end do
```

We describe in detail the FSBEN calculation in the FSBEN entry of the codebook (Chapter V). We describe MFIP and State SSI-CAP programs in Chapter III, and we list the MFIP parameters and SSI-CAP standard benefit and shelter amounts in Appendix F.

V. CODEBOOK FOR THE FY 2016 SNAP QC DATABASE

In this chapter, we describe the variables on the FY 2016 SNAP QC database, including an overview of the types of variables on the file, a list of variables, and a detailed description of each variable.

A. Overview of variables on the QC file

For each variable in the FY 2016 SNAP QC database, the Codebook provides the name, origin, label, range of values, and a list of values or description. This section explains how to interpret and use that information.

1. Origin: Reported versus constructed

The "Origin" column in the codebook indicates the source of each particular variable as either reported or constructed. Variables coded as "R" are those reported on the QC Review Schedule input form and have been read directly from the raw datafile, although some editing may have taken place as noted in the variable description. Variables coded as "C" are constructed or recoded variables that are derived from reported variables and program parameters, such as the Thrifty Food Plan and the SNAP benefit reduction rate. Constructed variables are the best variables for analytical purposes because inconsistencies have been corrected.

The following variables are used in creating the tables in the "Characteristics of Supplemental Nutrition Assistance Program Households" report series and should be used to obtain consistent results:

FSBEN	Unit SNAP benefit
FSUSIZE	Unit size
FSGRINC	Unit gross countable income
FSNETINC	Unit net countable income
FSERNDED	Unit earned income deduction
TPOV	Unit gross income as a percentage of poverty

2. Missing values

Table V.1 lists the missing value conventions used in the restricted use version of the SNAP QC database. Beginning in FY 2015, the public use version of the SNAP QC database includes only one value (".") for all missing data.

Table V.1. Codes for missing data in the restricted use SNAP QC database

ASCII or binary codes	SAS codes	Description
-1	.	Blank on source file
-2	.A	Value out of range
-3	.B	Coded by QC reviewer as unknown (field coded with all 9s)
-4	.C	Pertains to constructed variables only; variable could not be constructed or calculated due to missing data
-5	.D	For CERTMTH variable, indicates that unit is participating in months not certified
-6	.E	For SSI-CAP and MFIP units, variables that are not relevant in the benefit determination

3. Using the SNAP QC database

The FY 2016 SNAP QC database is a SAS file with 46,595 observations from 12 sample months—October 2015 through September 2016—for all States, the District of Columbia, Guam, and the Virgin Islands. To conduct analyses for a specific calendar month, the user should select observations sampled in that month by using the year month (YRMONTH) variable. The year month variable is a six-digit code with the first four digits indicating the year and the last two digits indicating the month. For example, to conduct an analysis based on observations from January 2016, the user should select all observations with a YRMONTH code equal to "201601."

After selecting the desired observations, the user must assign a weight to each observation so that the sample represents the national SNAP caseload. The weights, stored in the variable HWGT, are computed for each of the independent monthly samples and are based on actual program participation. When analyzing one specific calendar month, the user should use the YRMONTH code to select the correct observations and then use the HWGT variable. However, if the analysis is based on more than one month, and an average monthly estimate is desired, the user should divide HWGT by the number of months being analyzed. The FYWGT variable should be used for all full-year tabulations (FYWGT equals HWGT divided by 12 for all States).

The tables in the "Characteristics of Supplemental Nutrition Assistance Program Households" report series are based on the full-year sample. To create the tables, we select all observations for all months and weight the observations by FYWGT to reflect the national monthly average caseload during the fiscal year.

The SNAP QC database can be used to obtain person-level information along with unit-level data. An integer from 1 to 16, representing up to 16 people in a household, is attached to each person-level variable. For ease, users often place these variables in arrays and use indices to access the data. One of the key person-level variables is the affiliation code FSAFILi. An FSAFILi value of 1 indicates that the person participated in SNAP.

B. Codebook

This codebook lists and describes each variable in the FY 2016 SNAP QC database. The unit-level variables are listed first, followed by the person-level variables and then the detailed error findings variables, for a total of nine categories.

The unit-level variables are divided into the following six categories:

1. Unit-level QC review administrative data
2. Unit-level demographics and sample weights
3. Unit-level countable income
4. Unit-level countable assets
5. Unit-level expenses and deductions
6. Unit-level benefits

The person-level variables are divided into two categories:

7. Person-level characteristics
8. Person-level income

One category covers detailed error findings variables:

9. Detailed error findings

The categories appear in the order shown above. The variables in each category are listed alphabetically. Two codebooks are presented, both sorted in the same order. The first codebook—the quick-reference codebook—lists only the variable name, its origin, and a brief description. The second codebook—the detailed codebook—lists the variable name, its origin, and a description that includes all the valid values of the variable for discrete variables and the range of valid values for continuous variables (such as HWGT).

Note: Detailed information on each variable in the database can be found starting on page 59.

Unit QC review administrative data

ACTNTYPE	R	Type of action
ALLADJ	R	Allotment adjustment
AMTADJ	R	Amount of allotment adjustment
AUTHREP	R	Authorized representative
BENFIX	C	Benefit allotment (SNAP benefit) adjusted for errors
CASE	R	Case classification
CAT_ELIG	C	Indicator of categorical eligibility status
CERTMTH	R	Months in certification period
EXPEDSER	R	Received expedited service
HHLDNO	C	SNAP household identification number
LASTCERT	C	Months since last SNAP certification
LOCALCOD	R	Local agency code (not retained on public use file)
MED_DED_DEMO	C	Indicator of standard medical deduction demonstration participation
MN_FIP	C	Indicator of MFIP participation
PURE_PA	C	Indicator of pure cash public assistance status
RCNTACTN	R	Most recent action on case
REP_SYS	R	Reporting requirement
REVNUM	R	State QC review number (not retained on public use file)
SSI_CAP	C	Indicator of SSI-CAP participation
STATUS	R	Status of case error findings
YRMONTH	R	Sample year and month

Unit demographics and sample weights

AK_AREA	C	Alaska region (not retained on public use file)
CERTHHSZ	R	Certified unit size
COMPOSITION	C	Unit composition
COUNTYCD	C	FIPS code for county (not retained on public use file)
CTPRHH	C	Number of people in household
FSDIS	C	Indicator of non-elderly individuals with disabilities in unit
FSELDER	C	Indicator of elderly individuals in unit
FSKID	C	Indicator of children in unit
FSNDIS	C	Number of non-elderly individuals with disabilities in unit
FSNDISCA	C	Number of adults age 18 to 49 without disabilities in childless units
FSNELDER	C	Number of elderly individuals in unit
FSNGMOM	C	Indicator of single-female-headed unit
FSNK0T4	C	Number of preschool-age children in unit
FSNK5T17	C	Number of school-age children in unit
FSNKID	C	Number of children in unit
FSNONCIT	C	Number of noncitizens in unit
FSUSIZE	C	Constructed certified unit size
FYWGT	C	Weight used for full-year calculations

*R indicates the variable is from the raw data; C indicates the variable was constructed.

HWGT	C	Monthly sample weight
NONCIT_HEAD	C	Unit head citizenship indicator
RAWHSIZE	R	Reported number of people in household
REGION	C	Constructed census region code
REGIONCD	R	FNS region code
STATE	R	FIPS code for State or territory
STATENAME	C	State or territory
STRATUM	R	Stratum identification
TANF_IND	C	Indicator of TANF receipt for unit
TPOV	C	Gross income/poverty level ratio
URBRUR	C	Urban/rural indicator (not retained on public use file)
WRK_POOR	C	Indicator of working poor unit

Unit countable income (monthly dollar amounts)

FSCONT	C	Countable unit income from contributions
FSCSUPRT	C	Countable unit child support payment income
FSDEEM	C	Countable unit deemed income
FSDIVER	C	Countable unit State diversion payments
FSEARN	C	Countable unit earned income
FSEDLOAN	C	Countable unit income from educational grants and loans
FSEITC	C	Countable unit income from earned income tax credit
FSENERGY	C	Countable unit energy assistance income
FSFOSTER	C	Countable unit foster care income
FSGA	C	Countable unit general assistance benefits
FSGRINC	C	Final gross countable unit income
FSNETINC	C	Final net countable unit income
FSOTHERN	C	Countable unit other earned income
FSOTHGOV	C	Countable unit income from other government benefits
FSOTHUN	C	Countable unit other unearned income
FSSLFEMP	C	Countable unit self-employment income
FSSOCSEC	C	Countable unit Social Security income
FSSSI	C	Countable unit SSI benefits
FSTANF	C	Countable unit TANF payments
FSUNEARN	C	Countable unit unearned income
FSUNEMP	C	Countable unit unemployment compensation benefits
FSVET	C	Countable unit veterans' benefits
FSWAGES	C	Countable unit wages and salaries
FSWCOMP	C	Countable unit workers' compensation benefits
FSWGESUP	C	Countable unit wage supplementation income
RAWGROSS	R	Reported gross countable unit income
RAWNET	R	Reported net countable unit income

Unit countable and reported assets

FSASSET	C	Total countable assets under State rules
FSVEHAST	C	Countable non-excluded vehicles' value under State rules
LIQRESOR	C	Countable liquid assets under State rules
OTHNLRES	C	Countable other nonliquid assets under State rules

RAWLQRES	R	Reported liquid assets
RAWOTRES	R	Reported other nonliquid assets
RAWRPROP	R	Reported real property
RAWVHAST	R	Reported non-excluded vehicles' value
REALPROP	C	Countable real property under State rules
VEHICLEA	R	Reported category for first vehicle
VEHICLEB	R	Reported category for second vehicle

Unit expenses and deductions

ERN_INC_DED_PCT	C	Percentage used to calculate earned income deduction
EXCL_FSCSDED	C	Child support excluded from gross income
FSCSDED	C	Child support payment deduction
FSCSEXP	R	Reported child support payment deduction
FSDEPDED	R	Reported dependent care deduction
FSDEPDE2	C	Marginal effectiveness of dependent care deduction
FSERNDED	C	Calculated earned income deduction
FSERNDE2	C	Marginal effectiveness of earned income deduction
FSMEDDED	C	Calculated medical expense deduction
FSMEDDE2	C	Marginal effectiveness of medical expense deduction
FSMEDEXP	R	Reported medical expenses
FSSLTDED	C	Calculated excess shelter expense deduction
FSSLTDE2	C	Marginal effectiveness of excess shelter expense deduction
FSSLTEXP	C	Calculated shelter expenses
FSSTDDED	C	Standard deduction
FSSTDDE2	C	Marginal effectiveness of standard deduction
FSTOTDED	C	Total deductions
FSTOTDE2	C	Marginal effectiveness of total deduction
HOMEDED	R	Indicator of homelessness
HOMELESS_DED	C	Amount of homeless household shelter deduction
RAWERND	R	Reported earned income deduction
RENT	R	Rent/mortgage amount
SHELCAP	C	Maximum allowable shelter expense deduction
SHELDED	R	Reported shelter deduction
SUA1	R	Standard Utility Allowance – usage and entitlement
SUA2	R	Standard Utility Allowance – prorated
UTIL	R	Utility amount

Unit benefits

AMTERR	R	Amount of benefit in error
ASSLIM	C	Asset limit
BENMAX	C	Maximum benefit amount
FSASTEST	C	Indicator of passing asset test
FSBEN	C	Final calculated benefit
FSGRTEST	C	Indicator of passing gross income test
FSMINBEN	C	Received minimum benefit
FSNETEST	C	Indicator of passing net income test
GROSSCRN	C	Gross income screen

MINIMUM_BEN	C	Minimum benefit amount
NETSCRN	C	Net income screen
RAWBEN	R	Reported SNAP benefit received

Person-level characteristics: i = 1 to 16

ABWDSTi	R	ABAWD status
AGEi	R	Age
CTZNi	R	Citizenship status
DISi	C	Person-level disability indicator
DPCOSTi	R	Reported dependent care cost
EMPRGi	R	SNAP Employment and Training program status
EMPSTAi	R	Employment status – type
EMPSTBi	R	Employment status – amount
FSAFILi	R	SNAP case affiliation
FSUNi	C	Position of head of SNAP unit
NDISCAi	C	Adult age 18 to 49 without disabilities in childless unit status
RACETHi	R	Race/ethnicity
RELi	R	Relationship to head of household
SEXi	R	Sex
WORKi	C	Person-level working indicator
WRKREGi	R	Work registration status
YRSEDi	R	Highest educational level completed

Person-level countable income (monthly dollar amounts): i = 1 to 16

CONTi	R	Countable income from contributions
CSUPRTi	R	Countable child support payment income
DEEMi	R	Countable deemed income
DIVERi	R	Countable State diversion payments
EDLOANi	R	Countable income from educational grants and loans
EITCi	R	Countable income from earned income tax credit
ENERGYi	R	Countable energy assistance income
FOSTERi	R	Countable foster child income
GAi	R	Countable general assistance benefits
OTHERNi	R	Countable other earned income
OTHGOVi	R	Countable income from other government benefits
OTHUNi	R	Countable other unearned income
SLFEMPi	R	Countable self-employment income
SOCSECi	R	Countable Social Security income
SSIi	R	Countable SSI benefits
TANFi	R	Countable TANF payments
UNEMPi	R	Countable unemployment compensation benefits
VETi	R	Countable veterans' benefits
WAGESi	R	Countable wages and salaries
WCOMPi	R	Countable workers' compensation benefits
WGESUPi	R	Countable wage supplementation income

Detailed error findings: i = 1 to 9

AGENCYi	R	Agency or client responsibility
AMOUNTi	R	Variance dollar amount
DISCOVi	R	Variance discovery
E_FINDGi	R	Error finding
ELEMENTi	R	Variance element
NATUREi	R	Nature of variance
OCCDATEi	R	Variance occurrence date
TIMEPERi	R	Variance time period
VERIFi	R	Variance verification

Unit QC review administrative data

ACTNTYPE	R	TYPE OF ACTION Range = (1, 2) 1 = Certification 2 = Recertification
ALLADJ	R	ALLOTMENT ADJUSTMENT Range = (1, 3) 1 = No adjustment 2 = Prorated benefit 3 = Other adjustment
AMTADJ	R	AMOUNT OF ALLOTMENT ADJUSTMENT Range = (0, 1097)
AUTHREP	R	AUTHORIZED REPRESENTATIVE Range = (1, 2) 1 = Used to make application 2 = Not used to make application
BENFIX	C	BENEFIT ALLOTMENT ADJUSTED FOR ERRORS Range = (0, 10152)
CASE	R	CASE CLASSIFICATION Range = (1, 3) 1 = Included in error rate calculation 2 = Excluded from error rate calculation – processed by SSA worker 3 = Excluded from error rate calculation, as designated by FNS (for example, demonstration project, simplified SNAP)
CAT_ELIG	C	INDICATOR OF CATEGORICAL ELIGIBILITY STATUS Range = (0, 2) 0 = Unit not categorically eligible for benefits 1 = Unit reported as categorically eligible for benefits and therefore not subject to SNAP income or asset tests (unit subject to State-determined income and/or asset limit on cash Public Assistance [PA] or noncash TANF-funded benefit used to confer categorical eligibility) 2 = Unit recoded as categorically eligible after being identified as pure cash PA or as meeting State-specified criteria for BBCE and therefore not subject to SNAP income or asset tests

VARIABLE	ORIGIN	DESCRIPTION
CERTMTH	R	MONTHS IN CERTIFICATION PERIOD Range = (0, 96) Number of months SNAP unit was certified to participate during current certification or recertification period.
EXPEDSER	R	RECEIVED EXPEDITED SERVICE Range = (1, 3) 1 = Entitled to expedited service and received benefits within Federal time frame 2 = Entitled to expedited service but did not receive benefits within Federal time frame 3 = Not entitled to expedited service
HHLDNO	C	SNAP HOUSEHOLD IDENTIFICATION NUMBER Range = (1, 55006) Position of unit in unedited SNAP QC file (unique unit identifier).
LASTCERT	C	MONTHS SINCE LAST SNAP CERTIFICATION Range = (0, 96)
LOCALCOD	R	LOCAL AGENCY CODE (not retained on public use file) Range = (1, 930) Designates local agency and allows grouping of data by county or county equivalent (may be FIPS code or alternative classification).
MED_DED_DEMO	C	INDICATOR OF STANDARD MEDICAL DEDUCTION DEMONSTRATION PARTICIPATION Range = (0, 1) 0 = No 1 = Yes
MN_FIP	C	INDICATOR OF MFIP PARTICIPATION **We recommend using MN_FIP with the understanding that it may slightly underestimate the number of MFIP units. We recommend against using MFIP units' TANF income because it is not included as gross income and is most likely recorded incorrectly, if at all. See Appendix A for details.** Range = (0, 1) 0 = No 1 = Yes

PURE_PA	C	INDICATOR OF PURE CASH PUBLIC ASSISTANCE STATUS Range = (0, 1) 0 = No 1 = Yes A unit is pure cash public assistance (pure PA) when everyone in the unit receives TANF, GA, or SSI or unit has TANF income and every adult receives TANF, GA, or SSI.
RCNTACTN	R	MOST RECENT ACTION ON CASE Range = (19710503, 20160930) Date the case was certified or recertified for participation in sample month under review (in yyyymmdd format).
REP_SYS	R	REPORTING REQUIREMENT Range = (1, 10) 1 = $25 change reporting 2 = $80 change in earned income 3 = $100 change in earned income 4 = Status reporting 5 = 5-hour change in hours worked and expected to continue over a month 6 = Simplified reporting (exceeding 130 percent of income poverty guidelines) 7 = Quarterly reporting 8 = Monthly reporting 9 = Transitional benefits (no reporting requirement) 10 = Other
REVNUM	R	STATE QC REVIEW NUMBER (not retained on public use file) Range = (1, 861286)
SSI_CAP	C	INDICATOR OF SSI-CAP PARTICIPATION **We recommend using SSI_CAP, with the understanding that it likely underestimates the actual number of SSI-CAP units. See Appendix A for details.** Range = (0, 3) 0 = Not in SSI-CAP 1 = SSI-CAP case with standard shelter expenses 2 = SSI-CAP case with standard benefit, consistent with program rules 3 = SSI-CAP case with standard benefit, inconsistent with program rules

STATUS	R	STATUS OF CASE ERROR FINDINGS Range = (1, 3) 1 = Amount correct 2 = Overissuance 3 = Underissuance
YRMONTH	R	SAMPLE YEAR AND MONTH Range = (201510, 201609) Allows user to select one or more sample months from full-year file for analyses. The YRMONTH variable is a six-digit code; the first four digits indicate the sample year and the last two indicate the month. To select observations from January 2016, for example, YRMONTH should equal 201601.

Unit demographics and sample weights

AK_AREA	C	ALASKA REGION (not retained on public use file) Range = (1, 3) 1 = Alaska Rural I 2 = Alaska Rural II 3 = Alaska Urban
CERTHHSZ	R	CERTIFIED UNIT SIZE Range = (1, 14)
COMPOSITION	C	UNIT COMPOSITION Range = (0, 5) 0 = No children 1 = Child(ren) only 2 = Child(ren) and one male adult 3 = Child(ren) and one female adult 4 = Child(ren) and married unit head (spouse may be nonparticipating; includes married teens) 5 = Child(ren) with other multiple adults
COUNTYCD	C	FIPS CODE FOR COUNTY (not retained on public use file) Range = (1, 840)
CTPRHH	C	NUMBER OF PEOPLE IN HOUSEHOLD Range = (1, 14) Number of people in household with nonmissing person-level information.
FSDIS	C	INDICATOR OF NON-ELDERLY INDIVIDUALS WITH DISABILITIES IN UNIT Range = (0, 1) **We recommend using FSDIS, with the understanding that it likely underestimates the number of units with non-elderly individuals with disabilities.**

0 = No
1 = Yes
A SNAP unit with one or more individuals that are defined as disabled (DISi = 1).

FSELDER C INDICATOR OF ELDERLY INDIVIDUALS IN UNIT
Range = (0, 1)
0 = No
1 = Yes
A SNAP unit with one or more elderly individuals.

FSKID C INDICATOR OF CHILDREN IN UNIT
Range = (0, 1)
0 = No
1 = Yes
A SNAP unit with one or more children under age 18.

FSNDIS C NUMBER OF NON-ELDERLY INDIVIDUALS WITH DISABILITIES IN UNIT
We recommend using FSNDIS, with the understanding that it likely underestimates the number of non-elderly individuals with disabilities and the number of units containing such individuals. See Appendix A for details.
Range = (0, 5)
Number of individuals in the unit that are defined as disabled (DISi = 1).

FSNDISCA C NUMBER OF ADULTS AGE 18 TO 49 WITHOUT DISABILITIES IN CHILDLESS UNITS
We recommend using FSNDISCA, with the understanding that it likely overestimates the number of adults without disabilities. See Appendix A for details.
Range = (0, 5)
Number of adults age 18 to 49 without disabilities in childless SNAP units.

FSNELDER C NUMBER OF ELDERLY INDIVIDUALS IN UNIT
Range = (0, 3)
Number of adults age 60 or older in SNAP unit.

FSNGMOM C INDICATOR OF SINGLE-FEMALE-HEADED UNIT
Range = (0, 1)
0 = No
1 = Yes
A SNAP unit with one adult and one or more children; the adult is female.

FSNK0T4	C	NUMBER OF PRESCHOOL-AGE CHILDREN IN UNIT Range = (0, 5) Number of children under age 5 in SNAP unit.
FSNK5T17	C	NUMBER OF SCHOOL-AGE CHILDREN IN UNIT Range = (0, 10) Number of children age 5 to 17 in SNAP unit.
FSNKID	C	NUMBER OF CHILDREN IN UNIT Range = (0, 12) Number of children under age 18 in SNAP unit.
FSNONCIT	C	NUMBER OF NONCITIZENS IN UNIT Range = (0, 11) Number of people with FSAFILi = 1 and CTZNi >= 3.
FSUSIZE	C	CONSTRUCTED CERTIFIED UNIT SIZE Range = (1, 14) Number of people with FSAFILi = 1.
FYWGT	C	WEIGHT USED FOR FULL-YEAR CALCULATIONS Range = (4.03, 5205.80) Calculated as HWGT/12 for all States.
HWGT	C	MONTHLY SAMPLE WEIGHT Range = (48.40, 62469.64) Allows user to replicate total monthly caseloads as reflected in SNAP Program Operations data. If the reference period for the analysis is longer than one calendar month, the weight field must be divided by the number of months being analyzed to calculate an average monthly value for that reference period.
NONCIT_HEAD	C	UNIT HEAD CITIZENSHIP INDICATOR Range = (0, 2) 0 = Head of unit is a citizen 1 = Head of unit is a participating noncitizen 2 = Head of unit is a nonparticipating noncitizen
RAWHSIZE	R	REPORTED NUMBER OF PEOPLE IN HOUSEHOLD Range = (1, 14)
REGION	C	CONSTRUCTED CENSUS REGION CODE Range = (1, 4) 1 = Northeast 2 = Midwest 3 = South 4 = West See Appendix E (Table E.3) for a list of States in each region.

REGIONCD	R	FNS REGION CODE Range = (1, 7) 1 = Northeast 2 = Mid-Atlantic 3 = Southeast 4 = Midwest 5 = Southwest 6 = Mountain Plains 7 = West See Appendix E (Table E.2) for a list of States in each region.
STATE	R	FIPS CODE FOR STATE OR TERRITORY Range = (1, 78) See Appendix E (Table E.1) for FIPS code list.
STATENAME	C	STATE OR TERRITORY State or territory name. See Appendix E (Table E.1) for list.
STRATUM	R	STRATUM IDENTIFICATION Range = (0, 0) Codes for distinct parts of States with stratified samples; codes in States that are not stratified are recoded to 0.
TANF_IND	C	INDICATOR OF TANF RECEIPT FOR UNIT Range = (0, 1) 0 = No 1 = Yes TANF_IND = 1 if FSTANF > 0 or MN_FIP = 1
TPOV	C	GROSS INCOME/POVERTY LEVEL RATIO Range = (0, 595) TPOV = FSGRINC/NETSCRN*100, rounded to nearest integer. If FSGRINC = 0, then TPOV = 0. Otherwise if TPOV rounds to 0, TPOV is set to 1.

URBRUR C URBAN/RURAL INDICATOR (not retained on public use file)

We recommend caution when using URBRUR for any State-level tabulations because of concerns about the representativeness of the sample at the substate level. We recommend against the use of URBRUR for State-level tabulations in Alabama, Nebraska, Nevada, New Hampshire, Utah, Vermont, and Washington because of the number of cases with unknown locality. See Appendix A for details.

Range = (1, 3)

Location of agency at which unit's SNAP application was processed.

1 = Metropolitan (at least one urbanized area of 50,000 or more population and adjacent territory with a high degree of social and economic integration with the core as measured by commuting ties)

2 = Micropolitan (at least one urban cluster of at least 10,000 but fewer than 50,000 people and adjacent territory with a high degree of social and economic integration with the core as measured by commuting ties)

3 = Rural (not metropolitan or micropolitan)

WRK_POOR C INDICATOR OF WORKING POOR UNIT

Range = (0, 1)

0 = No

1 = Yes

All SNAP units with countable earnings (FSEARN) or multiple indicators of earnings in the unedited SNAP QC file.

Unit countable income (monthly dollar amounts)

FSCONT	C	COUNTABLE UNIT INCOME FROM CONTRIBUTIONS Range = (0, 2182) Sum of CONT1 through CONT16
FSCSUPRT	C	COUNTABLE UNIT CHILD SUPPORT PAYMENT INCOME Range = (0, 1954) Sum of CSUPRT1 through CSUPRT16
FSDEEM	C	COUNTABLE UNIT DEEMED INCOME Range = (0, 2494) Sum of DEEM1 through DEEM16
FSDIVER	C	COUNTABLE UNIT STATE DIVERSION PAYMENTS Range = (0, 0) Sum of DIVER1 through DIVER16
FSEARN	C	COUNTABLE UNIT EARNED INCOME Range = (0, 6502) Sum of FSWAGES, FSSLFEMP, and FSOTHERN
FSEDLOAN	C	COUNTABLE UNIT INCOME FROM EDUCATIONAL GRANTS AND LOANS Range = (0, 7898) Sum of EDLOAN1 through EDLOAN16
FSEITC	C	COUNTABLE UNIT INCOME FROM EARNED INCOME TAX CREDIT Range = (0, 784) Sum of EITC1 through EITC16
FSENERGY	C	COUNTABLE UNIT ENERGY ASSISTANCE INCOME Range = (0, 1020) Sum of ENERGY1 through ENERGY16
FSFOSTER	C	CALCULATED FOSTER CARE RECEIPT Range = (0, 2538) Sum of FOSTER1 through FOSTER16
FSGA	C	COUNTABLE UNIT GENERAL ASSISTANCE BENEFITS Range = (0, 1510) Sum of GA1 through GA16
FSGRINC	C	FINAL GROSS COUNTABLE UNIT INCOME Range = (0, 7898) Total monthly gross income of unit (sum of FSEARN and FSUNEARN)

VARIABLE	ORIGIN	DESCRIPTION
FSNETINC	C	FINAL NET COUNTABLE UNIT INCOME Range = (0, 7743) Total monthly income of unit after applying deductions. Calculated as FSGRINC-FSTOTDED but not less than 0. Coded as missing for MFIP units and for SSI-CAP units in States with standard SSI-CAP benefits.
FSOTHERN	C	COUNTABLE UNIT OTHER EARNED INCOME Range = (0, 2635) Sum of OTHERN1 through OTHERN16
FSOTHGOV	C	COUNTABLE UNIT INCOME FROM OTHER GOVERNMENT BENEFITS Range = (0, 2304) Sum of OTHGOV1 through OTHGOV16
FSOTHUN	C	COUNTABLE UNIT OTHER UNEARNED INCOME Range = (0, 2981) Sum of OTHUN1 through OTHUN16
FSSLFEMP	C	COUNTABLE UNIT SELF-EMPLOYMENT INCOME Range = (0, 3935) Sum of SLFEMP1 through SLFEMP16
FSSOCSEC	C	COUNTABLE UNIT SOCIAL SECURITY INCOME Range = (0, 3069) Sum of SOCSEC1 through SOCSEC16
FSSSI	C	COUNTABLE UNIT SSI BENEFITS Range = (0, 3059) Sum of SSI1 through SSI16
FSTANF	C	COUNTABLE UNIT TANF PAYMENTS **We recommend against using FSTANF in Minnesota, because TANF income is not used in the SNAP benefit calculation for MFIP units. We recommend using FSTANF in California, with the understanding that the number of pure PA units may be overestimated. See Appendix A for more details.** Range = (0, 2334) Sum of TANF1 through TANF16
FSUNEARN	C	COUNTABLE UNIT UNEARNED INCOME Range = (0, 7898) Sum of FSCONT, FSCSUPRT, FSDEEM, FSEDLOAN, FSGA, FSOTHGOV, FSOTHUN, FSSOCSC, FSSSI, FSTANF, FSUNEMP, FSVET, FSWCOMP, FSDIVER, FSENERGY, and FSWGESUP

VARIABLE	ORIGIN	DESCRIPTION
FSUNEMP	C	COUNTABLE UNIT UNEMPLOYMENT COMPENSATION BENEFITS Range = (0, 2626) Sum of UNEMP1 through UNEMP16
FSVET	C	COUNTABLE UNIT VETERANS' BENEFITS Range = (0, 2604) Sum of VET1 through VET16
FSWAGES	C	COUNTABLE UNIT WAGES AND SALARIES Range = (0, 5687) Sum of WAGES1 through WAGES16
FSWCOMP	C	COUNTABLE UNIT WORKERS' COMPENSATION BENEFITS Range = (0, 2340) Sum of WCOMP1 through WCOMP16
FSWGESUP	C	COUNTABLE UNIT WAGE SUPPLEMENTATION INCOME Range = (0, 1) Sum of WGESUP1 through WGESUP16
RAWGROSS	R	REPORTED GROSS COUNTABLE UNIT INCOME Range = (0, 7898) Reported total monthly countable income of unit before applying deductions (see FSGRINC for final value)
RAWNET	R	REPORTED NET COUNTABLE UNIT INCOME Range = (0, 4975) Reported total monthly countable income of unit after applying deductions (see FSNETINC for final value)

VARIABLE	ORIGIN	DESCRIPTION
Unit countable assets		
FSASSET	C	TOTAL COUNTABLE ASSETS UNDER STATE RULES **We recommend using FSASSET, with the understanding that only 8 percent of SNAP units have countable assets. See Appendix A for more details.** Range = (0, 10019) Sum of LIQRESOR, FSVEHAST, OTHNLRES, and REALPROP
FSVEHAST	C	COUNTABLE NON-EXCLUDED VEHICLES' VALUE UNDER STATE RULES **We recommend using FSVEHAST, with the understanding that only 8 percent of SNAP units have countable assets. See Appendix A for more details.** Range = (0, 4550)
LIQRESOR	C	COUNTABLE LIQUID ASSETS UNDER STATE RULES Range = (0, 10019)
OTHNLRES	C	COUNTABLE OTHER NONLIQUID ASSETS UNDER STATE RULES Range = (0, 4799)
RAWLQRES	R	REPORTED LIQUID ASSETS Range = (0, 89934)
RAWOTRES	R	REPORTED OTHER NONLIQUID ASSETS Range = (0, 22067)
RAWRPROP	R	REPORTED REAL PROPERTY Range = (0, 3220) Does not include home
RAWVHAST	R	REPORTED NONEXCLUDED VEHICLES' VALUE Range = (0, 4550)
REALPROP	C	COUNTABLE REAL PROPERTY UNDER STATE RULES Range = (0, 3220) Does not include home

VEHICLEA R REPORTED CATEGORY FOR FIRST VEHICLE

We recommend against the use of VEHICLEA. See Appendix A for more details.

Range = (1, 8)
1 = No vehicle
2 = Vehicle exempt because used for producing income, as a home, to transport a physically disabled member, for long-distance travel (other than commuting), or to carry fuel or water
3 = Vehicle exempt because inaccessible resource (equity value $1,500 or less)
4 = Vehicle exempt due to categorical eligibility
5 = Vehicle excluded under State TANF standard (vehicle of non-categorically eligible unit members only)
6 = Vehicle registered and attributable to an adult unit member or used by a person under age 18 for employment or education (subject to fair market value only)
7 = Vehicle not registered (equity test only)
8 = Vehicle not excluded and not included in code 6 (subject to fair market value or equity test, whichever is greater)

VEHICLEB R REPORTED CATEGORY FOR SECOND VEHICLE

We recommend against the use of VEHICLEB. See Appendix A for more details.

Range = (1, 8)
1 = No vehicle
2 = Vehicle exempt because used for producing income, as a home, to transport a physically disabled member, for long-distance travel (other than commuting), or to carry fuel or water
3 = Vehicle exempt because inaccessible resource (equity value $1,500 or less)
4 = Vehicle exempt due to categorical eligibility
5 = Vehicle excluded under State TANF standard (vehicle of non-categorically eligible unit members only)
6 = Vehicle registered and attributable to an adult unit member or used by a person under age 18 for employment or education (subject to fair market value only)
7 = Vehicle not registered (equity test only)
8 = Vehicle not excluded and not included in code 6 (subject to fair market value or equity test, whichever is greater)

Unit expenses and deductions

ERN_INC_DED_PCT	C	PERCENTAGE USED TO CALCULATE EARNINGS DEDUCTION Range = (0.20, 0.50) 0.50 for MFIP participants; 0.20 for all other SNAP participants.
EXCL_FSCSDED	C	CHILD SUPPORT EXCLUDED FROM GROSS INCOME Range = (0, 983) Child support expenses excluded before gross income test rather than before net income test for eligibility
FSCSDED	C	CHILD SUPPORT PAYMENT DEDUCTION Range = (0, 9998) Coded as missing for MFIP units and for units participating in an SSI-CAP program in States using standard SSI-CAP benefits
FSCSEXP	R	REPORTED CHILD SUPPORT PAYMENT DEDUCTION Range = (0, 9998) (Some States treat child support payments to non-unit members as an income exclusion rather than a deduction. See EXCL_FSCSDED and FSCSDED for final values.)
FSDEPDED	R	REPORTED DEPENDENT CARE DEDUCTION **We recommend against using FSDEPDED for State-level tabulations due to small sample sizes. See Appendix A for more details.** Range = (0, 2274) Some values have been edited to obtain consistency with DPCOST1 to DPCOST16 and to improve the final benefit calculation. See Appendix B for details. Coded as missing for all MFIP and SSI-CAP units.
FSDEPDE2	C	MARGINAL EFFECTIVENESS OF DEPENDENT CARE DEDUCTION[37] Range = (0, 2258) Calculated as FSDEPDE2 = NEWNET-FSNETINC, where NEWNET = MAX (0, FSGRINC-FSSLT3-FSERNDED- FSMEDDED-FSSTDDED-FSCSDED- HOMELESS_DED) and where FSSLT3 is the shelter deduction calculated without FSDEPDED. Coded as missing for all MFIP and SSI-CAP units.

[37] The marginal effectiveness variables are calculated as the difference between the actual calculated net income and what the net income would have been without the deduction. Given that the combined value of deductions to which a unit is entitled sometimes exceeds the gross income received by the unit, the marginal effectiveness variables give a more accurate picture of the impact of the deductions.

VARIABLE	ORIGIN	DESCRIPTION
FSERNDED	C	CALCULATED EARNED INCOME DEDUCTION Range = (0, 1300) Calculated as FSERNDED = ERN_INC_DED_PCT*FSEARN, rounded to nearest integer. The deduction equals 50 percent of total earned income for MFIP participants[38] and 20 percent of total earned income for all others. Coded as missing for all SSI-CAP units.
FSERNDE2	C	MARGINAL EFFECTIVENESS OF EARNED INCOME DEDUCTION Range = (0, 1555) Calculated as FSERNDE2 = NEWNET-FSNETINC, where NEWNET = MAX (0, FSGRINC-FSSLT2-FSDEPDED-FSMEDDED-FSSTDDED-FSCSDED-HOMELESS_DED) and where FSSLT2 is the shelter deduction calculated without FSERNDED. Coded as missing for all MFIP and SSI-CAP units.
FSMEDDED	C	CALCULATED MEDICAL EXPENSE DEDUCTION Range = (0, 8000) The deduction is for units with elderly members or individuals with disabilities only; the entry for medical expenses should include only expenses in excess of $35. Calculated as FSMEDDED = MAX(0, FSMEDEXP) Coded as missing for all MFIP and SSI-CAP units.
FSMEDDE2	C	MARGINAL EFFECTIVENESS OF MEDICAL EXPENSE DEDUCTION Range = (0, 2500) Calculated as FSMEDDE2 = NEWNET-FSNETINC, where NEWNET = MAX (0, FSGRINC-FSSLT4-FSDEPDED-FSERNDED-FSSTDDED-FSCSDED-HOMELESS_DED) and where FSSLT4 is the shelter deduction calculated without FSM EDDED. Coded as missing for all MFIP and SSI-CAP units.
FSMEDEXP	R	REPORTED MEDICAL EXPENSES Range = (0, 8000) Allowable medical expenses in excess of $35 for elderly adults or individuals with disabilities.

[38] The MFIP earnings deduction was 50 percent in FY 2016.

FSSLTDED C CALCULATED EXCESS SHELTER EXPENSE DEDUCTION
Range = (0, 3442)
Set to 0 if HOMEDED = 3; otherwise set to XCOST for units with elderly members or individuals with disabilities and equal to the minimum of XCOST and SHELCAP for units without elderly members or individuals with disabilities, where
XCOST = MAX(0, FSSLTEXP-HALFNET) and HALFNET = MAX (0,ROUND(FSGRINC-FSSTDDED-FSERNDED-FSDEPDED-FSMEDDED-FSCSDED)/2)
The final value of FSSLTDED is rounded to nearest integer.
Coded as missing for MFIP units and for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits.

FSSLTDE2 C MARGINAL EFFECTIVENESS OF EXCESS SHELTER EXPENSE DEDUCTION
Range = (0, 2477)
Calculated as FSSLTDE2 = NEWNET-FSNETINC, where
NEWNET = MAX (0,FSGRINC-FSDEPDED-FSERNDED-FSMEDDED-FSSTDDED-FSCSDED-HOMELESS_DED).
Coded as missing for MFIP units and for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits.

FSSLTEXP C CALCULATED SHELTER EXPENSES
Range = (0, 8203)
Sum of RENT and UTIL

FSSTDDED C STANDARD DEDUCTION
Range = (137, 451)
Varies by region. See Appendix F for values.
Coded as missing for MFIP units and for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits.

FSSTDDE2 C MARGINAL EFFECTIVENESS OF STANDARD DEDUCTION
Range = (0, 677)
Calculated as FSSTDDE2 = NEWNET – FSNETINC, where
NEWNET = MAX (0, FSGRINC – FSSLT1 – FSDEPDED – FSERNDED – FSMEDDED – FSCSDED – HOMELESS_DED)
and where FSSLT1 is the shelter deduction calculated without FSSTDDED.
Coded as missing for MFIP units and for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits.

FSTOTDED	C	TOTAL DEDUCTIONS Range = (0, 10666) Sum of FSSTDDED, FSERNDED, FSDEPDED, FSSLTDED, FSMEDDED, HOMELESS_DED, and FSCSDED. Coded as missing for MFIP units and for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits.
FSTOTDE2	C	MARGINAL EFFECTIVENESS OF TOTAL DEDUCTION Range = (0, 3424) Calculated as FSGRINC-FSNETINC. Coded as missing for MFIP units and for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits.
HOMEDED	R	INDICATOR OF HOMELESSNESS Range = (1, 3) 1 = Not homeless 2 = Homeless, not receiving homeless shelter allowance 3 = Homeless, receiving homeless shelter allowance
HOMELESS_DED	C	AMOUNT OF HOMELESS HOUSEHOLD SHELTER DEDUCTION Range = (0, 143) Positive value only for those with HOMEDED = 3 Coded as missing for all MFIP and SSI-CAP units.
RAWERND	R	REPORTED EARNED INCOME DEDUCTION Range = (0, 999) (See FSERNDED for final earned income deduction value.)
RENT	R	RENT/MORTGAGE AMOUNT Range = (0, 3788) Some values for SSI-CAP units have been edited to apply standard shelter allowances.
SHELCAP	C	MAXIMUM ALLOWABLE SHELTER EXPENSE DEDUCTION Range = (397, 805) SHELCAP varies by region. See Appendix F for values.
SHELDED	R	REPORTED SHELTER DEDUCTION Range = (0, 4470) (See FSSLTDED for the final value)

VARIABLE	ORIGIN	DESCRIPTION
SUA1	R	STANDARD UTILITY ALLOWANCE–USAGE AND ENTITLEMENT Range = (1, 9) 1 = No utilities and no LIHEAA assistance 2 = Uses actual expenses 3 = Uses higher standard based on LIHEAA assistance 4 = Uses higher standard and does not receive LIHEAA assistance 5 = Uses lower, or limited, standard 6 = Uses telephone-only standard 7 = Uses individual standards 8 = Uses higher standard, LIHEAA assistance status unknown 9 = Other Some values have been edited to obtain consistency with UTIL. See Appendix B for more details. Coded as missing for MFIP units and for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits. **LIHEAA** is the Low Income Home Energy Assistance Act of 1981. Some State programs may have another name, such as Home Energy Assistance Program (HEAP). **Higher standard** is an SUA based upon payment of heating or cooling and includes all utilities. **Lower, or limited, standard** is an SUA based upon all utilities but is for households that do not incur heating or cooling or receive LIHEAA.
SUA2	R	STANDARD UTILITY ALLOWANCE–PRORATED Range = (1, 2) 1 = Not prorated 2 = Prorated Some values have been edited to obtain consistency with UTIL. See Appendix B for more details. Coded as missing for MFIP units and for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits.
UTIL	R	UTILITY AMOUNT Range = (0, 8003) Some values have been edited to improve the final benefit calculation. See Appendix B for more details.

Unit benefits

AMTERR	R	AMOUNT OF BENEFIT IN ERROR Range = (0, 1020) Dollar amount of any identified error, or the difference between the benefits the State authorized and the benefits the State should have authorized. Before FY 2012, only errors over $25 were recorded.
ASSLIM	C	ASSET LIMIT Range = (2250, 5000) SNAP eligibility limit. Categorically eligible units are not subject to an asset limit. See Appendix F.
BENMAX	C	MAXIMUM BENEFIT AMOUNT Range = (194, 3313) The maximum possible benefit for a unit, which varies by unit size and region. See Appendix F for schedule.
FSASTEST	C	INDICATOR OF PASSING ASSET TEST Range = (0, 1) 0 = No 1 = Yes
FSBEN	C	FINAL CALCULATED BENEFIT Range = (1, 2571) Calculated as FSBEN = MAX(minimum benefit, BENMAX-ROUND (.3*FSNETINC)) if FSUSIZE is 2 or Less. Otherwise, FSBEN = MAX (0, BENMAX-ROUND (.3*FSNETINC)) for all units, except for MFIP units and for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits where the benefit is calculated by using a State-specific formula.
FSGRTEST	C	INDICATOR OF PASSING GROSS INCOME TEST Range = (0, 1) 0 = No 1 = Yes

FSMINBEN C RECEIVED MINIMUM BENEFIT
Range = (0, 1)
0 = No
1 = Yes
FSMINBEN = 1 when FSBEN = 8 percent of the maximum one-person benefit for the unit's geographic region and FSUSIZE = 1 or 2. FSMINBEN is always set to 0 for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits.

FSNETEST C INDICATOR OF PASSING NET INCOME TEST
Range = (0, 1)
0 = No
1 = Yes
Coded as missing for MFIP units and for units participating in an SSI-CAP program in States that use standard SSI-CAP benefits.

GROSSCRN C GROSS INCOME SCREEN
Range = (1276, 7794)
SNAP eligibility limit determined by unit size. Categorically eligible units and those with elderly members or individuals with disabilities are not subject to gross income screen. See Appendix F for values.

NETSCRN C NET INCOME SCREEN
Range = (981, 5996)
SNAP eligibility limit determined by unit size. Categorically eligible units are not subject to net income screen. See Appendix F for values.

RAWBEN R REPORTED SNAP BENEFIT RECEIVED
Range = (0, 9998)
Reported amount of SNAP benefits that the unit was certified to receive during sample month (see FSBEN for final value)

Person-level characteristics

ABWDST1 to ABWDST16	R	ABAWD STATUS **We recommend caution when using ABWDSTi due to inconsistencies between ABWDSTi and several employment variables (i.e., WRKREGi, EMPSTAi, and EMPSTBi). We specifically recommend against using ABWDSTi for State-level tabulations in Nevada, New Hampshire, North Dakota, Vermont, West Virginia, and Wyoming given the small sample sizes. See Appendix A for more details.** Range = (1, 6) Person 1 through Person 16 1 = Not an able-bodied adult without dependents (ABAWD) 2 = ABAWD in a waived area 3 = Exempt based on 15 percent option 4 = ABAWD meeting work requirements 5 = ABAWD in 1st 3 months 6 = ABAWD in 2nd 3 months 7 = ABAWD who has exhausted time-limited benefits
AGE1 to AGE16	R	AGE Range = (0, 98) Person 1 through Person 16 0 = Age less than 1 year 1 to 97 = Age in years 98 = Age 98 years or older
CTZN1 to CTZN16	R	CITIZENSHIP STATUS Range = (1, 10) Person 1 through Person 16 1 = US–born citizen 2 = Naturalized citizen 3 = Legal permanent resident with 40 quarters of work, military service, five years legal U.S. residency, disability, or under age 18 5 = Person admitted as refugee, granted asylum, or given stay of deportation 6 = Other eligible noncitizen 7 = Noncitizen legally in U.S. who does not meet one of the above codes and is not receiving SNAP benefits but whose income and resources must be considered in determining benefits 8 = Other ineligible legal noncitizen (for example, visitor, tourist, student, diplomat) 9 = Undocumented noncitizen 10 = Noncitizen, status unknown

DIS1 to DIS16

C

PERSON-LEVEL DISABILITY INDICATOR
We recommend using DISi, with the understanding that it likely underestimates the number of non-elderly individuals with disabilities. See Appendix A for more details.
Range = (0, 1)
Person 1 through Person 16
0 = Not disabled
1 = Disabled
Non-elderly individuals identified as disabled using receipt of SSI or a combination of hours worked, work registration status, receipt of Social Security, veterans' benefits, or workers' compensation, and/or unit medical expense deduction. See Appendix B for details.

DPCOST1 to DPCOST16

R

REPORTED DEPENDENT CARE COST
We recommend against using DPCOSTi for State-level tabulations due to small sample sizes. See Appendix A for more details.
Range = (0, 1036)
Person 1 through Person 16
Some values have been edited to obtain consistency with FSDEPDED. See Appendix B for details.

EMPRG1 to EMPRG16

R

SNAP EMPLOYMENT AND TRAINING PROGRAM STATUS
We recommend using EMPRGi, with the understanding that this variable is best used in conjunction with other work-related variables. See Appendix A for more details.
Range = (0, 9)
Person 1 through Person 16
0 = Not participating in E&T
1 = Participating in non–SNAP E&T (such as TANF)
2 = SNAP job search or job search training
3 = SNAP E&T workfare or work experience
4 = SNAP E&T work supplementation
5 = SNAP E&T education leading to high school diploma or GED
6 = SNAP E&T postsecondary education leading to degree or certificate
7 = SNAP E&T remedial education (including adult education and English lessons not leading to degree)
8 = SNAP E&T vocational training
9 = Other

EMPSTA1 to EMPSTA16 — R

EMPLOYMENT STATUS–TYPE
Range = (1, 8)
Person 1 through Person 16
We recommend using EMPSTAi, with the understanding that this variable is best used in conjunction with other work-related variables. See Appendix A for more details.
1 = Not in labor force and not looking for work
2 = Unemployed and looking for work
3 = Active-duty military
4 = Migrant farm labor
5 = Nonmigrant farm labor
6 = Self-employed, farming
7 = Self-employed, nonfarming
8 = Employed by other

EMPSTB1 to EMPSTB16 — R

EMPLOYMENT STATUS–AMOUNT
Range = (1, 5)
Person 1 through Person 16
We recommend using EMPSTBi, with the understanding that this variable is best used in conjunction with other work-related variables. See Appendix A for more details.
1 = Not employed
2 = 1–19 hours/week
3 = 20–29 hours/week
4 = 30–39 hours/week
5 = Full-time (40 hours or more)

FSAFIL1 to FSAFIL16 — R

SNAP CASE AFFILIATION
Range = (1, 99)
Person 1 through Person 16
See Appendix A for more details.

1 = Eligible member of SNAP case under review and entitled to receive benefits
2 = Eligible SNAP participant in another unit, not currently under review (code added by Mathematica for use in certain SNAP-CAP units)
4 = Member is ineligible noncitizen and not participating in State-funded SNAP
5 = Member not paying/cooperating with child support agency
6 = Member is ineligible striker
7 = Member is ineligible student
8 = Member disqualified for program violation
9 = Member ineligible to participate due to disqualification or failure to meet work requirements (work registration, E&T, acceptance of employment, employment status/job availability, voluntary quit/reducing work effort, workfare/comparable workfare)
10 = ABAWD time limit exhausted and ABAWD ineligible to participate due to failure to meet ABAWD work requirements, to work at least 20 hours per week, to participate in at least 20 hours per week in qualifying educational training activities, or to participate in workfare
11 = Fleeing felon or parole and probation violator
13 = Convicted drug felon
14 = Social Security Number disqualified
15 = SSI recipient in California
16 = Prisoner in detention center
17 = Foster care
18 = Member is ineligible noncitizen and participating in State-funded SNAP
19 = Individual in the home but not part of SNAP household
99 = Unknown

FSUN1 to FSUN16 — C

POSITION OF HEAD OF SNAP UNIT
Range = (0, 8)
Person 1 through Person 16
Identifies the index position of the head of the SNAP unit. The head is defined as the first person in unit with RELi = 1 or, if no one in unit has RELi = 1, as the first adult in unit. If there are no adults in unit, the oldest child is the head. FSUNi is the same for everyone in unit. For example, if unit head is the second person in the household, FSUNi = 2 for everyone in unit. FSUNi = 0 for any individuals in household who are not part of the SNAP unit.

NDISCA1 to NDISCA16 — C

ADULT AGE 18 TO 49 WITHOUT DISABILITIES IN CHILDLESS UNIT STATUS
We recommend using NDISCAi, with the understanding that it likely overestimates the number of adults without disabilities. See Appendix A for details.
Range = (0, 2)
Person 1 through Person 16
0 = Not in universe (AGEi<18 or AGEi>49)
1 = Adult age 18 to 49 without disabilities in childless unit
2 = Age 18 to 49, but not adult without disabilities in childless unit

RACETH1 to RACETH16 — R

RACE/ETHNICITY
Range = (1, 22)
Person 1 through Person 16
We recommend against using RACETHi. See Appendix A for more details.

1 = Racial/ethnic data not available because application was not found
2 = Not recorded on application

Not Hispanic or Latino

3 = American Indian or Alaska Native
4 = Asian
5 = Black or African American
6 = Native Hawaiian or other Pacific Islander
7 = White

Multiple Races Reported

8 = (American Indian or Alaska Native) and white
9 = Asian and white
10 = (Black or African American) and white
11 = (American Indian or Alaska Native) and (black or African American)
12 = Respondent reported more than one race and does not fit into above categories (codes 8 through 11)

Hispanic or Latino

13 = (Hispanic or Latino) and (American Indian or Alaska Native)
14 = (Hispanic or Latino) and Asian
15 = (Hispanic or Latino) and (black or African American)
16 = (Hispanic or Latino) and (Native Hawaiian or other Pacific Islander)
17 = (Hispanic or Latino) and white

Multiple Races Reported

18 = (Hispanic or Latino) and (American Indian or Alaska Native) and white
19 = (Hispanic or Latino) and Asian and white
20 = (Hispanic or Latino) and (black or African American) and white
21 = (Hispanic or Latino) and (American Indian or Alaska Native) and (black or African American)
22 = (Hispanic or Latino) and respondent reported more than one race and does not fit into above categories (codes 18 through 21)

REL1 to REL16 R RELATIONSHIP TO HEAD OF HOUSEHOLD
Range = (1, 7)
Person 1 through Person 16
1 = Head of household
2 = Spouse
3 = Parent
4 = Daughter, stepdaughter, son, or stepson
5 = Other related person (brother, sister, niece, nephew, grandchild, great-grandchild, cousin)
6 = Foster child
7 = Unrelated person

SEX1 to SEX16 R SEX
Range = (1, 2)
Person 1 through Person 16
1 = Male
2 = Female

WORK1 to WORK16 C PERSON-LEVEL WORKING INDICATOR
Range = (0, 1)
Person 1 through Person 16
0 = No
1 = Yes
Identifies individuals who are coded as being employed (EMPSTAi > 2), having positive earnings (WAGESi + OTHERNi + SLFEMPi > 0), and working one or more hours per week (EMPSTBI > 1).

WRKREG1 to WRKREG16 R WORK REGISTRATION STATUS
Range = (1, 6)
Person 1 through Person 16
We recommend using WRKREGi, with the understanding that this variable is best used in conjunction with other work-related variables. See Appendix A for more details.
1 = Federal exemption for disability
2 = Federal exemption for reason other than disability
3 = Work registrant, not E&T participant
4 = Work registrant, voluntary E&T participant
5 = Work registrant, mandatory E&T participant
6 = Should have been registered, but was not registered

YRSED1 to YRSED16 R HIGHEST EDUCATIONAL LEVEL COMPLETED

We recommend against the use of YRSEDi. See Appendix A for more details.

Range = (0, 14)

Person 1 through Person 16

0 = None
1 = Grade 1
2 = Grade 2
3 = Grade 3
4 = Grade 4
5 = Grade 5
6 = Grade 6
7 = Grade 7
8 = Grade 8
9 = Grade 9
10 = Grade 10
11 = Grade 11
12 = High school graduate or GED
13 = Postsecondary education (for example, technical education or some college)
14 = College graduate or post-graduate degree

Person-level countable income (monthly dollar amounts)[39]

CONT1 to CONT16	R	COUNTABLE INCOME FROM CONTRIBUTIONS Range = (0, 2182) Person 1 through Person 16 Amount of contributions, charity, and in-kind income
CSUPRT1 to CSUPRT16	R	COUNTABLE CHILD SUPPORT PAYMENT INCOME Range = (0, 1908) Person 1 through Person 16 Court-ordered child support payments received from absent parent or responsible person
DEEM1 to DEEM16	R	COUNTABLE DEEMED INCOME Range = (0, 2494) Person 1 through Person 16 Income deemed from sponsor of noncitizen member of unit
DIVER1 to DIVER16	R	COUNTABLE STATE DIVERSION PAYMENTS Range = (0, 0) Person 1 through Person 16
EDLOAN1 to EDLOAN16	R	COUNTABLE INCOME FROM EDUCATIONAL GRANTS AND LOANS Range = (0, 7898) Person 1 through Person 16 Educational grants, scholarships, and loans
EITC1 to EITC16	R	COUNTABLE INCOME FROM EARNED INCOME TAX CREDIT Range = (0, 784) Person 1 through Person 16
ENERGY1 to ENERGY16	R	COUNTABLE ENERGY ASSISTANCE INCOME Range = (0, 1020) Person 1 through Person 16
FOSTER1 to FOSTER16	R	CALCULATED FOSTER CARE RECEIPT Range = (0, 2538) Person 1 through Person 16
GA1 to GA16	R	COUNTABLE GENERAL ASSISTANCE BENEFITS Range = (0, 1510) Person 1 through Person 16

[39] Some person-level income amounts have been edited to obtain consistency with final gross income (FSGRINC).

VARIABLE	ORIGIN	DESCRIPTION
OTHERN1 to OTHERN16	R	COUNTABLE OTHER EARNED INCOME Range = (0, 2635) Person 1 through Person 16
OTHGOV1 to OTHGOV16	R	COUNTABLE INCOME FROM OTHER GOVERNMENT BENEFITS Range = (0, 2304) Person 1 through Person 16 Includes but not limited to Black Lung Benefits, Railroad Retirement payments, and payments to farmers by USDA. OTHGOVi amounts were recoded as SSI benefits in units with reported SSI income in cases for which OTHGOVi equaled an applicable State SSI supplement.
OTHUN1 to OTHUN16	R	COUNTABLE OTHER UNEARNED INCOME Range = (0, 2981) Person 1 through Person 16 Includes alimony, foster care payments, dividends and interest, rental income, pensions, and union benefits. OTHUNi amounts were recoded as SSI benefits in units with reported SSI income in cases for which OTHUNi equaled an applicable State SSI supplement.
SLFEMP1 to SLFEMP16	R	COUNTABLE SELF-EMPLOYMENT INCOME Range = (0, 3935) Person 1 through Person 16 Net income from any self-employment enterprise.
SOCSEC1 to SOCSEC16	R	COUNTABLE SOCIAL SECURITY INCOME Range = (0, 2475) Person 1 through Person 16
SSI1 to SSI16	R	COUNTABLE SSI BENEFITS Range = (0, 2199) Person 1 through Person 16 Includes recoded countable income reported as OTHGOVi or OTHUNi in units with reported SSI income and where OTHGOVi or OTHUNi equaled an applicable State SSI supplement.
TANF1 to TANF16	R	COUNTABLE TANF PAYMENTS Range = (0, 2334) Person 1 through Person 16 Assigned to payee or principal person of assistance group.

UNEMP1 to UNEMP16	R	COUNTABLE UNEMPLOYMENT COMPENSATION BENEFITS Range = (0, 2626) Person 1 through Person 16
VET1 to VET16	R	COUNTABLE VETERANS' BENEFITS Range = (0, 1995) Person 1 through Person 16
WAGES1 to WAGES16	R	COUNTABLE WAGES AND SALARIES Range = (0, 5687) Person 1 through Person 16 Amount of wages, salaries, tips, and commission.
WCOMP1 to WCOMP16	R	COUNTABLE WORKERS' COMPENSATION BENEFITS Range = (0, 2340) Person 1 through Person 16
WGESUP1 to WGESUP16	R	COUNTABLE WAGE SUPPLEMENTATION INCOME Range = (0, 1) Person 1 through Person 16 Earnings above cash assistance and/or SNAP benefit amount.

Detailed error findings

AGENCY1 to AGENCY9 — R

AGENCY OR CLIENT RESPONSIBILITY
Range = (1, 99)
Variance 1 through Variance 9
Primary cause of variance
1 = Information not reported
2 = Incomplete or incorrect information provided; agency not required to verify
3 = Information withheld by client (case referred for Intentional Program Violation [IPV] investigation)
4 = Incorrect information provided by client (case referred for IPV investigation)
7 = Inaccurate information reported by collateral contact
8 = Acted on incorrect Federal computer match information not requiring verification (such variance is excluded from error determination but must be recorded)
10 = Policy incorrectly applied
12 = Reported information disregarded or not applied
14 = Agency failed to follow up on inconsistent or incomplete information
15 = Agency failed to follow up on impending changes
16 = Agency failed to verify required information
17 = Computer programming error
18 = Data entry and/or coding error
19 = Mass change (error due to problem with computer-generated mass change)
20 = Arithmetic computation error
21 = Computer user error
99 = Other

AMOUNT1 to AMOUNT9 — R

VARIANCE DOLLAR AMOUNT
Range = (0, 1020)
Variance 1 through Variance 9
Dollar amount of variance

DISCOV1 to DISCOV9 — R

VARIANCE DISCOVERY
Range = (1, 9)
Variance 1 through Variance 9
How variance was discovered
1 = Variance clearly identified from case record (documentation not from an automated match)
2 = Variance clearly identified from case record (documentation from an automated match)
3 = Variance discovered from recipient interview
4 = Employer (present or former)
5 = Financial institution, insurance company, or other business
6 = Landlord
7 = Government agency or public records, not automated match
8 = Government agency or public records, automated match
9 = Other

E_FINDG1 to E_FINDG9 — R

ERROR FINDING
Range = (2, 4)
Variance 1 through Variance 9
Impact of variance
2 = Overissuance
3 = Underissuance
4 = Ineligible

ELEMENT1 to ELEMENT9 — R

VARIANCE ELEMENT
Range = (111, 820)
Variance 1 through Variance 9
Element of variance
111 = Student status
130 = Citizenship and noncitizen status
140 = Residency
150 = Unit composition
151 = Recipient disqualification
160 = Employment and training programs
161 = Time-limited participation
162 = Work registration requirements
163 = Voluntary quit/reduced work effort
164 = Workfare and comparable workfare
165 = Employment status/job availability
166 = Acceptance of employment
170 = Social Security Number
211 = Bank accounts or cash on hand
212 = Nonrecurring lump-sum payment
213 = Other liquid assets
221 = Real property
222 = Vehicles

224 = Other nonliquid resources
225 = Combined resources
311 = Wages and salaries
312 = Self-employment
314 = Other earned income
321 = Earned income deductions
323 = Dependent care deduction
331 = RSDI benefits
332 = Veterans' benefits
333 = SSI and/or State SSI supplement
334 = Unemployment compensation
335 = Workers' compensation
336 = Other government benefits
342 = Contributions
343 = Deemed income
344 = TANF, PA, or GA
345 = Educational grants/scholarships/loans
346 = Other unearned income
350 = Child support payments received from absent parent
361 = Standard deduction
363 = Shelter deduction
364 = Standard Utility Allowance
365 = Medical expense deductions
366 = Child support payment deduction
371 = Combined gross income
372 = Combined net income
520 = Arithmetic computation
530 = Transitional benefits
560 = Reporting systems
810 = SNAP simplification project
820 = Demonstration projects

NATURE1 to NATURE9 — R

NATURE OF VARIANCE
Range = (6, 306)
Variance 1 through Variance 9
Nature of each variance
6 = Eligible person(s) excluded
7 = Ineligible person(s) included
12 = Eligible person(s) with no income, resources, or deductible expenses excluded
13 = Eligible person(s) with income excluded
14 = Eligible person(s) with resources excluded
15 = Eligible person(s) with deductible expenses excluded
16 = Newborn improperly excluded
20 = Incorrect resource limit applied
24 = Resource should have been excluded
28 = Incorrect income limit applied

29 = Exceeds prescribed limit
30 = Resource should have been included
32 = Failed to consider or incorrectly considered income of ineligible member
35 = Unreported source of income (do not use for change in employment status)
36 = Rounding used/not used or incorrectly applied
37 = All income from source known but not included
38 = More income received from this source than budgeted
39 = Employment status changed from unemployed to employed
40 = Employment status changed from employed to unemployed
41 = Change only in amount of earnings
42 = Conversion to monthly amount not used or incorrectly applied
43 = Averaging not used or incorrectly applied
44 = Less income received from this source than budgeted
45 = Cost of doing business not used or incorrectly applied
46 = Failed to consider/anticipate month with extra pay date
52 = Deduction that should have been included was not
53 = Deduction included that should not have been
54 = Incorrect standard used (not as a result of change in unit size or move)
64 = Incorrect amount used resulting from change in residence
65 = Incorrect standard used resulting from change in unit size
75 = Benefit/allotment/eligibility incorrectly computed
77 = Unit not entitled to transitional benefits
79 = Incorrect use of allotment tables
80 = Improper prorating of initial month's benefits
97 = Not required to be reported or acted upon based on time frames and reporting requirements for allotment differences below the $50 threshold
98 = Transcription or computation errors
99 = Other
111 = Child support payment(s) not considered or incorrectly applied for initial month(s) of eligibility
112 = Retained child support payment(s) not considered or incorrectly applied
120 = Variance/errors resulting from noncompliance with this means-tested public assistance program
123 = Incorrectly prorated
124 = Variances resulting from use of automatic Federal information exchange system

127 = Pass-through not considered or incorrectly applied
200 = Eligible noncitizen excluded
201 = Ineligible noncitizen included
301 = Unit improperly participating under retrospective budgeting
302 = Unit improperly participating under prospective budgeting
303 = Unit improperly participating under monthly reporting
304 = Unit improperly participating under quarterly reporting
305 = Unit improperly participating under semiannual reporting
306 = Unit improperly participating under change reporting

OCCDATE1 to OCCDATE9 — R

VARIANCE OCCURRENCE DATE
Range = (198812, 999999)
Variance 1 through Variance 9
Date each variance occurred (year and month)
999999 = Unknown

TIMEPER1 to TIMEPER9 — R

VARIANCE TIME PERIOD
Range = (1, 9)
Variance 1 through Variance 9
Time period during which variance occurred
1 = Before most recent action
2 = At time of most recent action by agency
3 = After most recent action by agency
9 = Time of occurrence cannot be determined

VERIF1 to VERIF9 — R

VARIANCE VERIFICATION
Range = (1, 9)
Variance 1 through Variance 9
Indicates how each variance was verified
1 = From case record (verification not from an automated match)
2 = From case record (verification from an automated match)
3 = From information provided by recipient
4 = Employer (present or former)
5 = Financial institution, insurance company, or other business
6 = Landlord
7 = Government agency or public records, not automated match
8 = Government agency or public records, automated match
9 = Other

REFERENCES

Vigil, Alma, Kelsey Farson Gray, Sarah Fisher, Sarah Lauffer, and Bruce Schechter. "Technical Documentation for the Fiscal Year 2015 Supplemental Nutrition Assistance Program Quality Control Database and the QC Minimodel." Washington, DC: Mathematica Policy Research, October 2016.

Schechter, Bruce, Joel Smith, and Randy Rosso. "2011 MATH SIPP+ Microsimulation Model: Programmer's Guide, Technical Description and Codebook." Washington, DC: Mathematica Policy Research, March 2014.

APPENDIX A

ASSESSMENT OF THE QUALITY OF SELECTED VARIABLES IN THE FY 2016 SNAP QC DATABASE

We assessed the quality of the data for variables in the FY 2016 SNAP QC database that are new to the file, have changed in recent years, or have a history of coding inconsistencies. Based on our assessment, we recommend against using some variables and recommend caution when using other variables, as listed and described in detail below. More information about our assessment and recommendations is available upon request.

A. Summary recommendations concerning use of certain variables

Based on our assessment, we recommend against using the following variables for all tabulations:

- RACETHi
- VEHICLEA and VEHICLEB
- YRSEDi

We recommend against using the following variables for specific tabulations:

- ABWDSTi for State-level tabulations in Nevada, New Hampshire, North Dakota, Vermont, West Virginia, and Wyoming
- DPCOSTi and FSDEPDED for State-level tabulations
- FSAFILi for State-level tabulations of nonparticipants in Montana and West Virginia
- URBRUR for State-level tabulations in Alabama, Nebraska, Nevada, New Hampshire, Utah, Vermont, and Washington (not retained in public use file)
- FSTANF in Minnesota

We recommend caution when using the following variables for tabulations:

- ABWDSTi
- DISi, FSDIS, and FSNDIS (with the understanding that DISi and FSNDIS likely underestimate the number of non-elderly individuals with disabilities and FSDIS likely underestimates the number of units containing non-elderly individuals with disabilities)
- EMPRGi (with the understanding that this variable is best used in conjunction with other work-related variables)
- EMPSTAi and EMPSTBi (with the understanding that these variables are best used in conjunction with other work-related variables)
- FSAFILi for State-level tabulations of nonparticipants in Maryland, Ohio, and Pennsylvania
- FSASSET and FSVEHAST (with the understanding that only 8 percent of SNAP units have countable assets)
- FSTANF in California (with the understanding that the number of pure PA units may be overestimated)

- MN_FIP (with the understanding that it may slightly underestimate the number of MFIP units)
- NDISCAi and FSNDISCA (with the understanding that NDISCAi likely overestimates the number of adults without disabilities)
- SSI_CAP (with the understanding that it likely underestimates the actual number of SSI-CAP units)
- URBRUR for any State-level tabulations (not retained in public use file)
- WRKREGi (with the understanding that this variable is best used in conjunction with other work-related variables)

We found the quality of other assessed variables to be suitable for all tabulations. Below, we discuss in detail our recommendations for specific variables in the SNAP QC database.

B. Variables not recommended for all tabulations

1. Race/ethnicity (RACETHi)

Current values for RACETHi allow reporting of multiple races and ethnicities and include values for race/ethnicity data not available or not recorded. About 16 percent of participants have unreported race/ethnicity data, though this percentage varies considerably by State. Given the large percentage of participants with unreported race/ethnicity information nationally, we recommend against use of this variable.

2. Vehicles (VEHICLEA and VEHICLEB)

For over a decade, we have recommended against using the vehicle variables (VEHICLEA and VEHICLEB) because of coding inconsistencies. In addition, QC reviewers are instructed to record possession of vehicles only if the vehicle's value is counted toward a unit's resources. As a result, VEHICLEA and VEHICLEB are often missing, and FSVEHAST is almost always equal to $0. Because VEHICLEA and VEHICLEB are not consistent with FSVEHAST, we recommend against use of these variables.

3. Highest educational level completed (YRSEDi)

We recommend against using YRSEDi because 9 percent of adult participants have a missing or unknown value for this variable.

C. Variables not recommended for specific tabulations

1. Non-elderly childless adults without disabilities subject to work registration (ABWDSTi)

We recommend that care be taken to avoid State-level tabulations that result in small sample sizes, which could produce misleading findings. For this reason, we recommend against using ABWDSTi for State-level tabulations in Nevada, New Hampshire, North Dakota, Vermont, West Virginia, and Wyoming.

2. Dependent care costs (DPCOSTi) and deduction (FSDEPDED)

Nationally, inconsistencies between DPCOSTi and FSDEPDED affect only 1 percent of unweighted units that have a positive dependent care deduction, positive dependent care costs, or both. In a few States, however, the percentage of units with dependent care expenses or deductions that have inconsistencies between the two variables is relatively high (13.3 percent in California, 7.7 percent in West Virginia, and 4.0 percent in Arizona). As a result and because of small sample sizes in some States, we recommend against use of DPCOSTi and FSDEPDED for State-level tabulations.

3. SNAP case affiliation (FSAFILi)

FSAFILi may be used for tabulations of participants. However, certain States have a high percentage of missing or unknown values for nonparticipants. In West Virginia, almost four-fifths of nonparticipants have unknown FSAFILi values, and, in Montana, just under half of nonparticipants have unknown FSAFIL values. As a result, we recommend against use of FSAFILi for State-level tabulations of nonparticipants in Montana and West Virginia.

4. Locality (URBRUR)

Two States (Nebraska and Utah) use Local Agency Codes (LACs) that do not align to geographic areas and therefore cannot be used to classify units as located in a metropolitan, micropolitan, or rural area.[1] All units in these two States are classified as having an unknown locality. In addition, mostly because of the use of statewide LACs, we cannot identify locality for more than 5 percent of units in Alabama, Nevada, New Hampshire, Vermont, and Washington. Because we cannot identify locality for a large percentage of cases in these States, we recommend against use of URBRUR (metropolitan, micropolitan, or rural status) in these States. URBRUR is not retained in the public use file.

D. Variables we recommend using with caution

1. Non-elderly childless adults without disabilities subject to work registration (ABWDSTi)

There are some inconsistencies between ABWDSTi and related employment variables (WRKREGi, EMPSTAi, and EMPSTBi). For example, of the 563,000 weighted participants with an ABWDSTi code indicating they are an ABAWD meeting work requirements, 54 percent have a WRKREGi code indicating they are exempt from work registration. In view of the inconsistencies between ABWDSTi and these employment variables, we recommend caution when using this variable.

[1] Metropolitan Statistical Areas have at least one urbanized area with population of 50,000 or more and includes adjacent territory with a high degree of social and economic integration with the core, as measured by commuting ties. Micropolitan Statistical Areas have at least one urban cluster of at least 10,000 but less than 50,000 in population and includes adjacent territory with a high degree of social and economic integration with the core, as measured by commuting ties (OMB Bulletin No. 04-03).

2. Person-level and unit disability (DISi, FSDIS, and FSNDIS)

We use an algorithm to identify individuals with disabilities (DISi) based on SSI receipt, medical expenses, age, work registration status (WRKREGi), and other factors. We then use this variable to identify units containing individuals with disabilities (FSDIS) and count the number of individuals with disabilities in a unit (FSNDIS). We began using the algorithm for the FY 2012 SNAP QC file and made slight refinements to the algorithm for the FY 2014, FY 2015, and FY 2016 files. We recommend use of DISi, FSDIS, and FSNDIS with the awareness that the variables likely underestimate the number of individuals and units with disabilities.

3. SNAP employment and training program status (EMPRGi) and employment status (EMPSTAi and EMPSTBi)

We are limited in our ability to assess EMPRGi, as in past years, although we did find some inconsistencies between EMPRGi and YRSEDi (years of education) and between EMPRGi and WRKREGi (work registration status). Based on our limited assessment of EMPRGi and the other work-related variables, we recommend caution when using EMPRGi.

As in previous years, we also found inconsistencies between the two employment status variables, EMPSTAi and EMPSTBi, and with other variables recording countable earned income. For example, of the 14,157 unweighted participants coded as working one to 40+ hours and employed, 337 have no countable earnings. Given these inconsistencies, we recommend use of EMPSTAi and EMPSTBi in conjunction with other work-related variables to determine participants' employment status. Specifically, we recommend use of the person-level work indicator, WORKi.

4. SNAP case affiliation (FSAFILi)

As discussed in Section C, two States have a very high percentage of missing or unknown values for nonparticipants. Additionally, between 5 and 11 percent of nonparticipants in thre other states (Maryland, Ohio, and Pennsylvania) have missing or unknown values. We recommend caution when using FSAFILi for State-level tabulations of nonparticipants in those States.

5. Assets (FSASSET and FSVEHAST)

We edit positive values of FSVEHAST, LIQRESOR, OTHNLRES, and REALPROP to $0 for units not subject to a SNAP asset test because of their State's BBCE policy. In view of this edit and the large number of States with BBCE policies, a large number of units have no recorded assets. Only 8 percent of all SNAP units have recorded assets (FSASSET > 0) in the FY 2016 file, and nearly all units have no vehicle assets (FSVEHAST = 0). We recommend use of FSASSET and FSVEHAST for tabulations with the understanding that most units have no recorded countable assets.

6. TANF recipients in the Minnesota Family Investment Program (MFIP) and in California (FSTANF)

In general, we code units in Minnesota with TANF income (FSTANF) as MFIP units. The reported TANF amounts for these units are typically very small, likely because of Federal QC System constraints. Specifically, when States transmit a quality control record, the national

computer system checks that the unit's gross income is equal to the sum of all reported income types. Because TANF income is not used in the MFIP benefit calculation, it is not included in reported gross income, resulting in a fatal error in the data transmission.

Because TANF receipt may not be recorded for some units receiving MFIP cash assistance, we recommend using the MFIP variable (MN_FIP) with the understanding that it may slightly underestimate the number of MFIP units. We recommend against use of MFIP units' TANF income because it is not included as gross income and is most likely recorded incorrectly, if at all.

In addition, the percentage of weighted California SNAP units that are pure PA units appears to be too high compared with State administrative data. Therefore, we recommend use of TANF receipt in California with the understanding that it may contribute to an overestimate of the number of pure PA units in California.

7. Adults age 18 to 49 without disabilities in childless units (NDISCAi and FSNDISCA)

We recommend use of the revised NDISCAi and FSNDISCA codes, with the understanding that DISi likely underestimates the number of non-elderly individuals with disabilities and, therefore, NDISCAi likely overestimates the number of adults without disabilities.

8. SSI-CAP (SSI_CAP)

Because the raw SNAP QC data do not identify units that enter SNAP through an SSI-CAP, we use an algorithm for identifying, recoding, and assigning benefits for SSI-CAP units in States with these projects. In FY 2016, 17 States[2] had SSI-CAP programs, none of which were newly implemented during the fiscal year.[3]

Because SSI-CAP units are not directly identified in the raw data but rather through an algorithm that relies on available data, the SNAP QC datafile may underestimate the actual number of SSI-CAP units in some States. Therefore, we recommend caution when using SSI_CAP.

9. Locality (URBRUR)

Because of concerns about the representativeness of the sample at the sub-State level, we recommend caution when using URBRUR for State-level tabulations. URBRUR is not retained in the public use file.

10. Work registration status (WRKREGi)

WRKREGi includes values that distinguish between individuals with a Federal exemption because of a disability (WRKREGi = 1) and individuals with a Federal exemption for a reason other than a disability (WRKREGi = 2). We found continued evidence in the FY 2016 file of

[2] Arizona, Florida, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, South Dakota, Texas, Virginia, and Washington.

[3] New Mexico ended its SSI-CAP demonstration in March 2014. However, SSI-CAP households may remain on the program through their certification period. The last SSI-CAP benefit was issued in June 2017.

likely miscoding of this variable. For example, we found some inconsistencies between WRKREGi and DISi. Fourteen States have a high percentage (greater than 20 percent) of participants coded as individuals with a Federal exemption because of a disability (WRKREGi = 1). Eleven of these States have a discrepancy of 5 percentage points or more between the percentage with WRKREGi = 1 and those flagged as having a disability (DISi = 1), with the higher percentage coded as WRKREGi = 1. Because of inconsistencies, likely miscodings, and our limited ability to assess WRKREGi, we recommend use of WRGREGi with the understanding that it is best used in conjunction with other work-related variables. If attempting to identify individuals with disabilities, we recommend use of the person-level disability indicator, DISi, described above.

APPENDIX B

AUTOMATED EDITS TO SNAP UNITS

In the FY 2016 SNAP QC raw datafile, we were able to resolve some inconsistencies in the raw datafile through automated edits involving simple algorithms, as described in this section.

1. Missing and miscoded SNAP affiliation (FSAFILi) codes

We checked for instances in which the SNAP case affiliation codes in the raw datafile were missing. If the individual had nonmissing age and gender, we recoded them as potential SNAP participants. That is, we first recoded FSAFILi as "unknown" (99) and then set it to 1 if certain other conditions, described below, were met.

We also checked for instances in which the SNAP case affiliation codes in the raw datafile were inconsistent with other coded variables in the file such as citizenship, ABAWD status, and receipt of SSI and TANF. We were able to recode many of the inconsistencies:

- In the case of differences between unit size (the count of those with an affiliation code of 1) and certified household size, we checked to see which size was consistent with the reported benefit and then edited the affiliation codes accordingly. We also resolved differences by recoding any affiliation codes that were inconsistent with citizenship or ABAWD status.
- Beginning in FY 2015, if a participating minor child of the household head (FSAFILi = 1, AGEi < 18, and RELi = 4) had an inconsistent citizenship status (CTZNi > = 7) and there was no one outside the unit (FSAFILi > 1), then we changed the child's citizenship status to the value for the household head.
- We set the affiliation codes of California SSI recipients to 15, except for one-person households with SSI recoded as OTHGOV income.
- MFIP uses unit composition rules that differ from those used in regular SNAP. Specifically, SSI and TANF recipients living in the same household are treated as separate SNAP units. Consequently, if a Minnesota unit of more than one person had both SSI and TANF income, we set the affiliation code of the SSI recipient to unknown (99).

2. Vehicle assets

The following States consider the value of some vehicles when determining asset eligibility for households that are not categorically eligible: Alaska, Arkansas, Delaware, Guam, Idaho, Illinois, Iowa, Maine, Michigan, Minnesota, Nebraska, Nevada, New Hampshire, New York, North Dakota, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Texas, Vermont, the Virgin Islands, and Washington. For all other States, we reset any reported vehicle assets to $0 because the States exclude the value of all vehicles when determining asset eligibility.

3. Child support deduction and child support income

We checked for instances in which the reported child support payment deduction is exactly equal to the reported countable unit child support payment income. Although it is possible for a unit to have both child support expenses and child support income, it is highly unlikely that the

two would be exactly equal in value. In these units, we checked to see if either of the amounts should be excluded by using the following procedure:

- If unit income less child support income was within $5 of reported gross income, we set child support income to $0.
- If calculated net income for the unit was within $5 of reported net income, we retained both the child support income and the child support deduction.
- If calculated net income was greater than reported net income and the difference between the two was greater than or equal to child support income, we set child support income to $0.
- If calculated net income was less than reported net income and the difference between the two was less than child support income, we set the child support payment deduction to $0.

In addition, if a unit was not categorically eligible, included no elderly individuals or individuals with disabilities, and would have passed the gross income test if child support expenses were excluded from gross income but would not if they were included, we excluded child support expenses from unit gross income and set the child support payment deduction to $0.

4. Dependent care expenses

The QC datafile includes units for which the QC reviewers recorded dependent care expenses for the parent rather than for the dependent. We corrected for this error, as follows:

- If dependent care expenses were assigned to adults age 18 to 59 without SSI and there were children in the unit without dependent care expenses, we set the expenses to $0 for the adults and distributed them among the children in the following order:
    1. If the unit contained at least one member age 0 to 4, we distributed the expenses evenly to unit members age 0 to 8.
    2. If the unit did not contain a member age 0 to 4, we distributed the expenses evenly to any unit members age 5 to 13.
    3. If the unit did not contain a member age 0 to 13, we distributed the expenses evenly to any unit members age 14 to 17.

In units where the calculated benefit matched the raw benefit, we assumed the recorded dependent care deduction was correct and, if necessary, recoded the expenses to make them consistent with the deduction. We followed these guidelines to reconcile differences between the dependent care deduction and expenses:

- If the dependent care deduction was greater than the total value of dependent care expenses, we set the expenses equal to the deduction by assigning additional dependent care expenses to unit members who originally had positive dependent care expenses.

- If no unit members originally had recorded dependent care expenses, we assigned expenses to unit members in the following order:
  1. If the unit contained at least one member age 0 to 4, we distributed expenses evenly to unit members age 0 to 8.
  2. If the unit did not contain a member age 0 to 4, we distributed expenses evenly to any unit members age 5 to 13.
  3. If the unit did not contain a member age 0 to 13, we distributed expenses evenly to any unit members age 14 to 17.
  4. If the unit did not contain a member age 0 to 17, we distributed expenses evenly to any unit members age 18 or older with SSI.
  5. If the unit did not contain a member age 0 to 17 or an adult with SSI, we distributed expenses to elderly unit members without SSI.
  6. If the unit did not contain a member age 0 to 17 or an adult with SSI or an elderly unit member without SSI, we distributed expenses evenly to any unit members age 18 or older.
- If a unit had positive dependent care expenses but no dependent care deduction, we set the dependent care deduction equal to the total unit dependent care expenses.

These edits excluded households identified as MFIP or SSI-CAP.

5. SUA usage and prorating[4]

The SNAP QC datafile includes two variables that describe the use of Standard Utility Allowances (SUAs). One variable records the use of and entitlement to SUAs (SUA1); the other records prorating utility allowances in shared housing situations (SUA2). In units where the calculated benefit matched the raw benefit, we assumed the recorded utility amount to be correct. For these units, we recoded the SUA1 and SUA2 variables to make them consistent with the utility amount. For units coded as receiving a type of SUA not used in the State, we recoded SUA1 regardless of the result of the benefit calculation.

In most States, we checked for full SUA values as well as for half SUA values (Table F.7).[5] If the utility amount equaled a full SUA value, we confirmed that SUA1 indicated the correct SUA type and that SUA2 was coded as "not prorated." If the utility amount equaled half of an SUA value, we confirmed that SUA1 indicated the correct SUA type and that SUA2 was coded as "prorated." However, in States that use individual standards, we checked half SUA values for the HCSUA and LUA, but only full SUA values for the telephone SUA, electricity SUA, or both (telephone plus electricity). If the utility amount did not equal a full or half SUA value and was

[4] These edits exclude units identified as MFIP or SSI-CAP participants. SSI-CAP participants in States with a standard benefit had SUA1 and SUA2 set to missing. SSI-CAP participants in States with a standardized shelter expense had SUA1 set to 9 ("Other") and SUA2 set to 1 (not prorated).

[5] Prorated values are not always equal to half of the full SUA value. However, because of the multitude of possible values, we checked only for values that were half of the full amount.

not coded as prorated, we coded the unit as using individual standards in States with individual standards and as using actual expenses in other States. However, in States where SUA use was mandatory and the State did not use individual standards, we did not change the values from the raw datafile and were unable to reconcile the value of SUA1 and SUA2.[6]

6. Pure public assistance (PA) units

We flagged the following types of units as pure PA units:

- Units containing only children where at least one member received TANF income
- Units in which at least one member received TANF income and in which every adult member of the unit received TANF, SSI, or GA income
- Units in which every adult and every child received SSI or GA income
- All MFIP units

7. Categorical eligibility

Most States have adopted BBCE policies that confer categorical SNAP eligibility on all units authorized to receive a TANF or Maintenance of Effort funded noncash benefit. In such States, units meeting State-determined eligibility criteria are exempt from the Federal SNAP income and asset tests. In States with BBCE policies, most units were already identified as categorically eligible through the CAT_ELIG variable, which is set to 0 for units that are not categorically eligible and to 1 for units reported as categorically eligible in the raw file. We set the CAT_ELIG flag to 2 for units that were not reported to be categorically eligible but that we identified as pure PA or met the following State-specific criteria:

- **Alabama.** All units with net income at or below 100 percent of poverty and either (1) gross income at or below 130 percent of poverty or (2) only elderly individuals or individuals with disabilities and gross income at or below 200 percent of poverty
- **Arizona, Connecticut, New Jersey, Oregon, and Vermont.** All units with gross income at or below 185 percent of poverty
- **California, Delaware, District of Columbia, Florida, Hawaii, Maryland, Nevada, North Carolina, Washington, and Wisconsin.** All units with gross income at or below 200 percent of poverty
- **Colorado.** All units with net income at or below 100 percent of poverty and either (1) gross income at or below 130 percent of poverty or (2) any elderly individuals or individuals with disabilities and gross income at or below 200 percent of poverty
- **Georgia.** All units with (1) gross income at or below 130 percent of poverty or (2) only elderly individuals or individuals with disabilities and gross income at or below 200 percent of poverty

[6] Throughout FY 2016, 47 States mandated the use of an SUA rather than actual utility costs. The 47 States include Alaska, which mandates the use of an SUA for the Central geographic region.

- **Guam, Minnesota, and New Mexico.** All units with gross income at or below 165 percent of poverty
- **Idaho.** All units with countable assets at or below $5,000, net income at or below 100 percent of poverty, and either (1) gross income at or below 130 percent of poverty or (2) any elderly individuals or individuals with disabilities
- **Illinois.** Through December 2015, all units with (1) gross income at or below 130 percent of poverty or (2) any elderly individuals or individuals with disabilities and gross income at or below 200 percent of poverty; as of January 2016, all units with (1) gross income at or below 165 percent of poverty or (2) any elderly individuals or individuals with disabilities and gross income at or below 200 percent of poverty
- **Iowa.** All units with gross income at or below 160 percent of poverty
- **Kentucky, Ohio, and South Carolina.** All units with (1) gross income at or below 130 percent of poverty or (2) any elderly individuals or individuals with disabilities and gross income at or below 200 percent of poverty
- **Maine.** Through October 2015, all units with gross income at or below 185 percent of poverty; as of November 2015, all units with (1) gross income at or below 185 percent of poverty with children under age 19 living with a parent or caretaker, or (2) gross income at or below 185 percent of poverty and countable assets at or below $5,000
- **Massachusetts.** All units with net income at or below 100 percent of poverty and either (1) gross income at or below 200 percent of poverty with either children age 18 or younger present living with a parent or caretaker, or any elderly individuals or individuals with disabilities or (2) gross income at or below 130 percent of poverty
- **Michigan.** All units with gross income at or below 200 percent of poverty and countable assets at or below $5,000
- **Mississippi and Oklahoma.** All units with net income at or below 100 percent of poverty and either (1) gross income at or below 130 percent of poverty or (2) any elderly individuals or individuals with disabilities
- **Montana and North Dakota.** All units with net income at or below 100 percent of poverty and gross income at or below 200 percent of poverty
- **Nebraska.** All units with net income at or below 100 percent of poverty, countable financial assets at or below $25,000, and either (1) gross income at or below 130 percent of poverty or (2) any elderly individuals or individuals with disabilities
- **New Hampshire.** All units with children under age 22, a relative of the child present, and gross income at or below 185 percent of poverty
- **New York.** Through June 2016, all units with (1) gross income at or below 130 percent of poverty, (2) any elderly individuals or individuals with disabilities and gross income at or below 200 percent of poverty, or (3) dependent care expenses and gross income at or below 200 percent of poverty; as of July 2016, all units with (1) gross income at or below 130 percent of poverty, (2) earned income and gross income at or below 150 percent of poverty, (3) any elderly individuals or individuals with disabilities and gross

income at or below 200 percent of poverty, or (4) dependent care expenses and gross income at or below 200 percent of poverty

- **Pennsylvania.** All units with (1) gross income at or below 160 percent of poverty or (2) any elderly individuals or individuals with disabilities and gross income at or below 200 percent of poverty
- **Rhode Island.** All units with (1) gross income at or below 185 percent of poverty or (2) any elderly individuals or individuals with disabilities and gross income at or below 200 percent of poverty
- **Texas.** All units with gross income at or below 165 percent of poverty and countable assets at or below $5,000
- **Virgin Islands.** All units with (1) gross income at or below 175 percent of poverty or (2) any elderly individuals or individuals with disabilities and gross income at or below 200 percent of poverty
- **West Virginia.** All units with (1) gross income at or below 130 percent of poverty or (2) only elderly individuals or individuals with disabilities, no earned income, and gross income at or below 200 percent of poverty

8. State SSI supplements

Some States appear to have coded State SSI supplements as other government benefits (FSOTHGOV) or other unearned income (FSOTHUN), rather than SSI. We add these types of income to SSI (and set FSOTHGOV or FSOTHUN to 0) if the total amount of one of the income types was equal to the State's SSI supplement for individuals or couples.

9. Person-level disability

The QC datafile does not directly identify individuals with disabilities. However, we can use information in the QC datafile—such as SSI receipt or work registration status—to identify those likely to have a disability. Starting with the FY 2012 SNAP QC datafile, we used the following procedure to flag individuals with disabilities:

- We identify as disabled most individuals under age 60 with SSI. We make exceptions if they are the only individual in the unit to have SSI and a work registration status indicating a Federal exemption for a reason other than a disability (WRKREGi = 2) and meet any of the following conditions:
  1. Individual is an adult (age 18 to 59) living with at least one individual who does not have SSI, does not have earned income, and has a work registration status indicating disability (WRKREGi = 1). In these cases, we code the first child in the unit with WRKREGi = 1 as disabled; or, if there are no children in the unit, we code the first adult in the unit with WRKREGi = 1 as disabled. We do not code the adult with SSI and WRKREGi = 2 as disabled.
  2. Individual is a child (age 0 to 17) living with at least one other child who does not have SSI, does not have earned income, and has a work registration status indicating disability. In these cases, we code the first child in the unit with

WRKREGi = 1 as disabled. We do not code the child with SSI and WRKREGi = 2 as disabled.

3. Individual does not meet conditions (1) or (2) but is in the labor force (EMPSTAi > 1); has earned income; has no Social Security, veterans' benefits, or workers' compensation; and is living with at least one child who does not have SSI. In these cases, we code the first child in the unit as disabled. We do not code the individual described above with SSI as disabled.

- We identify as disabled all non-elderly adults who satisfy all three of the following: conditions:
  1. Coded as working fewer than 30 hours per week (EMPSTBi = 1, 2, or 3) and either
     a. Has monthly earnings equal to less than the equivalent of the monthly Federal minimum wage for someone working 30 hours a week, or
     b. Beginning with the FY 2014 SNAP QC datafile, does not have a related dependent (age 17 or under, RELi = 4 or 5) receiving Social Security in the unit
  2. Coded as exempt from work registration due to disability (WRKREGi = 1)
  3. Receives Social Security, veterans' benefits, or workers' compensation

- In units in which no individual is identified as disabled per the above criteria, but the unit receives a medical expense deduction and has no participating elderly individuals or nonparticipating elderly members with FSAFILi = 8, 9, 11, or 13, we code at least one individual as disabled. We do so by looking for the following types of individuals, among those with FSAFILi = 1 and FSAFILi = 8, 9, 11, or 13, stopping when a step codes one or more individuals as disabled:
  1. Individuals with a work registration status indicating disability (code all such individuals as disabled)
  2. Individuals receiving Social Security, veterans' benefits, or workers' compensation and coded as working fewer than 30 hours per week (code all such individuals as disabled)
  3. Individuals receiving Social Security, veterans' benefits, or workers' compensation (code all such individuals as disabled)
  4. Child coded as working fewer than 30 hours per week (code first as disabled)
  5. Adult coded as working fewer than 30 hours per week (code first as disabled)

If the unit did not contain any of the types of individuals listed above, we code all individuals in the unit as disabled.

- Beginning with the FY 2015 SNAP QC datafile, we also identify as disabled non-elderly adults in single-person SNAP households who receive Social Security and without any individuals outside of the unit.

- Beginning with the FY 2016 SNAP QC datafile, we also identify as disabled non-elderly adults in single-person SNAP units with WRKREGi = 1, no gross income, and assets above the limit for units without any elderly or disabled individuals but below the limit for units with elderly or disabled individuals.
- Beginning with the FY 2016 SNAP QC datafile, we exclude non-participating elderly members with FSAFILi = 8, 9, 11, or 13 from being flagged as disabled.

APPENDIX C

NEW VARIABLES AND VARIABLES THAT CHANGED IN THE FY 2016 SNAP QC DATABASE

Variables changed in the FY 2016 SNAP QC database

DISi	The DISi algorithm was slightly adjusted to newly identify as disabled individuals where the unit receives a medical expense deduction and has no participating elderly adults or certain nonparticipating elderly adults. We also newly identify as disabled non-elderly adults in single-person SNAP units with WRKREGi = 1, no gross income, and assets above the minimum limit. See pages B.8–B.9 of this documentation for further information.

New variables in the FY 2016 SNAP QC database

All person-level variables	Person-level variables were updated to report data for individuals in household positions 1 through 16 only (previously reported for positions 1 through 29 in the household).

Note: Information on variables in the FY 2015 SNAP QC database appears in *Technical Documentation for the Fiscal Year 2015 SNAP QC Database and QC Minimodel* (Vigil et al. 2016).

APPENDIX D

DERIVATION OF WEIGHTS BY STATE AND MONTH

Tables D.1a through D.3b present the final calculated weighted counts of SNAP units, individuals, and benefit amounts in the FY 2016 SNAP QC file. Tables D.4 through D.15 show the preliminary monthly weights (HWGT) and their derivation for each State and stratum. The preliminary weights (stratum-specific weights) are derived as follows:

Data	Table D.4 through D.15 columns	Derivation
Sampling interval	a	Raw data
Stratum sampling size	b	Raw data
SNAP units in stratum (unedited)	c*	a*b
Stratum share of State sample	d*	c/(sum c over State)
SNAP units in State	e	Raw data
SNAP units in stratum (edited)	f*	d*e
Units with complete reviews	g	Raw data
Ineligible units	h	Raw data
Disqualification rate	i	h/g
Adjusted SNAP units in State	j	(1-i)*f
Failing units	k	Raw data
Stratum sampling size	l	g-h-k
Stratum-specific weight	**m**	**j/l**

*Column omitted from published tables due to space limitations; available on request.

As described in Chapter III, Section C, the preliminary monthly stratum-specific unit weights are the starting point for creating the final weights. After deriving the preliminary weights, we use a nonlinear programming technique to create final weights that match the adjusted monthly Program Operations number of units, participants, and benefits. In Chapter III, Section C, we provide a description of the derivation of sampling weights.

Table D.1a. Calculated weighted unit counts by State (October 2015 to April 2016)

State	October 2015	November 2015	December 2015	January 2016	February 2016	March 2016	April 2016
Alabama	415,796	415,875	415,567	407,333	411,998	411,440	381,874
Alaska	30,228	33,608	33,811	33,626	34,775	35,471	36,088
Arizona	434,194	411,579	428,813	419,309	415,253	406,308	410,199
Arkansas	204,904	200,966	196,408	199,034	195,776	198,213	180,350
California	2,124,909	2,123,433	2,064,775	2,047,374	2,068,883	2,082,708	2,053,772
Colorado	223,662	220,104	224,641	227,234	226,498	226,386	225,306
Connecticut	247,848	248,078	243,633	247,413	246,672	243,060	242,832
Delaware	68,648	67,315	71,359	70,333	69,184	64,195	66,707
District of Columbia	79,185	78,470	77,023	75,452	75,784	74,395	73,623
Florida	2,047,063	2,045,050	2,050,271	2,034,555	1,961,239	1,962,423	1,728,623
Georgia	816,408	816,549	821,217	859,700	806,352	798,666	785,768
Hawaii	90,341	91,546	90,615	89,582	88,122	87,671	88,306
Idaho	81,000	81,212	81,663	82,157	79,806	80,935	78,951
Illinois	1,037,182	1,040,174	994,727	998,137	965,123	960,634	928,995
Indiana	350,023	335,829	327,013	317,960	323,736	317,082	309,154
Iowa	175,904	177,448	171,229	179,813	170,795	175,328	177,061
Kansas	117,127	114,462	114,137	114,377	115,312	112,723	113,674
Kentucky	337,689	330,182	324,949	324,753	321,863	283,559	298,924
Louisiana	398,790	394,419	397,297	388,416	396,485	384,231	405,909
Maine	98,468	99,413	98,434	99,315	98,410	98,701	96,029
Maryland	406,209	405,131	401,618	389,234	393,227	385,914	377,898
Massachusetts	441,470	434,863	446,598	443,738	443,174	448,777	443,173
Michigan	785,142	791,355	786,725	776,263	784,109	780,685	765,690
Minnesota	224,917	227,573	227,862	229,507	228,819	232,960	226,164
Mississippi	295,623	291,346	293,025	280,486	280,519	257,986	254,850
Missouri	398,954	398,110	405,358	378,857	393,852	392,746	366,109
Montana	50,890	52,778	52,265	53,467	53,457	54,926	54,227
Nebraska	78,596	76,989	78,438	77,712	75,215	78,376	77,956
Nevada	211,896	219,134	216,178	221,443	216,227	219,233	222,137
New Hampshire	49,281	47,103	45,455	47,810	48,940	47,723	47,250
New Jersey	450,311	447,729	449,893	445,456	443,713	438,572	441,143
New Mexico	206,383	207,207	202,905	207,131	209,236	210,920	200,546
New York	1,646,999	1,640,839	1,623,520	1,639,514	1,616,780	1,619,327	1,634,608
North Carolina	783,820	782,208	785,951	785,742	773,302	768,747	767,535
North Dakota	24,854	24,891	25,105	23,980	25,333	25,446	24,715
Ohio	790,532	784,907	808,323	782,677	784,185	793,148	767,352
Oklahoma	270,239	269,809	272,695	266,220	271,959	271,589	271,440
Oregon	432,556	425,101	428,333	426,078	424,284	421,678	415,393
Pennsylvania	938,161	949,213	950,573	951,727	928,247	953,883	953,935
Rhode Island	100,688	100,733	99,721	98,405	99,241	99,447	95,614
South Carolina	364,824	366,377	356,884	371,120	367,812	355,196	366,220
South Dakota	41,151	42,491	42,485	42,027	42,366	42,136	41,415
Tennessee	573,183	570,777	569,607	553,353	553,079	544,501	539,745
Texas	1,584,445	1,578,585	1,578,024	1,573,128	1,571,718	1,551,166	1,510,607
Utah	86,684	85,665	86,140	86,478	83,287	87,482	83,472
Vermont	43,108	43,904	43,747	43,674	43,407	42,970	42,687
Virginia	390,217	379,051	383,472	368,295	379,185	371,731	373,840
Washington	562,841	552,233	559,139	557,802	556,641	554,734	544,264
West Virginia	178,848	177,086	178,413	174,108	177,132	179,278	172,883
Wisconsin	378,141	373,357	368,550	357,676	363,344	358,051	350,690
Wyoming	13,913	13,545	14,243	14,037	14,590	14,698	14,142
Guam	15,537	15,780	15,740	14,833	15,299	15,260	15,597
Virgin Islands	13175	13296	13,293	13,295	13,181	12,925	12,969
United States	22,212,958	22,114,878	22,037,859	21,911,147	21,746,924	21,636,339	21,158,412

Table D.1b. Calculated weighted unit counts by State (May 2016 to September 2016) and FY average

State	May 2016	June 2016	July 2016	August 2016	September 2016	FY average 2016
Alabama	375,753	380,040	383,923	386,599	378,643	397,070
Alaska	35,752	35,123	35,234	35,636	35,622	34,581
Arizona	411,481	416,104	408,729	428,866	418,244	417,423
Arkansas	173,182	173,342	171,357	170,172	171,161	186,239
California	2,053,321	2,051,783	1,986,297	2,068,663	1,990,124	2,059,670
Colorado	224,576	223,554	219,718	221,308	222,565	223,796
Connecticut	243,174	243,115	242,193	242,597	235,715	243,861
Delaware	67,871	68,231	69,575	71,179	71,942	68,878
District of Columbia	73,531	74,510	73,423	73,046	73,547	75,166
Florida	1,707,519	1,712,005	1,726,079	1,736,950	1,737,092	1,870,739
Georgia	781,870	762,137	771,834	766,588	775,905	796,916
Hawaii	88,241	86,895	86,584	86,687	87,542	88,511
Idaho	77,903	75,627	74,733	74,543	74,310	78,570
Illinois	955,588	991,597	973,780	1,002,465	998,672	987,256
Indiana	310,415	318,151	307,382	312,206	296,627	318,798
Iowa	175,864	173,296	173,298	178,039	175,473	175,296
Kansas	112,916	109,698	110,855	108,231	110,391	112,825
Kentucky	292,534	293,116	302,512	297,559	296,071	308,642
Louisiana	411,017	422,989	423,816	415,830	415,531	404,561
Maine	98,586	94,899	95,425	96,227	92,465	97,198
Maryland	375,459	378,841	371,728	372,663	375,724	386,137
Massachusetts	442,551	446,922	447,078	447,221	440,410	443,831
Michigan	772,107	767,655	732,026	719,209	766,048	768,918
Minnesota	223,668	228,186	229,661	223,237	223,806	227,197
Mississippi	252,207	252,181	251,880	249,288	251,995	267,616
Missouri	360,572	359,186	357,487	357,197	337,154	375,465
Montana	54,556	55,782	54,742	55,987	54,773	53,987
Nebraska	77,850	77,341	78,474	78,276	78,303	77,794
Nevada	219,966	223,306	217,314	220,507	221,298	219,053
New Hampshire	47,671	47,371	45,303	46,793	44,530	47,103
New Jersey	435,659	433,990	426,292	430,543	427,292	439,216
New Mexico	215,847	209,940	219,632	211,023	217,709	209,873
New York	1,613,534	1,629,686	1,601,320	1,629,300	1,605,921	1,625,112
North Carolina	753,232	729,205	703,541	687,393	685,241	750,493
North Dakota	25,373	24,796	23,859	24,769	24,757	24,823
Ohio	773,702	768,220	777,072	746,218	776,792	779,427
Oklahoma	274,353	267,506	276,797	276,097	272,471	271,765
Oregon	416,069	405,679	404,679	404,156	394,362	416,531
Pennsylvania	953,527	930,639	934,381	937,618	951,638	944,462
Rhode Island	100,245	98,833	97,432	97,688	97,798	98,820
South Carolina	361,909	365,153	333,847	343,239	334,636	357,268
South Dakota	42,042	42,113	41,857	41,250	40,699	41,836
Tennessee	530,833	512,317	527,798	517,814	518,063	542,589
Texas	1,569,451	1,599,389	1,581,421	1,599,960	1,609,761	1,575,638
Utah	84,331	83,734	81,739	82,767	81,530	84,442
Vermont	42,385	42,264	42,041	42,251	42,390	42,902
Virginia	366,610	378,514	370,855	358,924	369,327	374,168
Washington	539,167	528,870	532,303	525,420	514,328	543,979
West Virginia	165,938	173,079	173,820	175,041	169,962	174,632
Wisconsin	353,676	343,395	346,316	347,279	346,404	357,240
Wyoming	14,023	14,442	14,260	14,347	14,277	14,210
Guam	15,457	15,508	15,260	15,384	15,289	15,412
Virgin Islands	13,065	12,871	12,837	12,932	12,977	13,068
United States	21,158,127	21,153,124	20,961,798	21,065,183	20,975,307	21,511,005

Table D.2a. Calculated weighted individual counts by State (October 2015 to April 2016)

State	October 2015	November 2015	December 2015	January 2016	February 2016	March 2016	April 2016
Alabama	881,402	879,861	878,375	857,375	867,600	864,645	816,606
Alaska	69,996	78,257	79,508	80,149	82,560	83,933	86,251
Arizona	970,801	901,180	970,548	938,920	924,211	905,328	914,848
Arkansas	450,641	444,691	434,721	438,571	433,765	434,865	404,828
California	4,436,189	4,423,656	4,308,419	4,174,276	4,279,582	4,296,988	4,285,174
Colorado	473,765	466,066	474,739	480,212	478,383	477,783	475,244
Connecticut	439,210	439,325	427,420	437,065	434,759	424,752	427,505
Delaware	141,904	138,734	148,457	146,504	145,019	125,448	138,667
District of Columbia	140,654	139,510	133,954	134,743	134,520	130,618	126,856
Florida	3,708,499	3,699,420	3,698,548	3,664,055	3,560,168	3,560,060	3,259,847
Georgia	1,749,933	1,719,197	1,766,736	1,897,350	1,734,949	1,719,210	1,697,022
Hawaii	178,676	181,275	180,165	178,137	176,226	174,954	174,882
Idaho	189,385	189,896	191,003	192,272	184,987	188,833	183,494
Illinois	1,977,029	1,986,957	1,895,354	1,909,279	1,847,703	1,838,003	1,765,427
Indiana	780,166	755,171	732,621	712,287	735,250	721,657	687,232
Iowa	380,699	381,069	363,494	382,437	360,537	372,236	374,917
Kansas	261,967	254,186	253,784	256,391	255,947	251,449	251,580
Kentucky	701,946	681,139	672,598	673,370	664,712	584,199	629,830
Louisiana	879,541	869,943	878,364	839,051	872,223	845,833	887,770
Maine	188,583	190,203	187,158	190,609	187,754	190,803	182,672
Maryland	779,303	776,164	768,057	732,135	749,467	730,515	729,405
Massachusetts	745,711	750,388	770,973	759,685	754,456	778,094	759,862
Michigan	1,460,222	1,506,532	1,495,634	1,462,833	1,487,079	1,480,044	1,429,275
Minnesota	458,490	476,054	468,427	480,655	468,383	482,901	462,656
Mississippi	628,354	615,672	621,722	591,577	598,865	561,753	559,752
Missouri	843,876	841,146	854,887	785,886	832,459	830,045	792,947
Montana	110,157	113,170	113,048	114,709	115,139	116,987	114,886
Nebraska	176,363	172,526	175,888	172,836	167,360	175,455	174,420
Nevada	408,219	428,186	424,771	439,141	421,161	435,564	438,342
New Hampshire	101,894	94,969	89,349	99,172	99,450	96,867	95,803
New Jersey	899,481	893,942	897,737	888,259	884,714	873,137	881,246
New Mexico	454,923	458,560	451,122	454,071	455,163	459,389	436,946
New York	2,996,649	2,982,398	2,920,877	2,975,036	2,947,651	2,949,398	2,961,955
North Carolina	1,583,608	1,612,291	1,583,790	1,605,908	1,593,554	1,589,096	1,570,872
North Dakota	53,271	53,344	53,886	50,392	54,395	54,526	53,811
Ohio	1,600,426	1,555,244	1,643,233	1,543,403	1,589,066	1,609,976	1,518,117
Oklahoma	603,144	595,831	608,515	596,954	605,809	605,137	601,916
Oregon	759,386	725,309	751,918	748,370	744,664	739,514	730,479
Pennsylvania	1,839,384	1,870,415	1,868,538	1,870,344	1,818,080	1,866,954	1,865,182
Rhode Island	173,148	172,938	169,168	163,787	166,565	170,031	158,526
South Carolina	770,512	744,476	720,355	782,081	775,371	741,503	767,489
South Dakota	93,111	96,421	96,360	93,659	96,091	95,646	93,731
Tennessee	1,161,325	1,150,153	1,149,608	1,112,589	1,116,052	1,097,146	1,098,423
Texas	3,777,317	3,755,821	3,749,749	3,734,096	3,726,204	3,657,570	3,578,312
Utah	222,981	220,017	221,282	221,443	208,865	223,053	210,864
Vermont	79,843	82,133	81,841	81,549	80,740	79,653	78,890
Virginia	830,759	814,512	824,957	789,505	804,175	786,981	791,067
Washington	1,043,008	1,010,799	1,038,748	1,036,827	1,036,086	1,029,246	1,013,797
West Virginia	359,001	352,905	351,978	344,161	356,660	358,559	349,432
Wisconsin	756,434	748,780	740,845	718,478	734,860	726,309	704,247
Wyoming	32,729	31,654	33,386	32,853	34,399	34,712	33,134
Guam	46,875	47,340	47,294	44,446	46,651	45,458	47,248
Virgin Islands	28291	28476	28,402	28,403	28,148	27,424	27,478
United States	44,879,181	44,598,302	44,492,313	44,138,296	43,958,639	43,700,240	42,901,161

Table D.2b. Calculated weighted individual counts by State (May 2016 to September 2016) and FY average

State	May 2016	June 2016	July 2016	August 2016	September 2016	FY average 2016
Alabama	793,861	816,399	825,193	830,607	814,689	843,884
Alaska	85,727	85,397	84,942	85,549	84,825	82,258
Arizona	933,170	935,152	888,820	965,046	943,048	932,589
Arkansas	394,328	393,711	391,031	388,908	392,198	416,855
California	4,209,620	4,263,331	4,096,336	4,267,498	4,090,875	4,260,995
Colorado	473,690	471,792	461,073	462,355	467,426	471,877
Connecticut	427,466	427,190	425,511	426,007	407,251	428,622
Delaware	138,824	137,292	145,811	148,010	149,158	141,986
District of Columbia	129,284	132,051	130,789	127,309	130,078	132,531
Florida	3,225,922	3,239,056	3,262,475	3,288,860	3,287,446	3,454,530
Georgia	1,692,442	1,650,886	1,677,306	1,667,232	1,688,832	1,721,758
Hawaii	174,552	170,541	170,310	169,404	173,669	175,233
Idaho	180,511	174,647	172,155	169,061	168,163	182,034
Illinois	1,838,917	1,915,113	1,883,573	1,938,304	1,931,575	1,893,936
Indiana	699,062	720,795	704,137	706,379	669,241	718,667
Iowa	374,703	365,591	364,012	378,682	364,546	371,910
Kansas	249,940	241,007	244,145	237,872	242,612	250,073
Kentucky	639,655	623,525	637,581	651,604	649,745	650,825
Louisiana	897,520	926,178	925,861	905,084	909,864	886,436
Maine	190,759	184,093	180,552	182,600	168,765	185,379
Maryland	712,754	725,871	717,473	710,858	720,566	737,714
Massachusetts	759,573	772,479	772,553	772,604	743,885	761,689
Michigan	1,463,523	1,455,946	1,360,816	1,332,244	1,410,196	1,445,362
Minnesota	447,455	463,583	476,393	454,867	462,612	466,873
Mississippi	554,922	555,306	554,866	547,768	555,278	578,820
Missouri	783,871	782,374	778,698	778,847	729,244	802,857
Montana	113,737	118,581	116,908	119,353	115,485	115,180
Nebraska	174,052	174,526	176,130	173,768	176,840	174,180
Nevada	430,447	440,560	421,922	429,400	434,071	429,315
New Hampshire	97,582	96,846	90,684	95,542	87,637	95,483
New Jersey	871,382	869,546	850,839	864,295	857,779	877,696
New Mexico	468,321	448,695	474,304	460,669	461,496	456,971
New York	2,940,038	2,953,595	2,892,975	2,957,116	2,895,424	2,947,759
North Carolina	1,544,745	1,490,583	1,465,845	1,419,528	1,415,632	1,539,621
North Dakota	54,538	52,631	48,535	51,925	52,101	52,780
Ohio	1,543,827	1,551,713	1,566,937	1,494,249	1,564,498	1,565,058
Oklahoma	608,661	601,752	614,993	617,567	610,988	605,939
Oregon	702,774	711,085	707,688	703,419	690,068	726,223
Pennsylvania	1,860,827	1,796,753	1,818,476	1,815,403	1,858,232	1,845,716
Rhode Island	170,015	165,040	161,865	162,184	166,225	166,624
South Carolina	752,338	765,549	715,887	732,005	700,633	747,350
South Dakota	95,757	95,154	95,654	95,156	91,423	94,847
Tennessee	1,084,434	1,030,221	1,082,601	1,057,199	1,064,474	1,100,352
Texas	3,742,230	3,791,472	3,728,079	3,765,065	3,774,810	3,731,727
Utah	216,360	213,954	205,436	209,439	205,548	214,937
Vermont	78,146	78,064	77,456	77,715	78,034	79,505
Virginia	793,738	805,385	782,785	735,208	778,290	794,780
Washington	1,003,496	987,473	990,913	945,852	902,568	1,003,234
West Virginia	327,068	347,353	350,137	352,021	343,800	349,423
Wisconsin	719,070	684,804	708,608	710,506	697,633	720,881
Wyoming	33,522	34,052	33,719	33,960	33,806	33,494
Guam	46,356	46,513	45,970	46,120	45,648	46,327
Virgin Islands	27,676	27,187	27,140	27,166	27,328	27,760
United States	42,973,190	43,008,391	42,584,900	42,745,390	42,486,257	43,538,855

Table D.3a. Calculated weighted benefit amounts by State (October 2015 to April 2016)

State	October 2015	November 2015	December 2015	January 2016	February 2016	March 2016	April 2016
Alabama	109,583,337	106,490,519	106,921,862	103,060,295	106,627,428	102,763,068	98,698,326
Alaska	12,099,929	13,452,062	14,523,864	14,379,044	14,871,548	15,261,804	15,655,682
Arizona	118,138,574	109,181,975	117,028,644	113,036,088	115,512,028	108,474,451	109,502,533
Arkansas	50,592,642	48,016,271	48,632,349	48,347,374	49,095,705	49,468,588	44,093,454
California	611,609,837	585,825,061	604,008,885	593,137,327	590,766,933	582,881,306	597,404,220
Colorado	61,781,645	59,689,513	59,866,060	60,256,689	60,675,417	61,793,284	59,388,855
Connecticut	56,821,558	57,268,202	54,500,728	57,788,655	56,501,790	53,766,265	54,415,729
Delaware	17,760,872	16,767,755	18,110,555	17,004,329	18,244,126	14,665,741	17,106,496
District of Columbia	18,366,675	17,116,659	16,767,885	15,788,727	16,888,608	16,810,905	15,887,449
Florida	485,902,995	474,355,061	474,565,256	465,233,172	445,880,767	441,178,368	391,398,500
Georgia	217,026,710	217,847,500	218,265,778	241,103,136	214,706,279	209,383,769	209,957,080
Hawaii	40,499,952	41,331,198	40,408,899	40,119,245	39,471,736	37,947,557	38,083,070
Idaho	20,917,182	21,646,421	22,003,269	21,603,348	21,249,660	21,421,953	20,523,422
Illinois	268,156,388	258,826,515	243,499,557	238,613,838	234,852,463	247,252,526	232,710,480
Indiana	94,450,757	88,030,920	86,626,177	83,849,981	86,249,499	84,773,219	83,045,038
Iowa	40,644,802	40,620,815	37,906,123	40,171,705	36,955,778	37,962,815	38,640,341
Kansas	29,834,431	28,940,150	28,274,332	28,284,808	28,310,357	27,716,039	27,899,564
Kentucky	83,462,343	80,072,547	79,103,638	77,699,254	79,796,472	74,267,698	77,238,670
Louisiana	111,961,819	111,079,119	110,951,707	109,994,591	110,612,581	121,869,505	113,538,516
Maine	20,755,226	21,743,425	20,986,914	20,197,226	20,811,313	20,563,886	19,139,883
Maryland	92,426,255	93,344,404	88,711,557	91,399,831	86,831,096	86,298,460	86,002,008
Massachusetts	93,075,311	92,978,633	100,170,968	92,940,336	94,266,438	93,175,044	91,920,810
Michigan	177,591,168	184,522,368	175,644,791	173,801,027	174,803,986	180,022,943	173,555,285
Minnesota	47,581,109	47,652,239	49,835,998	48,596,414	47,670,569	49,850,092	49,467,847
Mississippi	72,961,084	72,956,172	72,278,573	68,978,050	69,405,530	63,731,197	61,585,824
Missouri	102,558,384	99,841,096	102,764,109	100,418,151	100,336,050	101,081,579	94,684,879
Montana	12,888,869	13,029,570	13,649,949	13,281,099	13,647,509	13,992,607	12,953,801
Nebraska	20,248,950	18,984,604	19,024,482	19,598,912	19,737,977	19,764,459	19,725,338
Nevada	49,031,598	48,786,327	46,972,893	50,252,715	49,032,290	49,482,817	51,945,569
New Hampshire	10,055,124	9,382,059	9,087,745	9,574,637	9,983,618	9,952,160	10,311,645
New Jersey	103,155,256	103,002,213	104,722,143	100,937,749	102,430,719	100,891,236	101,965,883
New Mexico	51,632,163	54,900,865	52,383,691	52,452,197	53,762,479	54,686,092	51,163,396
New York	401,688,011	403,043,198	407,499,756	395,528,658	389,784,840	393,400,931	407,255,301
North Carolina	192,641,393	185,378,714	186,047,856	188,541,607	181,545,091	183,785,243	179,113,665
North Dakota	6,401,937	6,647,186	6,367,836	5,867,825	6,509,502	6,709,368	6,493,150
Ohio	201,934,598	188,256,125	201,066,519	182,494,984	202,588,065	194,798,762	188,783,746
Oklahoma	71,427,147	71,689,648	72,569,565	71,952,529	72,436,178	71,111,269	68,705,973
Oregon	89,311,756	84,498,274	88,786,067	88,581,636	86,278,214	86,050,683	80,174,758
Pennsylvania	225,804,981	225,468,781	225,339,849	225,634,664	222,981,838	230,842,536	216,506,229
Rhode Island	23,011,152	22,891,489	22,020,117	21,609,744	22,033,998	21,333,034	20,911,747
South Carolina	87,753,516	86,920,621	85,014,228	97,138,410	96,085,621	90,264,789	93,082,116
South Dakota	11,496,931	12,017,045	12,007,200	11,746,465	12,215,030	12,025,363	11,918,103
Tennessee	141,396,915	142,258,825	142,997,363	142,710,741	135,686,583	137,168,091	135,701,766
Texas	442,044,556	422,118,882	430,046,477	437,467,721	437,284,469	437,750,397	418,784,351
Utah	25,680,541	24,682,564	25,017,792	24,699,963	23,321,495	25,157,087	24,872,184
Vermont	9,301,031	9,908,987	9,837,841	9,824,105	9,781,216	9,519,642	9,393,678
Virginia	98,137,920	94,665,297	95,919,822	87,839,831	92,135,004	91,527,204	90,984,406
Washington	123,736,295	119,372,543	118,647,771	122,562,099	123,869,386	122,697,657	119,470,671
West Virginia	38,376,680	39,928,560	39,394,477	37,308,227	38,589,263	40,625,759	38,121,761
Wisconsin	76,229,237	76,393,788	75,404,634	73,937,462	75,503,881	71,137,827	74,212,573
Wyoming	3,880,069	3,739,918	3,960,121	3,622,991	4,129,930	4,145,751	4,237,144
Guam	8,860,583	8,413,719	8,966,041	8,258,937	8,624,572	8,710,979	8,346,487
Virgin Islands	4597557.563	4808483.815	4,552,499	4,631,796	4,818,172	4,572,165	4,585,912
United States	5,587,285,754	5,470,784,887	5,499,663,213	5,453,860,345	5,416,191,100	5,396,485,967	5,271,265,313

Table D.3b. Calculated weighted benefit amounts by State (May 2016 to September 2016) and FY average

State	May 2016	June 2016	July 2016	August 2016	September 2016	FY average 2016
Alabama	97,434,174	97,343,967	98,895,130	97,564,172	95,731,138	101,759,451
Alaska	15,024,690	13,959,145	15,243,607	15,077,481	14,800,849	14,529,142
Arizona	110,432,430	112,964,395	108,126,993	116,023,149	109,250,544	112,305,984
Arkansas	41,369,953	43,149,934	41,626,884	42,372,869	43,741,463	45,875,624
California	570,587,798	552,247,614	539,410,271	564,607,427	543,637,110	578,010,316
Colorado	60,069,738	60,222,618	58,593,400	57,169,924	55,915,940	59,618,590
Connecticut	54,031,565	54,471,074	53,636,955	54,337,388	53,081,001	55,051,743
Delaware	16,587,539	15,802,866	16,065,672	17,694,547	17,950,512	16,980,084
District of Columbia	16,466,956	17,130,942	16,922,029	15,725,453	16,097,704	16,664,166
Florida	400,541,791	397,446,587	397,395,640	401,755,338	403,698,395	431,612,656
Georgia	212,910,562	209,722,810	211,625,156	204,678,758	205,868,983	214,424,710
Hawaii	39,299,450	39,039,848	38,410,330	37,655,657	39,664,792	39,327,645
Idaho	20,963,810	20,262,800	19,271,917	19,809,482	19,208,268	20,740,128
Illinois	225,605,021	238,535,100	236,767,915	253,586,228	241,795,243	243,350,106
Indiana	80,570,418	84,327,364	77,012,094	83,554,810	81,913,553	84,533,652
Iowa	40,059,992	37,837,069	39,963,966	38,280,005	39,214,244	39,021,471
Kansas	27,683,057	26,710,884	27,785,405	26,199,004	26,936,459	27,881,207
Kentucky	76,239,140	79,623,586	77,067,813	77,374,262	77,171,880	78,259,775
Louisiana	112,989,207	117,381,606	117,791,307	97,968,417	100,354,316	111,374,391
Maine	20,446,270	19,970,678	19,218,093	19,483,693	18,800,233	20,176,403
Maryland	86,811,536	83,902,916	82,996,715	82,972,482	80,148,404	86,820,472
Massachusetts	95,741,979	94,128,088	92,700,098	95,750,063	93,691,726	94,211,625
Michigan	168,910,230	154,282,953	165,749,986	159,387,236	169,123,941	171,449,659
Minnesota	46,759,462	47,125,409	49,473,589	47,379,661	51,463,019	48,571,284
Mississippi	62,994,037	60,508,011	62,961,576	62,630,583	62,320,069	66,109,225
Missouri	94,432,089	94,499,176	91,547,436	90,094,508	88,307,578	96,713,753
Montana	13,449,209	13,758,388	13,312,172	13,546,985	13,471,572	13,415,144
Nebraska	19,666,684	19,431,450	19,772,092	18,948,846	20,001,565	19,575,447
Nevada	48,600,537	51,366,742	50,518,299	49,009,285	49,699,696	49,558,231
New Hampshire	10,178,185	9,686,002	9,709,690	9,611,430	9,154,684	9,723,915
New Jersey	98,020,056	98,597,958	99,339,566	100,536,693	96,779,511	100,864,915
New Mexico	54,879,455	53,458,308	56,478,426	55,603,449	52,980,119	53,698,387
New York	403,232,763	408,470,572	385,382,303	408,538,730	397,063,276	400,074,028
North Carolina	180,165,623	178,761,683	179,663,607	175,691,872	172,008,495	181,945,404
North Dakota	6,297,977	6,235,661	5,822,579	5,980,039	6,292,726	6,302,149
Ohio	195,242,934	194,003,021	196,148,406	178,426,410	191,413,026	192,929,716
Oklahoma	73,863,592	71,043,926	73,364,446	72,806,614	72,663,854	71,969,562
Oregon	82,810,541	80,814,070	83,298,673	82,514,483	82,546,922	84,638,840
Pennsylvania	225,109,282	217,932,724	221,928,723	219,269,042	212,457,524	222,439,681
Rhode Island	22,425,658	20,983,557	21,185,312	21,413,210	20,982,427	21,733,454
South Carolina	92,981,731	94,626,341	85,584,586	90,263,697	86,905,228	90,551,740
South Dakota	11,854,395	12,200,015	12,068,508	11,839,552	11,492,612	11,906,768
Tennessee	135,312,589	126,285,869	133,911,725	132,450,144	130,367,261	136,353,989
Texas	437,919,794	438,641,188	444,275,091	447,929,949	449,025,314	436,940,682
Utah	25,114,779	24,769,053	23,288,905	25,024,411	22,706,534	24,527,942
Vermont	9,744,743	9,448,711	9,542,164	9,597,171	9,371,097	9,605,865
Virginia	91,061,426	90,431,844	92,523,835	78,969,089	91,626,375	91,318,504
Washington	115,960,499	116,376,918	112,489,262	111,758,472	108,884,657	117,985,519
West Virginia	38,633,136	38,860,467	37,726,045	39,042,524	38,543,285	38,762,516
Wisconsin	73,081,611	72,831,308	71,959,351	71,896,363	72,031,862	73,718,325
Wyoming	3,614,877	3,930,063	3,964,227	4,059,913	3,886,259	3,930,939
Guam	8,724,359	8,374,185	8,237,975	8,590,402	8,640,860	8,562,425
Virgin Islands	4,603,930	4,524,830	4,560,803	4,481,362	4,504,305	4,603,485
United States	5,277,513,261	5,238,442,293	5,212,316,747	5,226,932,734	5,185,388,411	5,353,010,835

Table D.4. Stratification and weight calculation by State, October 2015

	Unedited SNAP QC data				Edited SNAP QC data						
		Sampling interval	Stratum sampling size	SNAP units in State (program ops data)	Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	94	415,796	89	0	0.0000	415,796	0	89	4,672
Alaska	0	1	46	30,228	37	0	0.0000	30,228	1	36	840
Arizona	0	1	97	439,554	82	1	0.0122	434,194	0	81	5,360
Arkansas	0	1	114	208,807	107	2	0.0187	204,904	2	103	1,989
California	0	1	90	2,124,909	66	0	0.0000	2,124,909	1	65	32,691
Colorado	0	1	95	226,768	73	1	0.0137	223,662	0	72	3,106
Connecticut	0	1	86	247,848	70	0	0.0000	247,848	0	70	3,541
Delaware	0	1	89	70,529	75	2	0.0267	68,648	0	73	940
District of Columbia	0	1	88	79,185	81	0	0.0000	79,185	0	81	978
Florida	0	1	97	2,047,063	78	0	0.0000	2,047,063	0	78	26,244
Georgia	0	1	96	827,011	78	1	0.0128	816,408	0	77	10,603
Hawaii	0	1	94	91,546	76	1	0.0132	90,341	0	75	1,205
Idaho	0	1	97	81,000	83	0	0.0000	81,000	1	82	988
Illinois	0	1	95	1,049,384	86	1	0.0116	1,037,182	0	85	12,202
Indiana	0	1	101	362,377	88	3	0.0341	350,023	0	85	4,118
Iowa	0	1	93	180,092	86	2	0.0233	175,904	0	84	2,094
Kansas	0	1	91	118,489	87	1	0.0115	117,127	0	86	1,362
Kentucky	0	1	86	341,858	82	1	0.0122	337,689	0	81	4,169
Louisiana	0	1	98	398,790	77	0	0.0000	398,790	0	77	5,179
Maine	0	1	84	99,781	76	1	0.0132	98,468	0	75	1,313
Maryland	0	1	88	406,209	71	0	0.0000	406,209	2	69	5,887
Massachusetts	0	1	93	452,108	85	2	0.0235	441,470	0	83	5,319
Michigan	0	1	90	794,717	83	1	0.0120	785,142	0	82	9,575
Minnesota	0	1	99	234,913	94	4	0.0426	224,917	0	90	2,499
Mississippi	0	1	91	295,623	81	0	0.0000	295,623	0	81	3,650
Missouri	0	1	86	398,954	70	0	0.0000	398,954	0	70	5,699
Montana	0	1	76	52,775	56	2	0.0357	50,890	1	53	960
Nebraska	0	1	89	78,596	70	0	0.0000	78,596	0	70	1,123
Nevada	0	1	94	220,486	77	3	0.0390	211,896	0	74	2,863
New Hampshire	0	1	70	49,281	57	0	0.0000	49,281	0	57	865
New Jersey	0	1	99	450,311	68	0	0.0000	450,311	0	68	6,622
New Mexico	0	1	98	208,840	85	1	0.0118	206,383	0	84	2,457
New York	0	1	90	1,646,999	75	0	0.0000	1,646,999	1	74	22,257
North Carolina	0	1	90	802,938	84	2	0.0238	783,820	0	82	9,559
North Dakota	0	1	42	24,854	37	0	0.0000	24,854	0	37	672

Table D.4 *(continued)*

	Unedited SNAP QC data				Edited SNAP QC data						
		Sampling interval	Stratum sampling size	SNAP units in State (program ops data)	Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	101	800,414	81	1	0.0123	790,532	0	80	9,882
Oklahoma	0	1	96	276,381	90	2	0.0222	270,239	1	87	3,106
Oregon	0	1	93	432,556	75	0	0.0000	432,556	0	75	5,767
Pennsylvania	0	1	90	949,330	85	1	0.0118	938,161	0	84	11,169
Rhode Island	0	1	90	100,688	81	0	0.0000	100,688	0	81	1,243
South Carolina	0	1	98	369,017	88	1	0.0114	364,824	0	87	4,193
South Dakota	0	1	65	42,546	61	2	0.0328	41,151	0	59	697
Tennessee	0	1	101	579,848	87	1	0.0115	573,183	0	86	6,665
Texas	0	1	103	1,584,445	81	0	0.0000	1,584,445	0	81	19,561
Utah	0	1	89	86,684	84	0	0.0000	86,684	0	84	1,032
Vermont	0	1	63	43,988	50	1	0.0200	43,108	0	49	880
Virginia	0	1	90	395,713	72	1	0.0139	390,217	0	71	5,496
Washington	0	1	95	562,841	76	0	0.0000	562,841	0	76	7,406
West Virginia	0	1	90	178,848	83	0	0.0000	178,848	0	83	2,155
Wisconsin	0	1	82	378,141	68	0	0.0000	378,141	0	68	5,561
Wyoming	0	1	31	13,913	31	0	0.0000	13,913	0	31	449
Guam	0	1	44	15,537	39	0	0.0000	15,537	0	39	398
Virgin Islands	0	1	27	13,175	25	0	0.0000	13,175	0	25	527

Table D.5. Stratification and weight calculation by State, November 2015

	Unedited SNAP QC data				Edited SNAP QC data						
		Sampling interval	Stratum sampling size	SNAP units in State (program ops data)	Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	94	415,875	89	0	0.0000	415,875	0	89	4,673
Alaska	0	1	53	33,608	40	0	0.0000	33,608	1	39	862
Arizona	0	1	97	436,523	70	4	0.0571	411,579	0	66	6,236
Arkansas	0	1	114	207,181	100	3	0.0300	200,966	0	97	2,072
California	0	1	92	2,123,433	67	0	0.0000	2,123,433	3	64	33,179
Colorado	0	1	94	225,748	80	2	0.0250	220,104	0	78	2,822
Connecticut	0	1	87	248,078	76	0	0.0000	248,078	2	74	3,352
Delaware	0	1	88	70,200	73	3	0.0411	67,315	0	70	962
District of Columbia	0	1	87	78,470	81	0	0.0000	78,470	0	81	969
Florida	0	1	99	2,045,050	73	0	0.0000	2,045,050	0	73	28,014
Georgia	0	1	96	826,270	85	1	0.0118	816,549	0	84	9,721
Hawaii	0	1	94	91,546	74	0	0.0000	91,546	1	73	1,254
Idaho	0	1	98	81,212	91	0	0.0000	81,212	0	91	892
Illinois	0	1	96	1,040,174	92	0	0.0000	1,040,174	0	92	11,306
Indiana	0	1	96	340,027	81	1	0.0123	335,829	1	79	4,251
Iowa	0	1	94	179,639	82	1	0.0122	177,448	0	81	2,191
Kansas	0	1	90	117,324	82	2	0.0244	114,462	0	80	1,431
Kentucky	0	1	83	338,758	79	2	0.0253	330,182	0	77	4,288
Louisiana	0	1	97	394,419	75	0	0.0000	394,419	0	75	5,259
Maine	0	1	84	99,413	71	0	0.0000	99,413	0	71	1,400
Maryland	0	1	88	405,131	68	0	0.0000	405,131	1	67	6,047
Massachusetts	0	1	92	452,734	76	3	0.0395	434,863	0	73	5,957
Michigan	0	1	89	791,355	81	0	0.0000	791,355	0	81	9,770
Minnesota	0	1	95	232,865	88	2	0.0227	227,573	0	86	2,646
Mississippi	0	1	91	294,899	83	1	0.0120	291,346	0	82	3,553
Missouri	0	1	86	398,110	71	0	0.0000	398,110	0	71	5,607
Montana	0	1	76	52,778	63	0	0.0000	52,778	0	63	838
Nebraska	0	1	88	77,976	79	1	0.0127	76,989	0	78	987
Nevada	0	1	95	221,624	89	1	0.0112	219,134	1	87	2,519
New Hampshire	0	1	70	48,700	61	2	0.0328	47,103	0	59	798
New Jersey	0	1	89	447,729	79	0	0.0000	447,729	1	78	5,740
New Mexico	0	1	98	209,562	89	1	0.0112	207,207	0	88	2,355
New York	0	1	90	1,640,839	72	0	0.0000	1,640,839	1	71	23,110
North Carolina	0	1	90	800,190	89	2	0.0225	782,208	0	87	8,991
North Dakota	0	1	42	24,891	35	0	0.0000	24,891	0	35	711

Table D.5 *(continued)*

	Unedited SNAP QC data				Edited SNAP QC data						
		Sampling interval	Stratum sampling size	SNAP units in State (program ops data)	Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	100	803,375	87	2	0.0230	784,907	0	85	9,234
Oklahoma	0	1	97	276,233	86	2	0.0233	269,809	0	84	3,212
Oregon	0	1	92	431,088	72	1	0.0139	425,101	0	71	5,987
Pennsylvania	0	1	89	949,213	77	0	0.0000	949,213	0	77	12,327
Rhode Island	0	1	90	100,733	85	0	0.0000	100,733	0	85	1,185
South Carolina	0	1	97	370,791	84	1	0.0119	366,377	0	83	4,414
South Dakota	0	1	65	42,491	61	0	0.0000	42,491	0	61	697
Tennessee	0	1	101	570,777	88	0	0.0000	570,777	0	88	6,486
Texas	0	1	103	1,578,585	78	0	0.0000	1,578,585	1	77	20,501
Utah	0	1	88	85,665	78	0	0.0000	85,665	0	78	1,098
Vermont	0	1	63	43,904	51	0	0.0000	43,904	0	51	861
Virginia	0	1	90	395,067	74	3	0.0405	379,051	2	69	5,493
Washington	0	1	93	559,313	79	1	0.0127	552,233	0	78	7,080
West Virginia	0	1	90	179,272	82	1	0.0122	177,086	0	81	2,186
Wisconsin	0	1	81	373,357	63	0	0.0000	373,357	0	63	5,926
Wyoming	0	1	32	13,997	31	1	0.0323	13,545	0	30	452
Guam	0	1	44	15,780	39	0	0.0000	15,780	0	39	405
Virgin Islands	0	1	27	13,296	25	0	0.0000	13,296	0	25	532

Table D.6. Stratification and weight calculation by State, December 2015

	Unedited SNAP QC data				Edited SNAP QC data						
		Sampling interval	Stratum sampling size	SNAP units in State (program ops data)	Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	94	415,567	87	0	0.0000	415,567	0	87	4,777
Alaska	0	1	53	33,811	41	0	0.0000	33,811	0	41	825
Arizona	0	1	96	434,107	82	1	0.0122	428,813	0	81	5,294
Arkansas	0	1	113	206,228	105	5	0.0476	196,408	0	100	1,964
California	0	1	92	2,122,130	74	2	0.0270	2,064,775	1	71	29,081
Colorado	0	1	95	227,597	77	1	0.0130	224,641	0	76	2,956
Connecticut	0	1	85	247,017	73	1	0.0137	243,633	1	71	3,431
Delaware	0	1	86	71,359	71	0	0.0000	71,359	0	71	1,005
District of Columbia	0	1	86	77,974	82	1	0.0122	77,023	0	81	951
Florida	0	1	97	2,050,271	85	0	0.0000	2,050,271	0	85	24,121
Georgia	0	1	96	821,217	92	0	0.0000	821,217	0	92	8,926
Hawaii	0	1	94	90,615	79	0	0.0000	90,615	0	79	1,147
Idaho	0	1	99	81,663	91	0	0.0000	81,663	1	90	907
Illinois	0	1	95	1,030,253	87	3	0.0345	994,727	0	84	11,842
Indiana	0	1	95	336,097	74	2	0.0270	327,013	1	71	4,606
Iowa	0	1	92	179,582	86	4	0.0465	171,229	0	82	2,088
Kansas	0	1	90	115,619	78	1	0.0128	114,137	0	77	1,482
Kentucky	0	1	82	333,500	78	2	0.0256	324,949	0	76	4,276
Louisiana	0	1	97	397,297	70	0	0.0000	397,297	0	70	5,676
Maine	0	1	85	99,712	78	1	0.0128	98,434	0	77	1,278
Maryland	0	1	87	401,618	67	0	0.0000	401,618	1	66	6,085
Massachusetts	0	1	92	451,915	85	1	0.0118	446,598	0	84	5,317
Michigan	0	1	89	786,725	81	0	0.0000	786,725	0	81	9,713
Minnesota	0	1	94	232,982	91	2	0.0220	227,862	0	89	2,560
Mississippi	0	1	90	293,025	80	0	0.0000	293,025	0	80	3,663
Missouri	0	1	87	405,358	71	0	0.0000	405,358	0	71	5,709
Montana	0	1	77	53,095	64	1	0.0156	52,265	0	63	830
Nebraska	0	1	89	78,438	85	0	0.0000	78,438	1	84	934
Nevada	0	1	95	221,793	79	2	0.0253	216,178	0	77	2,808
New Hampshire	0	1	69	48,645	61	4	0.0656	45,455	0	57	797
New Jersey	0	1	88	449,893	72	0	0.0000	449,893	1	71	6,337
New Mexico	0	1	98	210,810	80	3	0.0375	202,905	0	77	2,635
New York	0	1	90	1,646,713	71	1	0.0141	1,623,520	0	70	23,193
North Carolina	0	1	90	795,536	83	1	0.0120	785,951	0	82	9,585
North Dakota	0	1	43	25,105	35	0	0.0000	25,105	0	35	717

Table D.6 *(continued)*

	Unedited SNAP QC data				Edited SNAP QC data						
		Sampling interval	Stratum sampling size	SNAP units in State (program ops data)	Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	100	808,323	80	0	0.0000	808,323	0	80	10,104
Oklahoma	0	1	97	275,903	86	1	0.0116	272,695	0	85	3,208
Oregon	0	1	92	428,333	62	0	0.0000	428,333	0	62	6,909
Pennsylvania	0	1	90	950,573	80	0	0.0000	950,573	0	80	11,882
Rhode Island	0	1	90	100,922	84	1	0.0119	99,721	0	83	1,201
South Carolina	0	1	97	369,783	86	3	0.0349	356,884	0	83	4,300
South Dakota	0	1	65	42,485	60	0	0.0000	42,485	0	60	708
Tennessee	0	1	99	569,607	89	0	0.0000	569,607	0	89	6,400
Texas	0	1	102	1,578,024	80	0	0.0000	1,578,024	0	80	19,725
Utah	0	1	88	86,140	84	0	0.0000	86,140	0	84	1,025
Vermont	0	1	68	43,747	59	0	0.0000	43,747	0	59	741
Virginia	0	1	90	393,836	76	2	0.0263	383,472	0	74	5,182
Washington	0	1	95	559,139	77	0	0.0000	559,139	0	77	7,262
West Virginia	0	1	91	180,616	82	1	0.0122	178,413	0	81	2,203
Wisconsin	0	1	79	368,550	67	0	0.0000	368,550	0	67	5,501
Wyoming	0	1	32	14,243	28	0	0.0000	14,243	1	27	528
Guam	0	1	43	15,740	38	0	0.0000	15,740	0	38	414
Virgin Islands	0	1	28	13,293	28	0	0.0000	13,293	0	28	475

Table D.7. Stratification and weight calculation by State, January 2016

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Alabama	0	1	93	412,125	86	1	0.0116	407,333	0	85	4,792
Alaska	0	1	53	33,626	46	0	0.0000	33,626	0	46	731
Arizona	0	1	96	430,061	80	2	0.0250	419,309	0	78	5,376
Arkansas	0	1	111	203,015	102	2	0.0196	199,034	0	100	1,990
California	0	1	92	2,107,591	70	2	0.0286	2,047,374	2	66	31,021
Colorado	0	1	94	227,234	72	0	0.0000	227,234	0	72	3,156
Connecticut	0	1	86	247,413	67	0	0.0000	247,413	1	66	3,749
Delaware	0	1	87	70,333	74	0	0.0000	70,333	0	74	950
District of Columbia	0	1	84	76,472	75	1	0.0133	75,452	0	74	1,020
Florida	0	1	97	2,034,555	83	0	0.0000	2,034,555	0	83	24,513
Georgia	0	1	94	859,700	84	0	0.0000	859,700	0	84	10,235
Hawaii	0	1	92	89,582	73	0	0.0000	89,582	0	73	1,227
Idaho	0	1	99	82,157	85	0	0.0000	82,157	0	85	967
Illinois	0	1	90	998,137	81	0	0.0000	998,137	0	81	12,323
Indiana	0	1	94	335,382	77	4	0.0519	317,960	0	73	4,356
Iowa	0	1	93	179,813	84	0	0.0000	179,813	0	84	2,141
Kansas	0	1	90	115,772	83	1	0.0120	114,377	0	82	1,395
Kentucky	0	1	82	328,812	81	1	0.0123	324,753	0	80	4,059
Louisiana	0	1	97	393,211	82	1	0.0122	388,416	0	81	4,795
Maine	0	1	82	99,315	76	0	0.0000	99,315	0	76	1,307
Maryland	0	1	85	395,615	62	1	0.0161	389,234	1	60	6,487
Massachusetts	0	1	94	454,694	83	2	0.0241	443,738	0	81	5,478
Michigan	0	1	89	785,966	81	1	0.0123	776,263	1	79	9,826
Minnesota	0	1	94	231,975	94	1	0.0106	229,507	0	93	2,468
Mississippi	0	1	89	287,966	77	2	0.0260	280,486	0	75	3,740
Missouri	0	1	86	396,898	66	3	0.0455	378,857	0	63	6,014
Montana	0	1	77	53,467	64	0	0.0000	53,467	0	64	835
Nebraska	0	1	89	78,748	76	1	0.0132	77,712	1	74	1,050
Nevada	0	1	95	221,443	88	0	0.0000	221,443	2	86	2,575
New Hampshire	0	1	69	48,581	63	1	0.0159	47,810	0	62	771
New Jersey	0	1	88	445,456	75	0	0.0000	445,456	1	74	6,020
New Mexico	0	1	98	212,511	79	2	0.0253	207,131	0	77	2,690
New York	0	1	90	1,639,514	75	0	0.0000	1,639,514	0	75	21,860
North Carolina	0	1	88	785,742	87	0	0.0000	785,742	0	87	9,032
North Dakota	0	1	43	25,242	40	2	0.0500	23,980	0	38	631

Table D.7 *(continued)*

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	100	800,879	88	2	0.0227	782,677	0	86	9,101
Oklahoma	0	1	97	276,080	84	3	0.0357	266,220	0	81	3,287
Oregon	0	1	90	426,078	71	0	0.0000	426,078	0	71	6,001
Pennsylvania	0	1	91	951,727	79	0	0.0000	951,727	0	79	12,047
Rhode Island	0	1	89	100,835	83	2	0.0241	98,405	0	81	1,215
South Carolina	0	1	96	371,120	93	0	0.0000	371,120	0	93	3,991
South Dakota	0	1	65	42,705	63	1	0.0159	42,027	0	62	678
Tennessee	0	1	98	559,941	85	1	0.0118	553,353	1	83	6,667
Texas	0	1	102	1,573,128	87	0	0.0000	1,573,128	0	87	18,082
Utah	0	1	88	86,478	84	0	0.0000	86,478	0	84	1,030
Vermont	0	1	69	43,674	59	0	0.0000	43,674	0	59	740
Virginia	0	1	89	389,959	72	4	0.0556	368,295	0	68	5,416
Washington	0	1	93	557,802	83	0	0.0000	557,802	0	83	6,721
West Virginia	0	1	90	178,751	77	2	0.0260	174,108	0	75	2,321
Wisconsin	0	1	100	362,321	78	1	0.0128	357,676	0	77	4,645
Wyoming	0	1	32	14,521	30	1	0.0333	14,037	0	29	484
Guam	0	1	44	15,706	36	2	0.0556	14,833	0	34	436
Virgin Islands	0	1	27	13,295	26	0	0.0000	13,295	0	26	511

Table D.8. Stratification and weight calculation by State, February 2016

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	93	411,998	86	0	0.0000	411,998	0	86	4,791
Alaska	0	1	54	34,775	45	0	0.0000	34,775	0	45	773
Arizona	0	1	95	425,259	85	2	0.0235	415,253	0	83	5,003
Arkansas	0	1	110	201,478	106	3	0.0283	195,776	1	102	1,919
California	0	1	91	2,098,438	71	1	0.0141	2,068,883	0	70	29,555
Colorado	0	1	95	226,498	75	0	0.0000	226,498	0	75	3,020
Connecticut	0	1	86	246,672	71	0	0.0000	246,672	4	67	3,682
Delaware	0	1	88	70,201	69	1	0.0145	69,184	0	68	1,017
District of Columbia	0	1	85	75,784	83	0	0.0000	75,784	0	83	913
Florida	0	1	93	1,961,239	80	0	0.0000	1,961,239	0	80	24,515
Georgia	0	1	103	806,352	89	0	0.0000	806,352	0	89	9,060
Hawaii	0	1	92	89,281	77	1	0.0130	88,122	0	76	1,159
Idaho	0	1	96	81,662	88	2	0.0227	79,806	2	84	950
Illinois	0	1	90	965,123	79	0	0.0000	965,123	0	79	12,217
Indiana	0	1	93	331,932	81	2	0.0247	323,736	0	79	4,098
Iowa	0	1	93	179,443	83	4	0.0482	170,795	0	79	2,162
Kansas	0	1	89	115,312	83	0	0.0000	115,312	0	83	1,389
Kentucky	0	1	97	325,287	95	1	0.0105	321,863	0	94	3,424
Louisiana	0	1	98	396,485	79	0	0.0000	396,485	0	79	5,019
Maine	0	1	84	99,722	76	1	0.0132	98,410	0	75	1,312
Maryland	0	1	84	393,227	66	0	0.0000	393,227	1	65	6,050
Massachusetts	0	1	93	454,117	83	2	0.0241	443,174	0	81	5,471
Michigan	0	1	90	784,109	80	0	0.0000	784,109	0	80	9,801
Minnesota	0	1	94	231,419	89	1	0.0112	228,819	0	88	2,600
Mississippi	0	1	86	280,519	73	0	0.0000	280,519	0	73	3,843
Missouri	0	1	85	393,852	63	0	0.0000	393,852	0	63	6,252
Montana	0	1	78	54,267	67	1	0.0149	53,457	0	66	810
Nebraska	0	1	89	78,349	75	3	0.0400	75,215	0	72	1,045
Nevada	0	1	95	221,701	81	2	0.0247	216,227	1	78	2,772
New Hampshire	0	1	70	48,940	61	0	0.0000	48,940	0	61	802
New Jersey	0	1	89	443,713	69	0	0.0000	443,713	0	69	6,431
New Mexico	0	1	98	214,533	81	2	0.0247	209,236	0	79	2,649
New York	0	1	90	1,638,053	77	1	0.0130	1,616,780	0	76	21,273
North Carolina	0	1	87	782,619	84	1	0.0119	773,302	0	83	9,317
North Dakota	0	1	43	25,333	41	0	0.0000	25,333	0	41	618

Table D.8 *(continued)*

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	99	802,212	89	2	0.0225	784,185	0	87	9,014
Oklahoma	0	1	96	275,049	89	1	0.0112	271,959	0	88	3,090
Oregon	0	1	90	424,284	69	0	0.0000	424,284	0	69	6,149
Pennsylvania	0	1	91	951,747	81	2	0.0247	928,247	0	79	11,750
Rhode Island	0	1	89	100,437	84	1	0.0119	99,241	0	83	1,196
South Carolina	0	1	96	367,812	88	0	0.0000	367,812	0	88	4,180
South Dakota	0	1	65	42,366	63	0	0.0000	42,366	0	63	672
Tennessee	0	1	97	553,079	81	0	0.0000	553,079	0	81	6,828
Texas	0	1	103	1,571,718	86	0	0.0000	1,571,718	0	86	18,276
Utah	0	1	89	86,664	77	3	0.0390	83,287	0	74	1,126
Vermont	0	1	68	43,407	55	0	0.0000	43,407	0	55	789
Virginia	0	1	89	389,433	76	2	0.0263	379,185	0	74	5,124
Washington	0	1	94	556,641	79	0	0.0000	556,641	0	79	7,046
West Virginia	0	1	90	179,432	78	1	0.0128	177,132	0	77	2,300
Wisconsin	0	1	99	363,344	84	0	0.0000	363,344	0	84	4,326
Wyoming	0	1	32	14,590	29	0	0.0000	14,590	0	29	503
Guam	0	1	45	15,702	39	1	0.0256	15,299	0	38	403
Virgin Islands	0	1	27	13,181	24	0	0.0000	13,181	0	24	549

Table D.9. Stratification and weight calculation by State, March 2016

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	93	411,440	87	0	0.0000	411,440	0	87	4,729
Alaska	0	1	56	35,471	46	0	0.0000	35,471	0	46	771
Arizona	0	1	94	423,238	75	3	0.0400	406,308	0	72	5,643
Arkansas	0	1	108	198,213	100	0	0.0000	198,213	1	99	2,002
California	0	1	93	2,111,634	73	1	0.0137	2,082,708	0	72	28,926
Colorado	0	1	94	226,386	72	0	0.0000	226,386	0	72	3,144
Connecticut	0	1	86	246,345	75	1	0.0133	243,060	0	74	3,285
Delaware	0	1	88	70,723	65	6	0.0923	64,195	0	59	1,088
District of Columbia	0	1	83	75,414	74	1	0.0135	74,395	0	73	1,019
Florida	0	1	93	1,962,423	79	0	0.0000	1,962,423	0	79	24,841
Georgia	0	1	103	798,666	95	0	0.0000	798,666	0	95	8,407
Hawaii	0	1	90	88,840	76	1	0.0132	87,671	0	75	1,169
Idaho	0	1	97	80,935	89	0	0.0000	80,935	0	89	909
Illinois	0	1	85	973,616	75	1	0.0133	960,634	0	74	12,982
Indiana	0	1	93	329,937	77	3	0.0390	317,082	0	74	4,285
Iowa	0	1	92	179,657	83	2	0.0241	175,328	0	81	2,165
Kansas	0	1	89	114,226	76	1	0.0132	112,723	0	75	1,503
Kentucky	0	1	172	288,977	160	3	0.0188	283,559	0	157	1,806
Louisiana	0	1	97	389,494	74	1	0.0135	384,231	0	73	5,263
Maine	0	1	83	98,701	80	0	0.0000	98,701	0	80	1,234
Maryland	0	1	85	391,674	68	1	0.0147	385,914	1	66	5,847
Massachusetts	0	1	93	454,184	84	1	0.0119	448,777	0	83	5,407
Michigan	0	1	89	780,685	77	0	0.0000	780,685	0	77	10,139
Minnesota	0	1	95	232,960	91	0	0.0000	232,960	2	89	2,618
Mississippi	0	1	80	261,472	75	1	0.0133	257,986	0	74	3,486
Missouri	0	1	84	392,746	65	0	0.0000	392,746	0	65	6,042
Montana	0	1	79	54,926	68	0	0.0000	54,926	0	68	808
Nebraska	0	1	88	78,376	79	0	0.0000	78,376	0	79	992
Nevada	0	1	95	221,907	83	1	0.0120	219,233	0	82	2,674
New Hampshire	0	1	69	48,575	57	1	0.0175	47,723	0	56	852
New Jersey	0	1	96	443,672	87	1	0.0115	438,572	0	86	5,100
New Mexico	0	1	98	216,328	80	2	0.0250	210,920	0	78	2,704
New York	0	1	90	1,640,357	78	1	0.0128	1,619,327	0	77	21,030
North Carolina	0	1	87	777,791	86	1	0.0116	768,747	0	85	9,044
North Dakota	0	1	43	25,446	37	0	0.0000	25,446	0	37	688

Table D.9 *(continued)*

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	99	802,371	87	1	0.0115	793,148	0	86	9,223
Oklahoma	0	1	96	274,861	84	1	0.0119	271,589	0	83	3,272
Oregon	0	1	89	421,678	64	0	0.0000	421,678	0	64	6,589
Pennsylvania	0	1	91	953,883	85	0	0.0000	953,883	0	85	11,222
Rhode Island	0	1	91	100,660	83	1	0.0120	99,447	0	82	1,213
South Carolina	0	1	96	367,732	88	3	0.0341	355,196	0	85	4,179
South Dakota	0	1	64	42,136	59	0	0.0000	42,136	0	59	714
Tennessee	0	1	97	551,307	81	1	0.0123	544,501	0	80	6,806
Texas	0	1	102	1,569,632	85	1	0.0118	1,551,166	0	84	18,466
Utah	0	1	90	87,482	77	0	0.0000	87,482	0	77	1,136
Vermont	0	1	68	42,970	59	0	0.0000	42,970	0	59	728
Virginia	0	1	89	388,628	69	3	0.0435	371,731	1	65	5,719
Washington	0	1	93	554,734	82	0	0.0000	554,734	0	82	6,765
West Virginia	0	1	90	179,278	80	0	0.0000	179,278	0	80	2,241
Wisconsin	0	1	98	358,051	81	0	0.0000	358,051	0	81	4,420
Wyoming	0	1	33	14,698	30	0	0.0000	14,698	0	30	490
Guam	0	1	43	15,651	40	1	0.0250	15,260	0	39	391
Virgin Islands	0	1	27	12,925	25	0	0.0000	12,925	0	25	517

Table D.10. Stratification and weight calculation by State, April 2016

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	88	386,647	81	1	0.0123	381,874	0	80	4,773
Alaska	0	1	58	36,088	41	0	0.0000	36,088	0	41	880
Arizona	0	1	93	416,231	69	1	0.0145	410,199	0	68	6,032
Arkansas	0	1	104	188,107	97	4	0.0412	180,350	0	93	1,939
California	0	1	92	2,086,897	63	1	0.0159	2,053,772	1	61	33,668
Colorado	0	1	94	225,306	71	0	0.0000	225,306	0	71	3,173
Connecticut	0	1	86	242,832	73	0	0.0000	242,832	0	73	3,326
Delaware	0	1	88	70,519	74	4	0.0541	66,707	0	70	953
District of Columbia	0	1	83	74,555	80	1	0.0125	73,623	0	79	932
Florida	0	1	81	1,728,623	66	0	0.0000	1,728,623	0	66	26,191
Georgia	0	1	101	785,768	95	0	0.0000	785,768	0	95	8,271
Hawaii	0	1	91	88,306	78	0	0.0000	88,306	0	78	1,132
Idaho	0	1	96	80,095	70	1	0.0143	78,951	1	68	1,161
Illinois	0	1	96	951,933	83	2	0.0241	928,995	0	81	11,469
Indiana	0	1	91	325,865	78	4	0.0513	309,154	0	74	4,178
Iowa	0	1	93	179,096	88	1	0.0114	177,061	0	87	2,035
Kansas	0	1	88	113,674	76	0	0.0000	113,674	0	76	1,496
Kentucky	0	1	95	302,400	87	1	0.0115	298,924	0	86	3,476
Louisiana	0	1	99	405,909	70	0	0.0000	405,909	0	70	5,799
Maine	0	1	83	98,523	79	2	0.0253	96,029	0	77	1,247
Maryland	0	1	82	383,712	66	1	0.0152	377,898	1	64	5,905
Massachusetts	0	1	91	448,713	81	1	0.0123	443,173	0	80	5,540
Michigan	0	1	89	775,899	76	1	0.0132	765,690	0	75	10,209
Minnesota	0	1	94	231,135	93	2	0.0215	226,164	0	91	2,485
Mississippi	0	1	90	254,850	81	0	0.0000	254,850	0	81	3,146
Missouri	0	1	78	366,109	67	0	0.0000	366,109	0	67	5,464
Montana	0	1	79	55,002	71	1	0.0141	54,227	2	68	797
Nebraska	0	1	89	77,956	74	0	0.0000	77,956	0	74	1,053
Nevada	0	1	96	222,137	77	0	0.0000	222,137	0	77	2,885
New Hampshire	0	1	68	48,094	57	1	0.0175	47,250	0	56	844
New Jersey	0	1	87	441,143	71	0	0.0000	441,143	1	70	6,302
New Mexico	0	1	98	217,666	89	7	0.0787	200,546	0	82	2,446
New York	0	1	90	1,634,608	76	0	0.0000	1,634,608	0	76	21,508
North Carolina	0	1	86	767,535	83	0	0.0000	767,535	0	83	9,247
North Dakota	0	1	43	25,442	35	1	0.0286	24,715	0	34	727

Table D.10 *(continued)*

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	99	794,757	87	3	0.0345	767,352	0	84	9,135
Oklahoma	0	1	96	274,560	88	1	0.0114	271,440	0	87	3,120
Oregon	0	1	89	415,393	61	0	0.0000	415,393	0	61	6,810
Pennsylvania	0	1	90	953,935	81	0	0.0000	953,935	0	81	11,777
Rhode Island	0	1	89	100,222	87	4	0.0460	95,614	0	83	1,152
South Carolina	0	1	96	366,220	85	0	0.0000	366,220	0	85	4,308
South Dakota	0	1	64	42,094	62	1	0.0161	41,415	0	61	679
Tennessee	0	1	94	539,745	79	0	0.0000	539,745	0	79	6,832
Texas	0	1	102	1,563,303	89	3	0.0337	1,510,607	0	86	17,565
Utah	0	1	89	87,155	71	3	0.0423	83,472	0	68	1,228
Vermont	0	1	68	42,687	61	0	0.0000	42,687	0	61	700
Virginia	0	1	88	386,097	63	2	0.0317	373,840	0	61	6,129
Washington	0	1	91	544,264	67	0	0.0000	544,264	0	67	8,123
West Virginia	0	1	90	179,532	81	3	0.0370	172,883	0	78	2,216
Wisconsin	0	1	98	355,020	82	1	0.0122	350,690	0	81	4,330
Wyoming	0	1	32	14,630	30	1	0.0333	14,142	0	29	488
Guam	0	1	44	15,597	35	0	0.0000	15,597	0	35	446
Virgin Islands	0	1	27	12,969	26	0	0.0000	12,969	0	26	499

Table D.11. Stratification and weight calculation by State, May 2016

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	87	384,699	86	2	0.0233	375,753	0	84	4,473
Alaska	0	1	56	35,752	43	0	0.0000	35,752	0	43	831
Arizona	0	1	93	416,690	80	1	0.0125	411,481	0	79	5,209
Arkansas	0	1	97	181,144	91	4	0.0440	173,182	1	86	2,014
California	0	1	92	2,084,911	66	1	0.0152	2,053,321	0	65	31,590
Colorado	0	1	93	224,576	72	0	0.0000	224,576	0	72	3,119
Connecticut	0	1	85	243,174	73	0	0.0000	243,174	0	73	3,331
Delaware	0	1	90	70,660	76	3	0.0395	67,871	0	73	930
District of Columbia	0	1	82	74,462	80	1	0.0125	73,531	0	79	931
Florida	0	1	82	1,707,519	72	0	0.0000	1,707,519	0	72	23,716
Georgia	0	1	100	781,870	92	0	0.0000	781,870	0	92	8,499
Hawaii	0	1	90	88,241	70	0	0.0000	88,241	0	70	1,261
Idaho	0	1	96	78,798	88	1	0.0114	77,903	0	87	895
Illinois	0	1	98	955,588	79	0	0.0000	955,588	0	79	12,096
Indiana	0	1	90	319,545	70	2	0.0286	310,415	0	68	4,565
Iowa	0	1	92	178,090	80	1	0.0125	175,864	0	79	2,226
Kansas	0	1	88	112,916	77	0	0.0000	112,916	0	77	1,466
Kentucky	0	1	92	295,896	88	1	0.0114	292,534	0	87	3,362
Louisiana	0	1	102	415,910	85	1	0.0118	411,017	1	83	4,952
Maine	0	1	100	98,586	91	0	0.0000	98,586	1	90	1,095
Maryland	0	1	83	381,614	62	1	0.0161	375,459	1	60	6,258
Massachusetts	0	1	91	447,883	84	1	0.0119	442,551	1	82	5,397
Michigan	0	1	89	772,107	83	0	0.0000	772,107	0	83	9,302
Minnesota	0	1	94	231,381	90	3	0.0333	223,668	0	87	2,571
Mississippi	0	1	89	252,207	87	0	0.0000	252,207	0	87	2,899
Missouri	0	1	77	360,572	55	0	0.0000	360,572	0	55	6,556
Montana	0	1	80	55,395	66	1	0.0152	54,556	0	65	839
Nebraska	0	1	88	77,850	75	0	0.0000	77,850	0	75	1,038
Nevada	0	1	95	222,616	84	1	0.0119	219,966	1	82	2,683
New Hampshire	0	1	67	47,671	53	0	0.0000	47,671	0	53	899
New Jersey	0	1	86	435,659	71	0	0.0000	435,659	1	70	6,224
New Mexico	0	1	98	218,764	75	1	0.0133	215,847	0	74	2,917
New York	0	1	90	1,636,260	72	1	0.0139	1,613,534	0	71	22,726
North Carolina	0	1	85	762,647	81	1	0.0123	753,232	0	80	9,415
North Dakota	0	1	43	25,373	37	0	0.0000	25,373	0	37	686

Table D.11 *(continued)*

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	98	792,123	86	2	0.0233	773,702	0	84	9,211
Oklahoma	0	1	97	274,353	90	0	0.0000	274,353	0	90	3,048
Oregon	0	1	87	421,929	72	1	0.0139	416,069	0	71	5,860
Pennsylvania	0	1	89	953,527	74	0	0.0000	953,527	0	74	12,886
Rhode Island	0	1	90	100,245	81	0	0.0000	100,245	0	81	1,238
South Carolina	0	1	95	366,217	85	1	0.0118	361,909	0	84	4,308
South Dakota	0	1	65	42,042	61	0	0.0000	42,042	0	61	689
Tennessee	0	1	94	530,833	76	0	0.0000	530,833	0	76	6,985
Texas	0	1	103	1,589,069	81	1	0.0123	1,569,451	0	80	19,618
Utah	0	1	89	86,641	75	2	0.0267	84,331	0	73	1,155
Vermont	0	1	67	42,385	51	0	0.0000	42,385	0	51	831
Virginia	0	1	87	384,068	66	3	0.0455	366,610	0	63	5,819
Washington	0	1	90	539,167	78	0	0.0000	539,167	0	78	6,912
West Virginia	0	1	89	177,462	77	5	0.0649	165,938	0	72	2,305
Wisconsin	0	1	97	353,676	82	0	0.0000	353,676	0	82	4,313
Wyoming	0	1	33	14,490	31	1	0.0323	14,023	0	30	467
Guam	0	1	44	15,457	39	0	0.0000	15,457	0	39	396
Virgin Islands	0	1	27	13,065	27	0	0.0000	13,065	0	27	484

Table D.12. Stratification and weight calculation by State, June 2016

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	87	384,912	79	1	0.0127	380,040	0	78	4,872
Alaska	0	1	56	35,921	45	1	0.0222	35,123	0	44	798
Arizona	0	1	94	421,178	83	1	0.0120	416,104	0	82	5,074
Arkansas	0	1	97	177,194	92	2	0.0217	173,342	0	90	1,926
California	0	1	109	2,078,088	79	1	0.0127	2,051,783	1	77	26,647
Colorado	0	1	94	223,554	71	0	0.0000	223,554	0	71	3,149
Connecticut	0	1	92	243,115	79	0	0.0000	243,115	1	78	3,117
Delaware	0	1	101	72,341	88	5	0.0568	68,231	0	83	822
District of Columbia	0	1	108	74,510	93	0	0.0000	74,510	0	93	801
Florida	0	1	113	1,712,005	96	0	0.0000	1,712,005	0	96	17,833
Georgia	0	1	100	778,527	95	2	0.0211	762,137	0	93	8,195
Hawaii	0	1	91	88,069	75	1	0.0133	86,895	0	74	1,174
Idaho	0	1	93	77,699	75	2	0.0267	75,627	1	72	1,050
Illinois	0	1	95	991,597	85	0	0.0000	991,597	0	85	11,666
Indiana	0	1	90	318,151	77	0	0.0000	318,151	0	77	4,132
Iowa	0	1	93	177,797	79	2	0.0253	173,296	0	77	2,251
Kansas	0	1	87	112,663	76	2	0.0263	109,698	0	74	1,482
Kentucky	0	1	92	302,996	92	3	0.0326	293,116	0	89	3,293
Louisiana	0	1	103	422,989	81	0	0.0000	422,989	0	81	5,222
Maine	0	1	99	97,994	95	3	0.0316	94,899	0	92	1,032
Maryland	0	1	100	378,841	83	0	0.0000	378,841	1	82	4,620
Massachusetts	0	1	92	446,922	82	0	0.0000	446,922	0	82	5,450
Michigan	0	1	89	767,655	84	0	0.0000	767,655	1	83	9,249
Minnesota	0	1	94	230,721	91	1	0.0110	228,186	0	90	2,535
Mississippi	0	1	89	252,181	83	0	0.0000	252,181	0	83	3,038
Missouri	0	1	77	359,186	58	0	0.0000	359,186	0	58	6,193
Montana	0	1	81	55,782	70	0	0.0000	55,782	0	70	797
Nebraska	0	1	89	78,359	77	1	0.0130	77,341	0	76	1,018
Nevada	0	1	96	223,306	76	0	0.0000	223,306	0	76	2,938
New Hampshire	0	1	68	47,371	54	0	0.0000	47,371	1	53	894
New Jersey	0	1	86	433,990	66	0	0.0000	433,990	0	66	6,576
New Mexico	0	1	98	220,989	80	4	0.0500	209,940	0	76	2,762
New York	0	1	90	1,629,686	78	0	0.0000	1,629,686	0	78	20,893
North Carolina	0	1	84	747,903	80	2	0.0250	729,205	0	78	9,349
North Dakota	0	1	43	25,401	42	1	0.0238	24,796	0	41	605
Ohio	0	1	98	787,425	82	2	0.0244	768,220	0	80	9,603

Table D.12 *(continued)*

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Oklahoma	0	1	98	276,626	91	3	0.0330	267,506	0	88	3,040
Oregon	0	1	92	411,313	73	1	0.0137	405,679	0	72	5,634
Pennsylvania	0	1	90	945,411	64	1	0.0156	930,639	0	63	14,772
Rhode Island	0	1	90	100,038	83	1	0.0120	98,833	0	82	1,205
South Carolina	0	1	95	365,153	84	0	0.0000	365,153	0	84	4,347
South Dakota	0	1	64	42,113	61	0	0.0000	42,113	0	61	690
Tennessee	0	1	114	533,443	101	4	0.0396	512,317	0	97	5,282
Texas	0	1	104	1,599,389	86	0	0.0000	1,599,389	0	86	18,598
Utah	0	1	88	86,161	71	2	0.0282	83,734	0	69	1,214
Vermont	0	1	67	42,264	60	0	0.0000	42,264	1	59	716
Virginia	0	1	90	383,699	74	1	0.0135	378,514	2	71	5,331
Washington	0	1	90	535,829	77	1	0.0130	528,870	0	76	6,959
West Virginia	0	1	87	175,327	78	1	0.0128	173,079	0	77	2,248
Wisconsin	0	1	97	352,803	75	2	0.0267	343,395	2	71	4,837
Wyoming	0	1	32	14,442	27	0	0.0000	14,442	0	27	535
Guam	0	1	43	15,508	39	0	0.0000	15,508	0	39	398
Virgin Islands	0	1	27	12,871	25	0	0.0000	12,871	0	25	515

Table D.13. Stratification and weight calculation by State, July 2016

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	89	383,923	84	0	0.0000	383,923	0	84	4,571
Alaska	0	1	56	35,234	48	0	0.0000	35,234	0	48	734
Arizona	0	1	94	424,056	83	3	0.0361	408,729	0	80	5,109
Arkansas	0	1	96	177,199	91	3	0.0330	171,357	0	88	1,947
California	0	1	106	2,061,726	82	3	0.0366	1,986,297	0	79	25,143
Colorado	0	1	93	222,949	69	1	0.0145	219,718	0	68	3,231
Connecticut	0	1	90	242,193	78	0	0.0000	242,193	0	78	3,105
Delaware	0	1	101	71,251	85	2	0.0235	69,575	0	83	838
District of Columbia	0	1	107	74,180	98	1	0.0102	73,423	0	97	757
Florida	0	1	112	1,726,079	83	0	0.0000	1,726,079	0	83	20,796
Georgia	0	1	99	771,834	90	0	0.0000	771,834	0	90	8,576
Hawaii	0	1	109	87,680	80	1	0.0125	86,584	0	79	1,096
Idaho	0	1	93	76,649	80	2	0.0250	74,733	1	77	971
Illinois	0	1	100	996,166	89	2	0.0225	973,780	0	87	11,193
Indiana	0	1	88	315,471	78	2	0.0256	307,382	0	76	4,045
Iowa	0	1	91	177,424	86	2	0.0233	173,298	0	84	2,063
Kansas	0	1	87	112,241	81	1	0.0123	110,855	0	80	1,386
Kentucky	0	1	92	306,113	85	1	0.0118	302,512	0	84	3,601
Louisiana	0	1	103	423,816	68	0	0.0000	423,816	0	68	6,233
Maine	0	1	99	97,619	89	2	0.0225	95,425	0	87	1,097
Maryland	0	1	99	376,619	77	1	0.0130	371,728	0	76	4,891
Massachusetts	0	1	92	447,078	81	0	0.0000	447,078	0	81	5,519
Michigan	0	1	88	761,703	77	3	0.0390	732,026	0	74	9,892
Minnesota	0	1	94	229,661	90	0	0.0000	229,661	0	90	2,552
Mississippi	0	1	89	251,880	84	0	0.0000	251,880	0	84	2,999
Missouri	0	1	76	357,487	63	0	0.0000	357,487	0	63	5,674
Montana	0	1	80	55,571	67	1	0.0149	54,742	0	66	829
Nebraska	0	1	88	78,474	79	0	0.0000	78,474	0	79	993
Nevada	0	1	96	222,680	83	2	0.0241	217,314	0	81	2,683
New Hampshire	0	1	67	46,921	58	2	0.0345	45,303	0	56	809
New Jersey	0	1	95	431,688	80	1	0.0125	426,292	0	79	5,396
New Mexico	0	1	98	225,568	76	2	0.0263	219,632	0	74	2,968
New York	0	1	98	1,621,089	82	1	0.0122	1,601,320	0	81	19,769
North Carolina	0	1	83	712,798	77	1	0.0130	703,541	0	76	9,257
North Dakota	0	1	43	25,222	37	2	0.0541	23,859	0	35	682

Table D.13 *(continued)*

	Unedited SNAP QC data				Edited SNAP QC data						
		Sampling interval	Stratum sampling size	SNAP units in State (program ops data)	Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	97	777,072	88	0	0.0000	777,072	0	88	8,830
Oklahoma	0	1	98	276,797	87	0	0.0000	276,797	0	87	3,182
Oregon	0	1	92	409,614	83	1	0.0120	404,679	0	82	4,935
Pennsylvania	0	1	89	946,675	77	1	0.0130	934,381	0	76	12,294
Rhode Island	0	1	89	99,838	83	2	0.0241	97,432	0	81	1,203
South Carolina	0	1	91	346,854	80	3	0.0375	333,847	0	77	4,336
South Dakota	0	1	64	41,857	62	0	0.0000	41,857	0	62	675
Tennessee	0	1	113	527,798	93	0	0.0000	527,798	0	93	5,675
Texas	0	1	104	1,600,474	84	1	0.0119	1,581,421	0	83	19,053
Utah	0	1	88	85,512	68	3	0.0441	81,739	0	65	1,258
Vermont	0	1	66	42,041	58	0	0.0000	42,041	0	58	725
Virginia	0	1	90	381,763	70	2	0.0286	370,855	0	68	5,454
Washington	0	1	90	532,303	72	0	0.0000	532,303	0	72	7,393
West Virginia	0	1	87	178,716	73	2	0.0274	173,820	0	71	2,448
Wisconsin	0	1	97	350,934	76	1	0.0132	346,316	0	75	4,618
Wyoming	0	1	31	14,260	28	0	0.0000	14,260	0	28	509
Guam	0	1	43	15,260	37	0	0.0000	15,260	0	37	412
Virgin Islands	0	1	27	12,837	23	0	0.0000	12,837	0	23	558

Table D.14. Stratification and weight calculation by State, August 2016

	Unedited SNAP QC data				Edited SNAP QC data						
		Sampling interval	Stratum sampling size	SNAP units in State (program ops data)	Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	99	386,599	89	0	0.0000	386,599	0	89	4,344
Alaska	0	1	56	35,636	47	0	0.0000	35,636	0	47	758
Arizona	0	1	96	428,866	77	0	0.0000	428,866	0	77	5,570
Arkansas	0	1	96	175,973	91	3	0.0330	170,172	0	88	1,934
California	0	1	107	2,068,663	77	0	0.0000	2,068,663	0	77	26,866
Colorado	0	1	93	224,821	64	1	0.0156	221,308	0	63	3,513
Connecticut	0	1	96	242,597	80	0	0.0000	242,597	0	80	3,032
Delaware	0	1	102	73,129	75	2	0.0267	71,179	0	73	975
District of Columbia	0	1	107	74,552	99	2	0.0202	73,046	0	97	753
Florida	0	1	113	1,736,950	95	0	0.0000	1,736,950	0	95	18,284
Georgia	0	1	100	774,920	93	1	0.0108	766,588	0	92	8,332
Hawaii	0	1	108	87,891	73	1	0.0137	86,687	0	72	1,204
Idaho	0	1	92	76,361	84	2	0.0238	74,543	1	81	920
Illinois	0	1	99	1,002,465	89	0	0.0000	1,002,465	0	89	11,264
Indiana	0	1	89	316,369	76	1	0.0132	312,206	1	74	4,219
Iowa	0	1	93	178,039	80	0	0.0000	178,039	0	80	2,225
Kansas	0	1	87	112,619	77	3	0.0390	108,231	0	74	1,463
Kentucky	0	1	92	297,559	90	0	0.0000	297,559	0	90	3,306
Louisiana	0	1	104	420,964	82	1	0.0122	415,830	0	81	5,134
Maine	0	1	100	97,333	88	1	0.0114	96,227	0	87	1,106
Maryland	0	1	99	377,503	78	1	0.0128	372,663	0	77	4,840
Massachusetts	0	1	92	447,221	80	0	0.0000	447,221	0	80	5,590
Michigan	0	1	87	758,085	78	4	0.0513	719,209	0	74	9,719
Minnesota	0	1	92	228,369	89	2	0.0225	223,237	0	87	2,566
Mississippi	0	1	90	252,366	82	1	0.0122	249,288	0	81	3,078
Missouri	0	1	77	357,197	55	0	0.0000	357,197	0	55	6,494
Montana	0	1	81	55,987	69	0	0.0000	55,987	0	69	811
Nebraska	0	1	90	79,280	79	1	0.0127	78,276	0	78	1,004
Nevada	0	1	96	223,408	77	1	0.0130	220,507	0	76	2,901
New Hampshire	0	1	66	46,793	59	0	0.0000	46,793	0	59	793
New Jersey	0	1	94	430,543	75	0	0.0000	430,543	0	75	5,741
New Mexico	0	1	98	223,584	89	5	0.0562	211,023	0	84	2,512
New York	0	1	98	1,629,300	82	0	0.0000	1,629,300	0	82	19,870
North Carolina	0	1	84	705,247	79	2	0.0253	687,393	0	77	8,927
North Dakota	0	1	43	25,421	39	1	0.0256	24,769	0	38	652

Table D.14 *(continued)*

	Unedited SNAP QC data				Edited SNAP QC data						
		Sampling interval	Stratum sampling size	SNAP units in State (program ops data)	Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	97	781,334	89	4	0.0449	746,218	0	85	8,779
Oklahoma	0	1	99	279,003	96	1	0.0104	276,097	0	95	2,906
Oregon	0	1	93	409,272	80	1	0.0125	404,156	0	79	5,116
Pennsylvania	0	1	90	951,207	70	1	0.0143	937,618	0	69	13,589
Rhode Island	0	1	92	99,987	87	2	0.0230	97,688	0	85	1,149
South Carolina	0	1	92	351,820	82	2	0.0244	343,239	0	80	4,290
South Dakota	0	1	64	41,937	61	1	0.0164	41,250	0	60	687
Tennessee	0	1	113	529,071	94	2	0.0213	517,814	0	92	5,628
Texas	0	1	105	1,619,472	83	1	0.0120	1,599,960	0	82	19,512
Utah	0	1	87	85,275	68	2	0.0294	82,767	0	66	1,254
Vermont	0	1	66	42,251	59	0	0.0000	42,251	0	59	716
Virginia	0	1	90	382,460	65	4	0.0615	358,924	0	61	5,884
Washington	0	1	89	532,718	73	1	0.0137	525,420	0	72	7,298
West Virginia	0	1	87	175,041	78	0	0.0000	175,041	0	78	2,244
Wisconsin	0	1	97	352,036	74	1	0.0135	347,279	1	72	4,823
Wyoming	0	1	31	14,347	28	0	0.0000	14,347	1	27	531
Guam	0	1	43	15,384	39	0	0.0000	15,384	0	39	394
Virgin Islands	0	1	27	12,932	23	0	0.0000	12,932	0	23	562

Table D.15. Stratification and weight calculation by State, September 2016

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	Stratum	a	b	e	g	h	i	j	k	l	m
Alabama	0	1	99	387,152	91	2	0.0220	378,643	0	89	4,254
Alaska	0	1	56	35,622	46	0	0.0000	35,622	0	46	774
Arizona	0	1	95	428,968	80	2	0.0250	418,244	0	78	5,362
Arkansas	0	1	95	175,096	89	2	0.0225	171,161	1	86	1,990
California	0	1	107	2,054,322	64	2	0.0313	1,990,124	0	62	32,099
Colorado	0	1	93	222,565	63	0	0.0000	222,565	0	63	3,533
Connecticut	0	1	98	241,837	79	2	0.0253	235,715	0	77	3,061
Delaware	0	1	102	71,942	79	0	0.0000	71,942	0	79	911
District of Columbia	0	1	107	74,268	103	1	0.0097	73,547	0	102	721
Florida	0	1	114	1,737,092	95	0	0.0000	1,737,092	0	95	18,285
Georgia	0	1	100	775,905	89	0	0.0000	775,905	0	89	8,718
Hawaii	0	1	108	87,542	79	0	0.0000	87,542	0	79	1,108
Idaho	0	1	93	76,145	83	2	0.0241	74,310	0	81	917
Illinois	0	1	100	998,672	87	0	0.0000	998,672	0	87	11,479
Indiana	0	1	87	313,106	76	4	0.0526	296,627	0	72	4,120
Iowa	0	1	92	177,813	76	1	0.0132	175,473	0	75	2,340
Kansas	0	1	87	111,844	77	1	0.0130	110,391	0	76	1,453
Kentucky	0	1	90	299,554	86	1	0.0116	296,071	0	85	3,483
Louisiana	0	1	107	420,858	79	1	0.0127	415,531	0	78	5,327
Maine	0	1	96	95,890	84	3	0.0357	92,465	0	81	1,142
Maryland	0	1	99	375,724	75	0	0.0000	375,724	0	75	5,010
Massachusetts	0	1	87	446,793	70	1	0.0143	440,410	1	68	6,477
Michigan	0	1	88	775,869	79	1	0.0127	766,048	0	78	9,821
Minnesota	0	1	93	226,349	89	1	0.0112	223,806	0	88	2,543
Mississippi	0	1	89	251,995	81	0	0.0000	251,995	0	81	3,111
Missouri	0	1	76	354,012	63	3	0.0476	337,154	0	60	5,619
Montana	0	1	82	56,294	74	2	0.0270	54,773	0	72	761
Nebraska	0	1	90	79,376	74	1	0.0135	78,303	0	73	1,073
Nevada	0	1	96	223,933	85	1	0.0118	221,298	0	84	2,635
New Hampshire	0	1	67	46,874	60	3	0.0500	44,530	0	57	781
New Jersey	0	1	95	427,292	74	0	0.0000	427,292	1	73	5,853
New Mexico	0	1	98	223,364	79	2	0.0253	217,709	0	77	2,827
New York	0	1	94	1,625,747	82	1	0.0122	1,605,921	0	81	19,826
North Carolina	0	1	83	703,039	79	2	0.0253	685,241	0	77	8,899
North Dakota	0	1	43	25,408	39	1	0.0256	24,757	0	38	651

Table D.15 *(continued)*

	Unedited SNAP QC data			SNAP units in State (program ops data)	Edited SNAP QC data						
		Sampling interval	Stratum sampling size		Units with complete reviews	Ineligible units	Disqualification rate	Adjusted SNAP units in State	Failing units	Stratum sampling size	Stratum-specific units weight
State	**Stratum**	**a**	**b**	**e**	**g**	**h**	**i**	**j**	**k**	**l**	**m**
Ohio	0	1	97	776,792	83	0	0.0000	776,792	0	83	9,359
Oklahoma	0	1	99	279,369	81	2	0.0247	272,471	0	79	3,449
Oregon	0	1	92	405,793	71	2	0.0282	394,362	0	69	5,715
Pennsylvania	0	1	85	951,638	70	0	0.0000	951,638	0	70	13,595
Rhode Island	0	1	78	100,592	72	2	0.0278	97,798	0	70	1,397
South Carolina	0	1	91	347,845	79	3	0.0380	334,636	0	76	4,403
South Dakota	0	1	64	42,033	63	2	0.0317	40,699	1	60	678
Tennessee	0	1	113	528,745	99	2	0.0202	518,063	0	97	5,341
Texas	0	1	107	1,629,883	81	1	0.0123	1,609,761	0	80	20,122
Utah	0	1	88	85,075	72	3	0.0417	81,530	0	69	1,182
Vermont	0	1	66	42,390	61	0	0.0000	42,390	0	61	695
Virginia	0	1	90	380,868	66	2	0.0303	369,327	0	64	5,771
Washington	0	1	89	528,419	75	2	0.0267	514,328	0	73	7,046
West Virginia	0	1	88	174,961	70	2	0.0286	169,962	0	68	2,499
Wisconsin	0	1	96	350,962	77	1	0.0130	346,404	0	76	4,558
Wyoming	0	1	32	14,277	30	0	0.0000	14,277	0	30	476
Guam	0	1	44	15,289	37	0	0.0000	15,289	0	37	413
Virgin Islands	0	1	26	12,977	25	0	0.0000	12,977	0	25	519

APPENDIX E

STATE AND REGION CODES

Table E.1. State FIPS codes (STATE)

Alabama	01	Montana	30
Alaska	02	Nebraska	31
Arizona	04	Nevada	32
Arkansas	05	New Hampshire	33
California	06	New Jersey	34
Colorado	08	New Mexico	35
Connecticut	09	New York	36
Delaware	10	North Carolina	37
District of Columbia	11	North Dakota	38
Florida	12	Ohio	39
Georgia	13	Oklahoma	40
Guam	66	Oregon	41
Hawaii	15	Pennsylvania	42
Idaho	16	Rhode Island	44
Illinois	17	South Carolina	45
Indiana	18	South Dakota	46
Iowa	19	Tennessee	47
Kansas	20	Texas	48
Kentucky	21	Utah	49
Louisiana	22	Vermont	50
Maine	23	Virgin Islands	78
Maryland	24	Virginia	51
Massachusetts	25	Washington	53
Michigan	26	West Virginia	54
Minnesota	27	Wisconsin	55
Mississippi	28	Wyoming	56
Missouri	29		

Source: U.S. Department of Agriculture, FNS.

Table E.2. SNAP region codes (REGIONCD)

REGIONCD = 1 (Northeast)	**REGIONCD = 5 (Southwest)**
Connecticut	Arkansas
Maine	Louisiana
Massachusetts	New Mexico
New Hampshire	Oklahoma
New York	Texas
Rhode Island	**REGIONCD = 6 (Mountain Plains)**
Vermont	Colorado
REGIONCD = 2 (Mid-Atlantic)	Iowa
Delaware	Kansas
District of Columbia	Missouri
Maryland	Montana
New Jersey	Nebraska
Pennsylvania	North Dakota
Virgin Islands	South Dakota
Virginia	Utah
West Virginia	Wyoming
REGIONCD = 3 (Southeast)	**REGIONCD = 7 (West)**
Alabama	Alaska
Florida	Arizona
Georgia	California
Kentucky	Guam
Mississippi	Hawaii
North Carolina	Idaho
South Carolina	Nevada
Tennessee	Oregon
REGIONCD = 4 (Midwest)	Washington
Illinois	
Indiana	
Michigan	
Minnesota	
Ohio	
Wisconsin	

Source: U.S. Department of Agriculture, FNS.

Table E.3. Census region codes (REGION)

REGION = 1 (Northeast)	REGION = 3 (South)
Connecticut	Alabama
Maine	Arkansas
Massachusetts	Delaware
New Hampshire	District of Columbia
New Jersey	Florida
New York	Georgia
Pennsylvania	Kentucky
Rhode Island	Louisiana
Vermont	Maryland
REGION = 2 (Midwest)	Mississippi
Illinois	North Carolina
Indiana	Oklahoma
Iowa	South Carolina
Kansas	Tennessee
Michigan	Texas
Minnesota	Virginia
Missouri	West Virginia
Nebraska	**REGION = 4 (West)**
North Dakota	Alaska
Ohio	Arizona
South Dakota	California
Wisconsin	Colorado
	Guam
	Hawaii
	Idaho
	Montana
	Nevada
	New Mexico
	Oregon
	Utah
	Virgin Islands
	Washington
	Wyoming

Source: U.S. Census Bureau.

APPENDIX F

FY 2016 SNAP PARAMETERS

Table F.1. SNAP gross income screen, FY 2016

Unit size	Gross income screen (dollars per month)		
	Contiguous United States, Guam, and the Virgin Islands	Alaska	Hawaii
1	$1,276	$1,595	$1,468
2	1,726	2,158	1,986
3	2,177	2,722	2,504
4	2,628	3,285	3,022
5	3,078	3,848	3,540
6	3,529	4,412	4,058
7	3,980	4,975	4,575
8	4,430	5,538	5,093
Each additional person	+451	+564	+518

Source: U.S. Department of Agriculture, FNS.

Note: The FY 2016 SNAP gross monthly income limits were based on the 2015 poverty guidelines issued by the U.S. Department of Health and Human Services. FNS derived the FY 2016 gross income limits by multiplying the 2015 poverty guidelines by 130 percent, dividing the results by 12, and then rounding up to the nearest dollar.

Table F.2. SNAP net income screen, FY 2016

Unit size	Net income screen (dollars per month)		
	Contiguous United States, Guam, and the Virgin Islands	Alaska	Hawaii
1	$ 981	$1,227	$1,130
2	1,328	1,660	1,528
3	1,675	2,094	1,926
4	2,021	2,527	2,325
5	2,368	2,960	2,723
6	2,715	3,394	3,121
7	3,061	3,827	3,520
8	3,408	4,260	3,918
Each additional person	+347	+434	+399

Source: U.S. Department of Agriculture, FNS.

Note: The FY 2016 SNAP net monthly income limits were based on the 2015 poverty guidelines issued by the U.S. Department of Health and Human Services. FNS derived the FY 2016 net income limits by dividing the 2015 poverty guidelines by 12 and rounding up to the nearest dollar.

Table F.3. Deduction amounts, FY 2016

Deduction	Contiguous United States	Alaska	Hawaii	Guam	Virgin Islands
Standard deduction					
1 to 2 people	$155	$265	$219	$312	$137
3 people	155	265	219	312	139
4 people	168	265	219	336	168
5 people	197	265	226	394	197
6 or more people	226	282	259	451	226
Maximum excess shelter expense deduction	504	805	679	592	397
Homeless household shelter deduction	143	143	143	143	143
Earnings deduction	20%	20%	20%	20%	20%

Source: U.S. Department of Agriculture, FNS.

Note: MFIP relies on a separate SNAP benefit calculation procedure that does not include any deductions except for the earnings deduction, which was 50 percent. As a result, all the other deductions are coded as missing for MFIP participants in the SNAP QC database. Similarly, deductions are not used to assign benefits to units participating in SSI-CAP in States with standardized benefit amounts. Consequently, all deductions are coded as missing for SSI-CAP participants in these States. SSI-CAP States without standardized benefits (or standard shelter expenses) use some deductions, but not all. The deductions that are not applicable are coded as missing.

Table F.4. Standard medical deduction demonstration, FY 2016

State	If medical expenses are less than or equal to	Then medical expense deduction is	Otherwise, medical expense deduction is
Alabama	$200	$165	Actual expenses minus $35
Arkansas	138	103	Actual expenses minus $35
Georgia[a]	185	150	Actual expenses minus $35
Idaho	179	144	Actual expenses minus $35
Illinois[b]	245	210	Actual expenses minus $35
Iowa	140	105	Actual expenses minus $35
Kansas	175	140	Actual expenses minus $35
Massachusetts	190	155	Actual expenses minus $35
Missouri	200	165	Actual expenses minus $35
New Hampshire	150	115	Actual expenses minus $35
North Dakota	200	165	Actual expenses minus $35
Rhode Island	176	141	Actual expenses minus $35
South Carolina[c]	210	175	Actual expenses minus $35
South Dakota	200	165	Actual expenses minus $35
Texas	137	102	Actual expenses minus $35
Vermont	173	138	Actual expenses minus $35
Virginia	175	140	Actual expenses minus $35
Wyoming	138	103	Actual expenses minus $35

Source: U.S. Department of Agriculture, FNS.

[a]Georgia implemented its program in October 2015.

[b]In Illinois, the standard medical deduction for residents of group homes or supportive living facilities was $450.

[c]South Carolina implemented its program in November 2015.

Table F.5. Maximum monthly SNAP benefit, FY 2016

	Maximum SNAP benefit						
Unit size	Contiguous United States	Alaska Urban	Alaska Rural I	Alaska Rural II	Hawaii	Guam	Virgin Islands
1	$194	$237	$302	$368	$343	$287	$250
2	357	435	554	675	630	526	459
3	511	622	794	966	902	753	657
4	649	790	1,008	1,227	1,146	957	835
5	771	939	1,197	1,457	1,361	1,136	991
6	925	1,127	1,437	1,749	1,633	1,364	1,189
7	1,022	1,245	1,588	1,933	1,805	1,507	1,315
8	1,169	1,423	1,815	2,209	2,063	1,723	1,503
Each additional person	+146	+178	+227	+276	+258	+215	+188

Source: U.S. Department of Agriculture, FNS.

Note: These maximum benefit values were based on 100 percent of the cost of the Thrifty Food Plan in June 2015 for a reference family of four, rounded to the lowest dollar increment.

Table F.6. Minimum monthly SNAP benefit, FY 2016

	Minimum SNAP benefit						
Unit size	Contiguous United States	Alaska Urban	Alaska Rural I	Alaska Rural II	Hawaii	Guam	Virgin Islands
1 to 2 people	$16	$19	$24	$29	$28	$23	$20

Source: U.S. Department of Agriculture, FNS.

Note: The minimum benefit, applicable to one- and two-person units, is equal to 8 percent of the maximum benefit for single-person units.

Table F.7. Standard Utility Allowances, FY 2016

State	HCSUA[a]	LUA[b]	Telephone allowance[c]	Electricity[d]	Water[d]	Sewer[d]	Trash[d]	Other standards[e]
Alabama	$347	$323	$35					
Alaska[f]								
Central	368		34	$94	$50	$43	$36	$111
Southeast	411		28	76	37	58	25	187
South central	447		26	119	39	45	47	171
Northern	644		40	136	51	59	30	328
Southwest	922		52	165	55	53	14	583
Northwest	1,014		37	149	60	54	36	678
Arizona								
1 to 3 people	271		27					
4 or more people	365		27					
Arkansas	289		25					
California	385	118	19					
Colorado	460	290	74	55	55	55	55	55
Connecticut	708	311	26					
Delaware	426	295	36	77	77	77	77	77
District of Columbia	335	275	71	68	68	68	68	68
Florida	345	274	37					
Georgia	350	301	35					
Hawaii								
1 person			26	175	46	83	83	175
2 people			26	190	51	83	83	190
3 people			26	218	56	83	83	218
4 to 5 people			26	269	66	83	83	269
6 people			26	316	76	83	83	316
7 or more people			26	358	91	83	83	358
Idaho	396	232	39	96	96	96	96	96
Illinois	364	258	27	58	58	58	58	58
Indiana								
10/2015–4/2016	415	232	32	50	50	50	50	50
5/2016–9/2016	380	230	27	50	50	50	50	50
Iowa	387	254	25					
Kansas	370	222	36					
Kentucky	338	271	36					
Louisiana	353	194	46					
Maine	672	223	44					
Maryland[g]								
10/2015–12/2015	402	245	40					
1/2016–9/2016	403	245	40					
Massachusetts[h]								
10/2015–12/2015	620	381	44					
1/2016–9/2016	621	381	44					

See notes at the end of the table.

Table F.7 *(continued)*

State	HCSUA[a]	LUA[b]	Telephone allowance[c]	Electricity[d]	Water[d]	Sewer[d]	Trash[d]	Other standards[e]
Michigan	539		33	119	81	81	19	33
Minnesota	454		38	141				
Mississippi	281	203	29					
Missouri	316	235	50	54	54	54	54	54
Montana	517	186	36	150	150	150	150	150
Nebraska	452	204	51	39	39	39	39	39
Nevada	295	254	23	58	58	58	58	58
New Hampshire								
10/2015–3/2016	551	249	27	145				
4/2016–9/2016	684	249	27	145				
New Jersey	501	289	29	55	55	55	55	55[i] 55
New Mexico	318	123	41					
New York								
New York City	768	304	33					
Long Island	716	281	33					
Rest of New York	636	257	33					
North Carolina								
1 person	357	216	29					
2 people	392	237	29					
3 people	431	260	29					
4 people	470	283	29					
5 or more people	512	308	29					
North Dakota	611	226	35	191	191	191	191	191
Ohio	510	328	39	72	72	72	72	72
Oklahoma	338	291	48					
Oregon	445	327	60	55	55	55	55	55
Pennsylvania	570	296	33	55	55	55	55	55
Rhode Island	613		23					
South Carolina	291	211	27					
South Dakota	698	195	46	80	80	80	80	80
Tennessee								
1 person	308	133	23					
2 people	319	133	23					
3 people	331	133	23					
4 people	343	133	23					
5 people	353	133	23					
6 people	365	133	23					
7 people	375	133	23					
8 people	387	133	23					
9 people	401	133	23					
10 or more people	411	133	23					
Texas	346	326	36					
Utah	328	244	42					

See notes at the end of the table.

Table F.7 *(continued)*

State	HCSUA[a]	LUA[b]	Telephone allowance[c]	Electricity[d]	Water[d]	Sewer[d]	Trash[d]	Other standards[e]
Vermont	787	225	36					
Virginia								
1 to 3 people	294		47					
4 or more people	369		47					
Washington	420	340	65					
West Virginia	397	228		72	72	72	72	72
Wisconsin	458	293	30	119	78	78	20	165[i] 46
Wyoming	375	254	58					
Guam								
10/2015								
1 person			24	124	34	27	30	31
2 to 3 people			24	143	44	27	30	31
4 people			24	173	59	27	30	61
5 people			24	197	72	27	30	61
6 people			24	226	93	27	30	61
7 people			24	257	113	27	30	92
8 people			24	269	125	27	30	92
9 to 10 people			24	289	142	27	30	92
11 to 16 people			24	296	148	27	30	92
11/2015–9/2016								
1 person			25	124	34	27	30	31
2 to 3 people			25	143	44	27	30	31
4 people			25	173	59	27	30	61
5 people			25	197	72	27	30	61
6 people			25	226	93	27	30	61
7 people			25	257	113	27	30	92
8 people			25	269	125	27	30	92
9 to 10 people			25	289	142	27	30	92
11 to 16 people			25	296	148	27	30	92
Virgin Islands			32					

Source: U.S. Department of Agriculture, FNS.

[a]HCSUA is a Standard Utility Allowance used for units with heating and cooling expenses not included in rent. The HCSUA generally includes all utilities, including telephones.

[b]LUA is a Standard Utility Allowance used for units that do not have heating and cooling expenses separate from rent. The LUA generally includes all utilities, including telephones.

[c]The telephone allowance is a Standard Utility Allowance used for units that have telephone expenses but do not have any other utility expenses.

[d]Single-utility standard.

[e]A single utility is standard for gas/fuel unless otherwise noted.

[f]Alaska has six HCSUAs determined by utility regions.

[g]There are instances in the SNAP QC data of an HCSUA amounts of $402 in January 2016 through July 2016.

[h]Massachusetts has two HSCUA values in January 2016 depending on whether a household was newly eligible or an ongoing participant.

[i]New Jersey (as of FY 2016) and Wisconsin have a single utility standard for space heating, space cooling, and hot water, in addition to a standard for gas/fuel.

Table F.8. Minnesota Family Investment Program (MFIP) benefits, FY 2016

Unit size	Family wage level (1.1*transitional standard)	Transitional standard (cash portion and food portion)	Cash portion	Food portion
1	$464	$422	$250	$172
2	829	754	437	317
3	1,090	991	532	459
4	1,328	1,207	621	586
5	1,535	1,395	697	698
6	1,761	1,601	773	828
7	1,918	1,744	850	894
8	2,121	1,928	916	1,012
9	2,320	2,109	980	1,129
10	2,512	2,284	1,035	1,249
Each additional person	+191	+174	+53	+121

Source: http://www.dhs.State.mn.us/.

Table F.9. AZ SSI-CAP (AZSNAP) benefit criteria, FY 2016

Shelter expenses	Benefit
$0 to 99	$20
$100 to 199	20
$200 to 299	35
$300 or more	80

Source: U.S. Department of Agriculture, FNS.

Table F.10. KY SSI-CAP (KYSAFE) benefit criteria, FY 2016

Unit size	Shelter expenses	Benefit
One person	Less than $200	$30
	$200 or more	75
Two people	Less than $108	77
	$108 or more	123

Source: U.S. Department of Agriculture, FNS.

Table F.11. LA SSI-CAP (LaCAP) benefit criteria, FY 2016

Shelter expenses	Benefit
$0 to 100	$34
$101 to 399	54
$400 to 699	85
$700 or more	110

Source: U.S. Department of Agriculture, FNS.

Table F.12. MD SSI-CAP (MSNAP) benefit criteria, FY 2016

Shelter expenses	Benefit
Less than $506	$60
$506 or more	144

Source: U.S. Department of Agriculture, FNS.

Table F.13. MI SSI-CAP (MiCAP) benefit criteria, FY 2016

Shelter expenses	Benefit	Gross income[a]
Less than $1,000	$171	$747
$1,000 or more	185	747

Source: U.S. Department of Agriculture, FNS.

[a]In FY 2016, Michigan had an SSI supplement of $14, making the combined Federal and State SSI amount $747.

Table F.14. MS SSI-CAP (MSCAP) benefits by income and shelter expense patterns, FY 2016

Income type and shelter expenses	Benefit level	Gross income
SSI only		
Less than $392	$28	$733
$392 or more	51	733
SSI and other unearned income		
Less than $392	19	753
$392 or more	42	753

Source: U.S. Department of Agriculture, FNS.

Note: When necessary, the data for units identified as MSCAP participants have been edited to follow the pattern presented in this table.

Table F.15. NJ SSI-CAP (NJ SNAS) benefit criteria, FY 2016

Shelter expenses	Benefit
October 2015—May 2016	
Less than $316	$50
$316 or more	85
June 2016—September 2016	
Less than $564	$83
$564 or more	141

Source: U.S. Department of Agriculture, FNS.

F.16. NM SSI-CAP (NMCAP) benefit criteria, FY 2016

Shelter expenses	Benefit
Less than $315	$33
$315 or more	68

Source: U.S. Department of Agriculture, FNS.

Note: NMCAP ended in May 2014. Participants may remain on the program through their current certification period. The last NMCAP benefit was issued in June 2017.

Table F.17. NY SSI-CAP (NYSNIP) benefit criteria, FY 2016

	Monthly benefit amount		
Income and shelter expenses	New York	Long Island	Rest of State
SSI only			
With positive utility costs			
Rent $246 or less	$194	$183	$159
Rent more than $246	194	194	194
With no utility costs			
Rent $246 or less	16	16	16
Rent more than $246	26	26	26
With no shelter costs	16	16	16
SSI and other unearned income			
With positive utility costs			
Rent $246 or less	189	174	150
Rent more than $246	194	194	194
With no utility costs			
Rent $246 or less	16	16	16
Rent more than $246	17	17	17
With no shelter costs	16	16	16

Source: U.S. Department of Agriculture, FNS.

F.18. NC SSI-CAP (NCSNAP) benefit criteria, FY 2016

Shelter expenses	Benefit
Less than $150	$61
$150 or more	121

Source: U.S. Department of Agriculture, FNS.

Table F.19. PA SSI-CAP (PACAP) benefit criteria, FY 2016

Income type and shelter expenses	Benefit
SSI only	
Shelter expenses less than $196	$109
Shelter expenses $196 or more	150
SSI and other unearned income	
Shelter expenses less than $196	100
Shelter expenses $196 or more	141

Source: U.S. Department of Agriculture, FNS.

Table F.20. SC SSI-CAP (SCCAP) benefits by income and shelter expense patterns, FY 2016

Income type and shelter expenses	Benefits	Gross income
SSI only		
Shelter expenses $290 or less (reported as $290)	$20	$733
Shelter expenses $291 or more (reported as $443)	66	733
SSI and other unearned income		
Shelter expenses $290 or less (reported as $290)	16	753
Shelter expenses $291 or more (reported as $443)	57	753

Source: U.S. Department of Agriculture, FNS; FY 2016 raw SNAP QC datafile.

Note: When necessary, the data for units identified as SCCAP participants have been edited to follow the pattern presented in this table.

Table F.21. SD SSI-CAP (SD IN) benefit criteria, FY 2016

	Benefits			
Earnings and medical expenses	Individuals with shelter expenses of $690 or more	Couples with shelter expenses of $690 or more	Individuals with shelter expenses less than $690	Couples with shelter expenses less than $690
No earnings				
Medical expenses less than or equal to $35	$171	$194	$40	$119
Medical expenses more than $35	172	269	115	136
Earnings				
Medical expenses less than or equal to $35	149	169	23	21
Medical expenses more than $35	174	120	120	192

Source: U.S. Department of Agriculture, FNS.

Table F.22. TX SSI-CAP (SNAP-CAP) benefit criteria, FY 2016

Shelter expenses	Benefit
October 2015—March 2016	
Less than $289	$65
$289 or more	81
April 2016—September 2016	
Less than $400	$65
$400 or more	95

Source: U.S. Department of Agriculture, FNS.

Table F.23. VA SSI-CAP (VaCAP) benefit criteria, FY 2016

Shelter expenses	Benefit
Less than $500	$61
$500 or more	86

Source: U.S. Department of Agriculture, FNS.

Table F.24. FL (SUNCAP), MA (BAYSTATECAP), and WA SSI-CAP (WASHCAP) shelter allowances, FY 2016

Rent/mortgage cutoff for high/low standard rent allowance	Standard rent/mortgage allowance
FL (SUNCAP)	
$305 or less	$152
More than $305	372
MA (BAYSTATECAP)	
Less than $450	$223
$450 or more	453
WA (WASHCAP)	
Less than $300	$210
$300 or more	400

Source: U.S. Department of Agriculture, FNS.

Note: We only use the WASHCAP cutoffs for high and low standard rent allowances in our file editing process. The SUNCAP and BAYSTATECAP cutoffs are listed for reference.

APPENDIX G

QUALITY CONTROL REVIEW SCHEDULE

OMB APPROVED NO. 0584-0299
Expiration Date: 02/29/2016

U.S. Department of Agriculture - Food and Nutrition Service

QUALITY CONTROL REVIEW SCHEDULE

Section 1 - Review Summary

1. QC Review Number	2. Case Number	3. State	4. Local Agency	5. Sample Month and Year	6. Stratum

7. Disposition	8. Findings	9.SNAP Allotment Under Review	10. Error Amount	11. Case Classification

Section 2 - Detailed Error Findings

	12. Element	13. Nature	14. Cause	15. Error Finding	16. Error Amount	17. Discovery	18. Verified	19. Occurrence a. Date	b. Time Period
1									
2									
3									
4									
5									
6									
7									
8									

Section 3 - Household Characteristics

20. Most Recent Cert. Action Month, Day, Year

21. Type of Action

22. Length of Cert. Period #of months

23. Allotment Adjustment

24. Amount of Allotment Adjustment

25. Number of Household Members

26. Receipt of Expedited Service

27. Authorized Representative Used at Application

28. Categorical Eligibility

29. Reporting Requirement

Resources:

30. Liquid

31. Property (excluding home)

32a. Vehicle

32b. Status 2nd Vehicle

33. Countable Vehicle Assets

34. Other Non-liquid

Income:

35. Gross

36. Net

Deductions:

37. Earned Income

38. Medical

39. Dependent Care

40. Child Support

41. Shelter

42. Homeless

Additional Information on Shelter Costs:

43. Rent/Mortgage

44. Use of SUA
a. Usage b. Proration

45. Utilities (SUA or Actual)

Section 4 - Information on Each Household Member

46. Person Number	47. SNAP Participation	48. Relation to Head of HH	49. Age	50. Sex	51. Race	52. Citizen Status	53. Edu. Level	54. Employment Status	Hours	55. SNAP Work Reg.	56. SNAP E & T	57. ABAWD Status	58. Dependent Care Cost

You may record information on up to 16 individuals using additional pages.

Section 5 - Income Identified by Household Member

59. Person Number	Source 1 60. Income Type	61. Amount	Source 2 62. Income Type	63. Amount	Source 3 64. Income Type	65. Amount	Source 4 66. Income Type	67. Amount

You may record income on up to 10 individuals by using additional pages.

Section 6 - Reserved Coding

68.	69.	70.	71.	72.	73.	74.	75.	76.

Section 7 - Optional For State Use

1.

2.

3.

4.

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